Laetitia Agricultural Cluster Project
San Luis Obispo County, California

WETLAND ASSESSMENT

Prepared for:

County of San Luis Obispo
Planning and Building Department
County Government Center Room 200
San Luis Obispo, CA 93408
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TABLE OF CONTENTS

TABLES

FIGURES

ATTACHMENTS

I. INTRODUCTION

A. SCOPE

This Wetland Assessment summarizes existing hydrology, soil and vegetative conditions associated with the Laetitia Agricultural Cluster property (project site) within the County of San Luis Obispo, California (refer to Figures 1, 2, and 4). Morro Group, Inc. has prepared this report at the request of the County of San Luis Obispo Planning and Building Department, and it is intended for use by the County and regulatory agencies. This report identifies potential waters of the United States, as defined by the U.S. Army Corps of Engineers (ACOE); and potential waters of California, as defined by the California Department of Fish and Game (CDFG) that are located at the project site. Findings reported herein are based on information gathered in the field at the time of investigation, and on Morro Group's understanding of the ACOE 1987 Wetlands Delineation Manual (Environmental Laboratory, 1987), the Arid West Regional Supplement (ACOE, 2006), and federal, state, and local guidelines for identification of wetland areas. This report is subject to review by the ACOE, and should be submitted to the ACOE for confirmation.

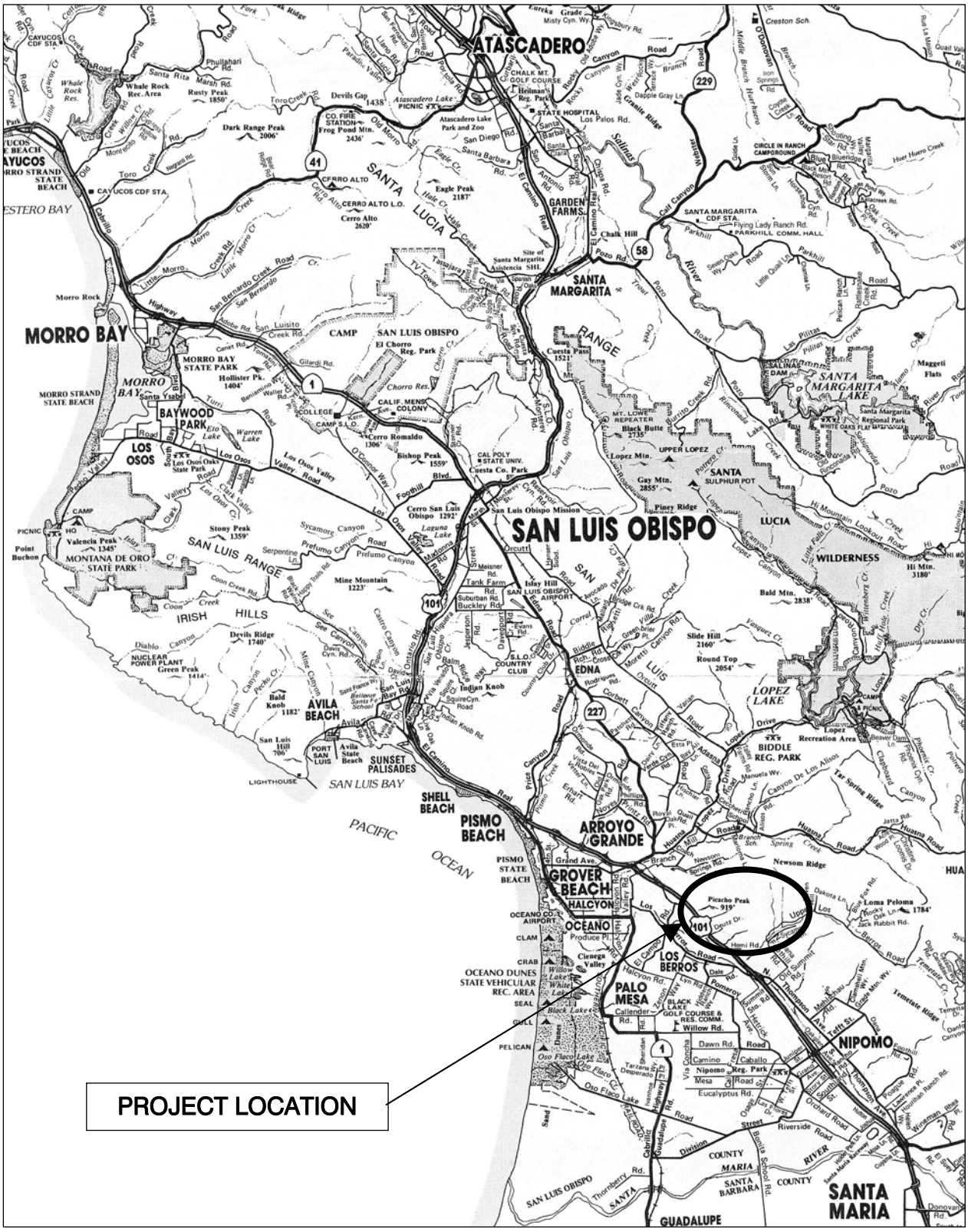
B. PROJECT BACKGROUND

The proposed project consists of subdividing 21 parcels (1,910 acres) into 106 lots, including 102 residential lots and four open space lots. The proposed residential lots would be approximately 1.0 acre each and located throughout the project site (refer to Figure 4). Approximately 104 acres of existing vineyard would be removed to accommodate the proposed development. Approximately 128 acres of vineyard and orchards would be replanted onsite. Residential development, including residential-use only access roads, would consist of approximately 118 acres, or six percent of the project site. Open space lots would consist of approximately 1,792 acres, or 94 percent of the project site. Development proposed within the open space lots includes a homeowner's association facility, recreation center, community center ("Ranch Headquarters"), and an equestrian facility. Approximately 657 acres of the project site would remain in agricultural production, including vineyards and orchards.

C. SITE DESCRIPTION

The 1,910-acre project site is located approximately two miles south of the city of Arroyo Grande, adjacent to Highway 101 (refer to Figures 1 and 2). A Soil Conservation Service (SCS) soil survey map of the site is included as Figure 3; soil pit locations and the resulting delineation of jurisdictional areas are shown on Figure 4.

Approximately 1,834 acres are located on the east side of Highway 101, with an additional 76 acres located on the west side. No development is proposed on the west side of Highway 101. Upper Los Berros Road and Los Berros Creek is located along the southern property boundary of the project site. The project site occurs on rolling foothills that are dominated by vineyards and has areas of fallow agriculture land. Fallow agricultural areas currently sustain non-native annual grassland with remnant grapevines and other weedy species.



NORTH
Not to Scale

Vicinity Map
FIGURE 1

Several areas that are directly adjacent to and located between the agricultural areas sustain remnant patches of coast live oak woodland and coastal scrub communities. Most of these remnant patches are discontinuous and are subject to heavy grazing by managed goat herds. A total of thirteen drainages are located within the property, ten of which are mapped as blue-line features (refer to Figure 2). The drainages support annual grassland, freshwater marsh, willow riparian scrub, or Central Coast cottonwood-sycamore riparian forest habitats.

II. METHODOLOGY

The primary literature reviewed and referenced as part of this wetland determination included SCS (1983, 1992), USGS (1994), Cowardin et al. (1979), Hickman (1993), Hoover (1970), Holland (1986), and Reed, Jr. (1988, 1996). Specific references not listed above are cited in text.

A. DELINEATION PROCEDURE

Determination and delineation of wetland areas associated with the project site were based on review of pertinent literature and a thorough on-site investigation conducted during the month of July and August of 2007, by Travis Belt of Morro Group, Inc. The routine wetland determination methodology, as described in the 1987 ACOE Wetlands Delineation Manual (Environmental Laboratory, 1987) and Arid West Supplement (Environmental Laboratory, 2006), was utilized throughout the delineation. Representative plots were evaluated to investigate the presence of hydric soils, hydrophytic vegetation, and wetland hydrology within the project area. Jurisdictional features, including Ordinary High Water Mark (OHWM), tops of banks, and outer edge of riparian canopy lines were mapped using a Trimble Pathfinder GPS Data Collector capable of sub-meter accuracy.

Delineation of jurisdictional areas within defined creek channels relied primarily on identification and mapping of the OHWM and the top-of-bank along reaches that may be directly affected by the project. More detailed examinations including soil test pits were performed in areas that appeared to maintain wetland characteristics and are proposed for disturbance. Jurisdictional areas that are located within the property but not proposed for disturbance were mapped using, aerial photographs and mapping programs including AutoCAD and ArcView. Quantification of impacts to jurisdictional areas was determined to the extent feasible using the conceptual plans that the applicant provided. Estimated impact calculations provided in this report should be verified when the applicant has finalized the engineering plans.

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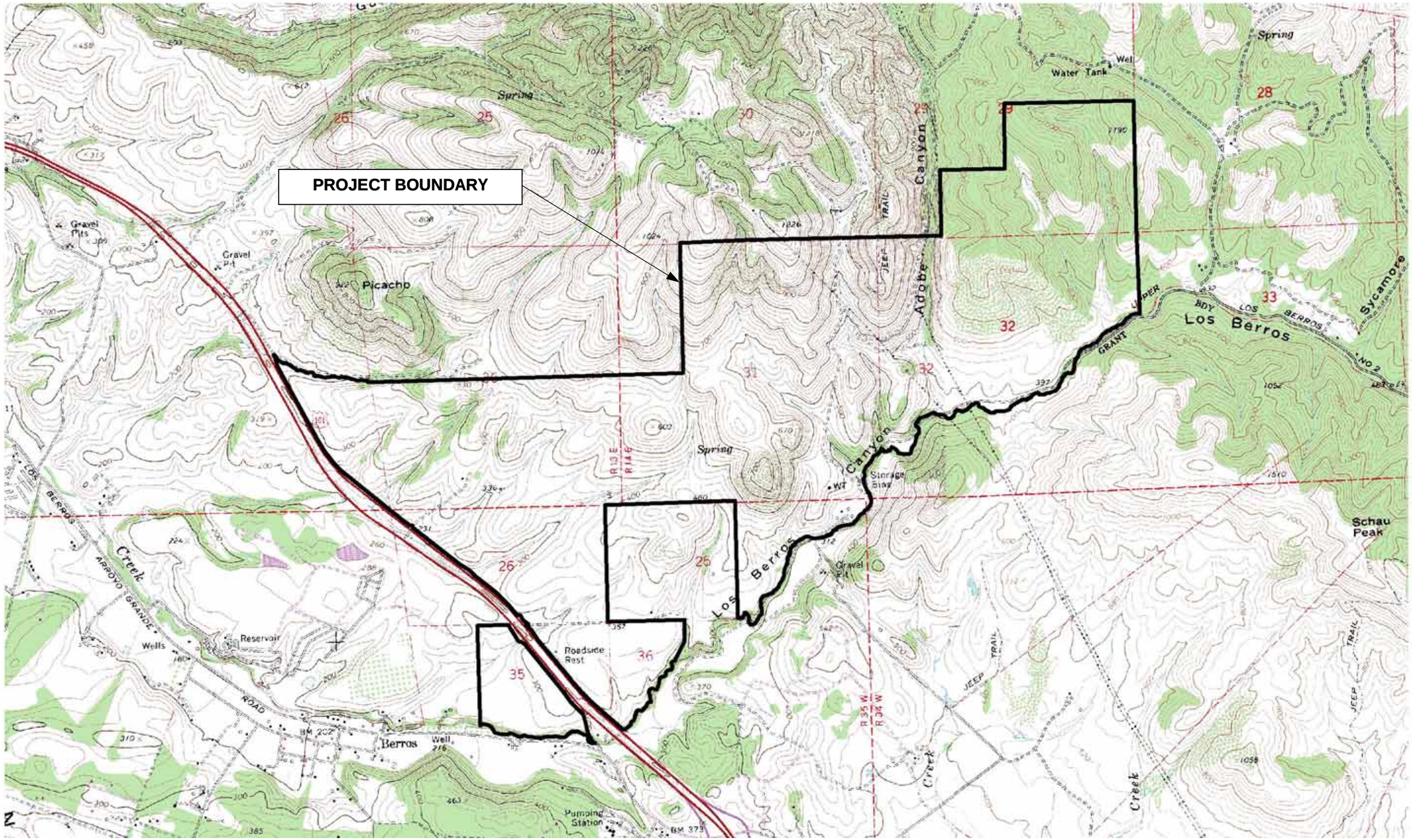

Source: USGS quadrangle maps – Nipomo, Oceano

NORTH
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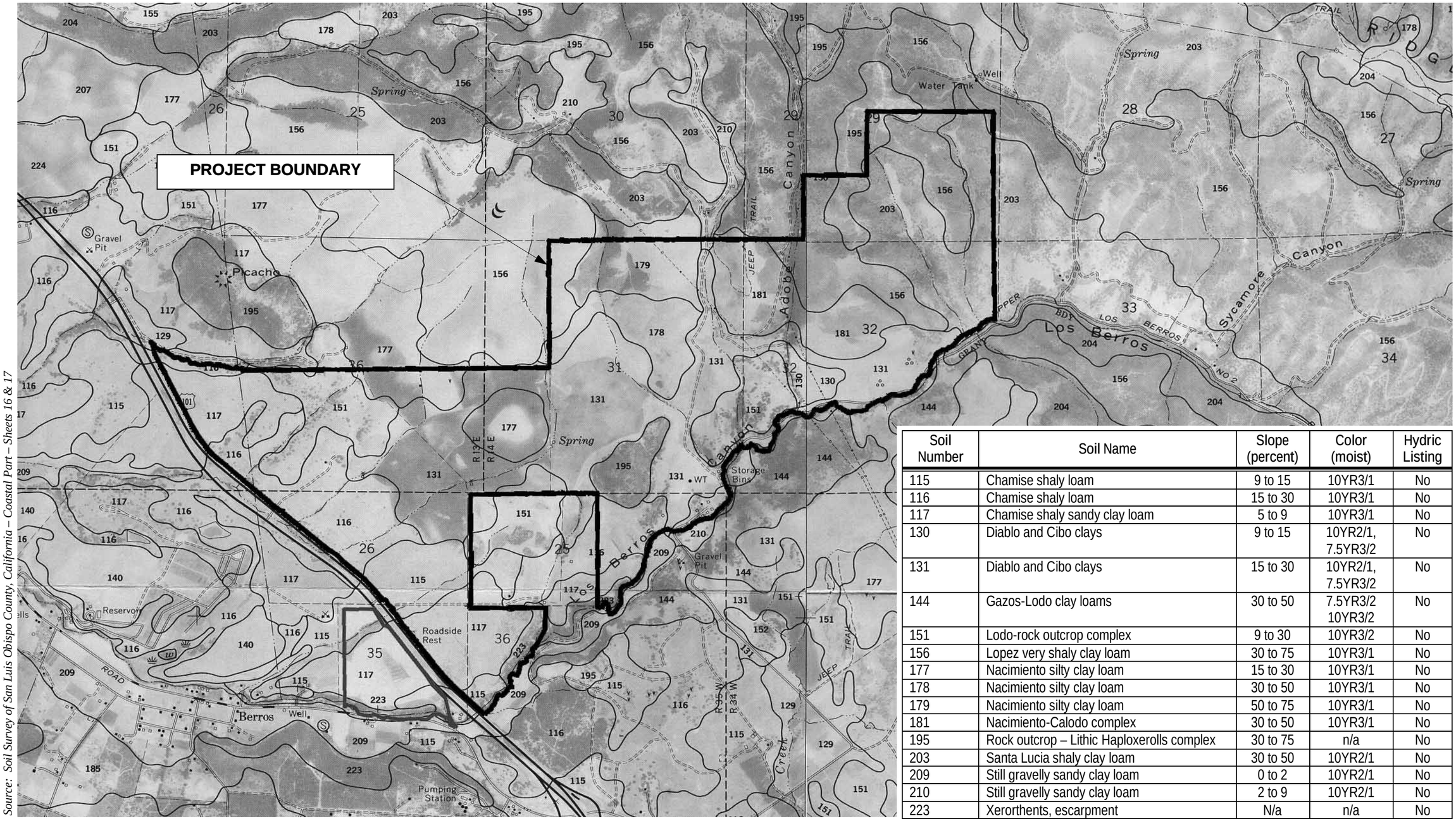
USGS Location Map
FIGURE 2

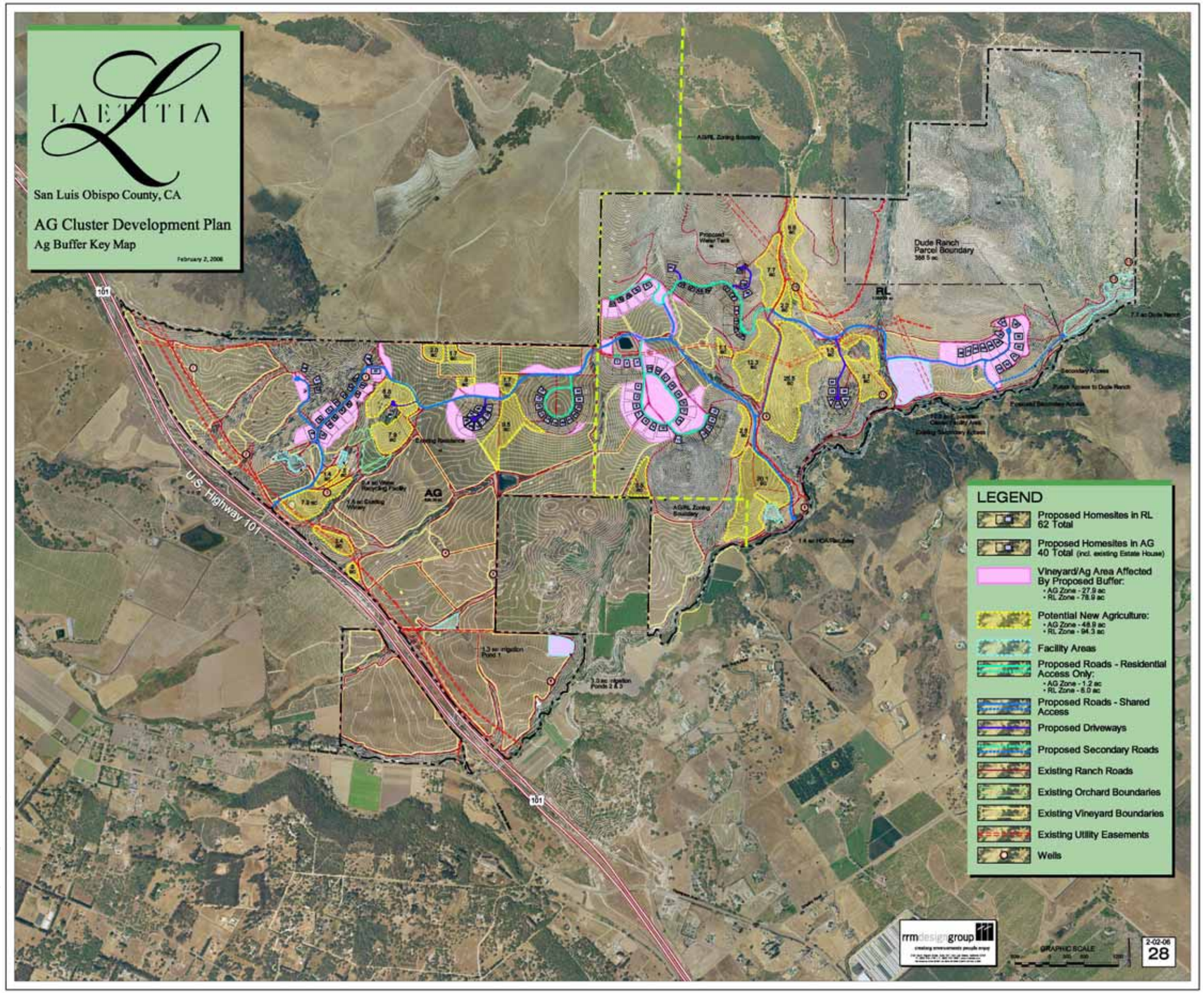


Soil Number	Soil Name	Slope (percent)	Color (moist)	Hydric Listing
115	Chamise shaly loam	9 to 15	10YR3/1	No
116	Chamise shaly loam	15 to 30	10YR3/1	No
117	Chamise shaly sandy clay loam	5 to 9	10YR3/1	No
130	Diablo and Cibo clays	9 to 15	10YR2/1, 7.5YR3/2	No
131	Diablo and Cibo clays	15 to 30	10YR2/1, 7.5YR3/2	No
144	Gazos-Lodo clay loams	30 to 50	7.5YR3/2 10YR3/2	No
151	Lodo-rock outcrop complex	9 to 30	10YR3/2	No
156	Lopez very shaly clay loam	30 to 75	10YR3/1	No
177	Nacimiento silty clay loam	15 to 30	10YR3/1	No
178	Nacimiento silty clay loam	30 to 50	10YR3/1	No
179	Nacimiento silty clay loam	50 to 75	10YR3/1	No
181	Nacimiento-Calodo complex	30 to 50	10YR3/1	No
195	Rock outcrop – Lithic Haploxerolls complex	30 to 75	n/a	No
203	Santa Lucia shaly clay loam	30 to 50	10YR2/1	No
209	Still gravelly sandy clay loam	0 to 2	10YR2/1	No
210	Still gravelly sandy clay loam	2 to 9	10YR2/1	No
223	Xerorthents, escarpment	N/a	n/a	No

Source: Soil Survey of San Luis Obispo County, California – Coastal Part – Sheets 16 & 17

NORTH
1:24,000

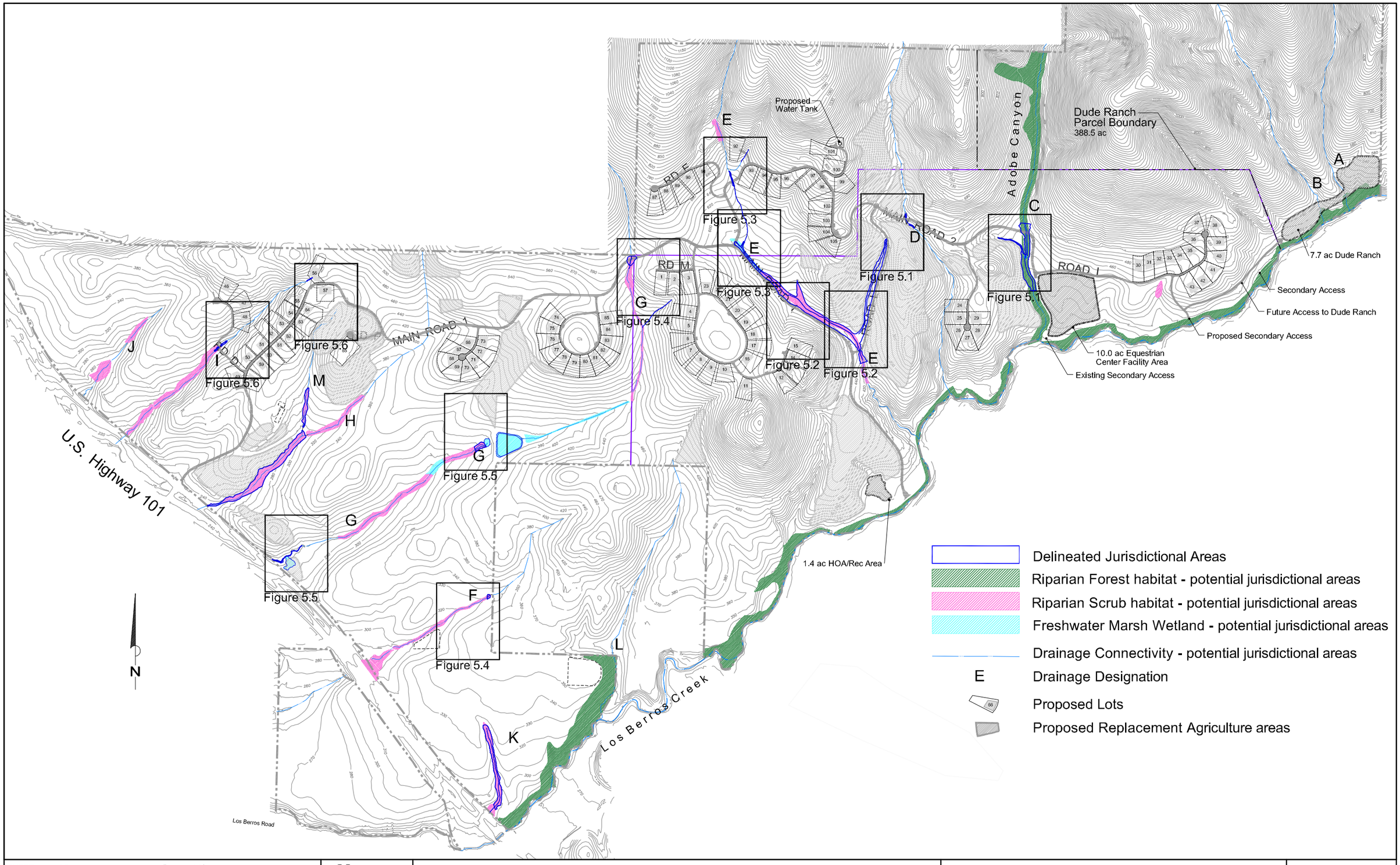
Soils Map
FIGURE 3



Source: RRM Design Group; February 2, 2006

NORTH
Not to Scale

Site Plan
FIGURE 4



SHEET: 1 OF SCALE: 1" = 1100' CADD FILE: 05-513 Laetitia EIR\bio-wetdel.dwg DATE: 10.19.07 BY: dh REV.	MORRO GROUP, INC. Environmental Services	WETLAND ASSESSMENT Laetitia Agricultural Cluster Project	Jurisdictional Waters of the U.S. KEY MAP	FIGURE 5.0

MAIN ROAD 2

CROSSING C.1

DRAINAGE C

MAIN ROAD 2

CROSSING D.1

ROAD L

ROAD I

TRIBUTARY TO DRAINAGE E

Wetlands - ACOE jurisdiction

Other Waters - ACOE jurisdiction

Riparian corridor - CDFG jurisdiction

Open Water - ACOE & CDFG jurisdiction

Ordinary High Water Mark (OHWM)

Top of bank

Edge of riparian vegetation

Drainage / thalweg

2 Soil pit locations

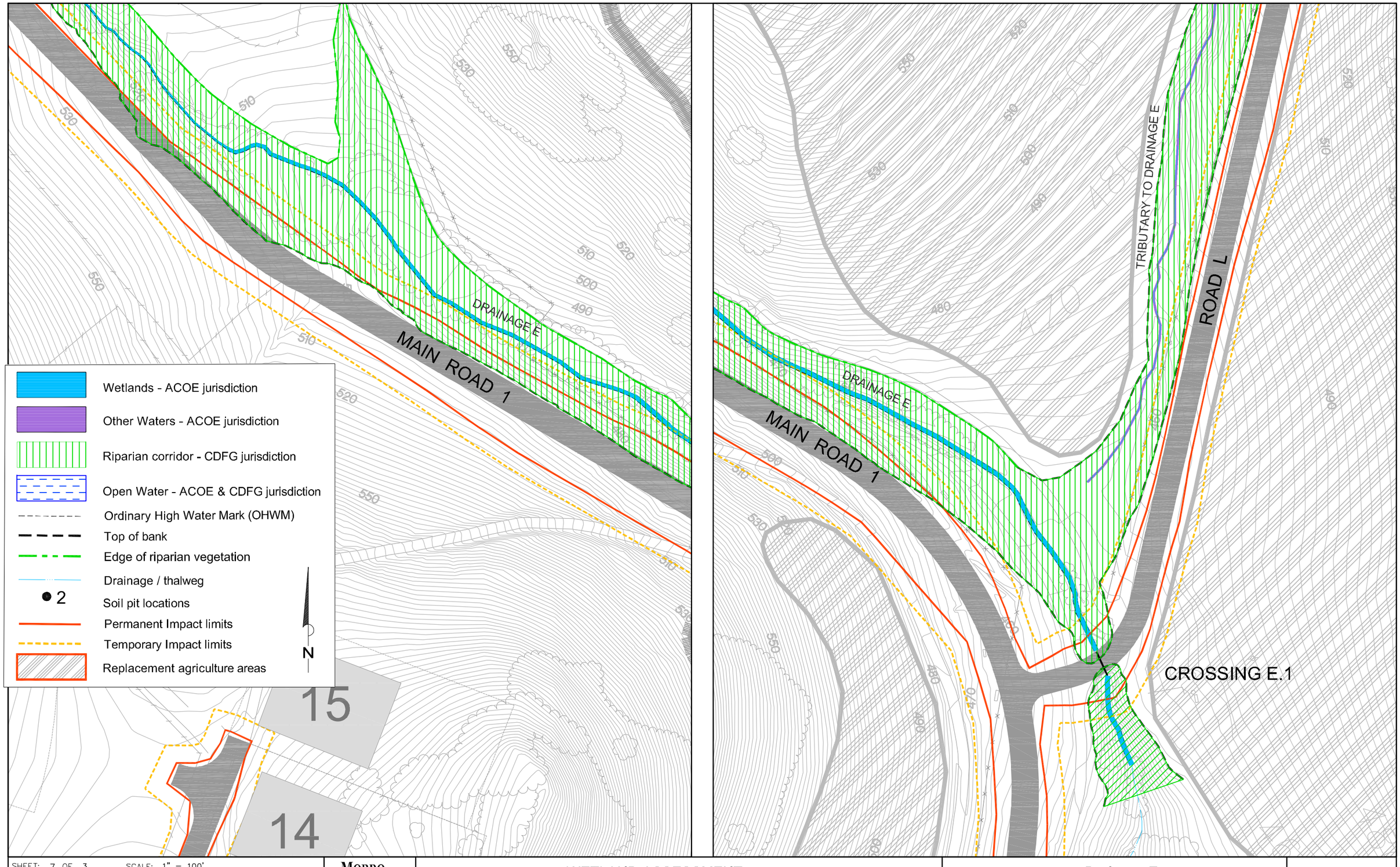
Permanent Impact limits

Temporary Impact limits

Replacement agriculture areas

N

SHEET: 7 OF 2 SCALE: 1" = 100'	MORRO GROUP, INC. Environmental Services	WETLAND ASSESSMENT Laetitia Agricultural Cluster Project	Drainages C & D Jursidictional Waters of the U.S.
CADD FILE: 05-513 Laetitia EIR\Bio-wetdel.dwg			FIGURE 5.1
DATE: 10.19.07 BY: dh REV.			



SHEET: 7 OF 3 SCALE: 1" = 100' CADD FILE: 05-513 Laetitia EIR\Bio-wetdel.dwg DATE: 10.19.07 BY: dh REV.	MORRO GROUP, INC. Environmental Services	WETLAND ASSESSMENT Laetitia Agricultural Cluster Project	Drainage E Jurisdictional Waters of the U.S.	FIGURE 5.2

92

93

94

DRAINAGE E

CROSSING E.4

MAIN ROAD 2

ROAD E

DRAINAGE E

CROSSING E.3

MAIN ROAD 2

CROSSING E.2

6

7

PERENNIAL SPRING

DRAINAGE E

MAIN ROAD 1

550

530

620

Wetlands - ACOE jurisdiction

Other Waters - ACOE jurisdiction

Riparian corridor - CDFG jurisdiction

Open Water - ACOE & CDFG jurisdiction

Ordinary High Water Mark (OHWM)

Top of bank

Edge of riparian vegetation

Drainage / thalweg

2 Soil pit locations

Permanent Impact limits

Temporary Impact limits

Replacement agriculture areas

N

SHEET: 7 OF 4 SCALE: 1" = 100'

CADD FILE: 05-513 Laetitia EIR\Bio-wetdel.dwg

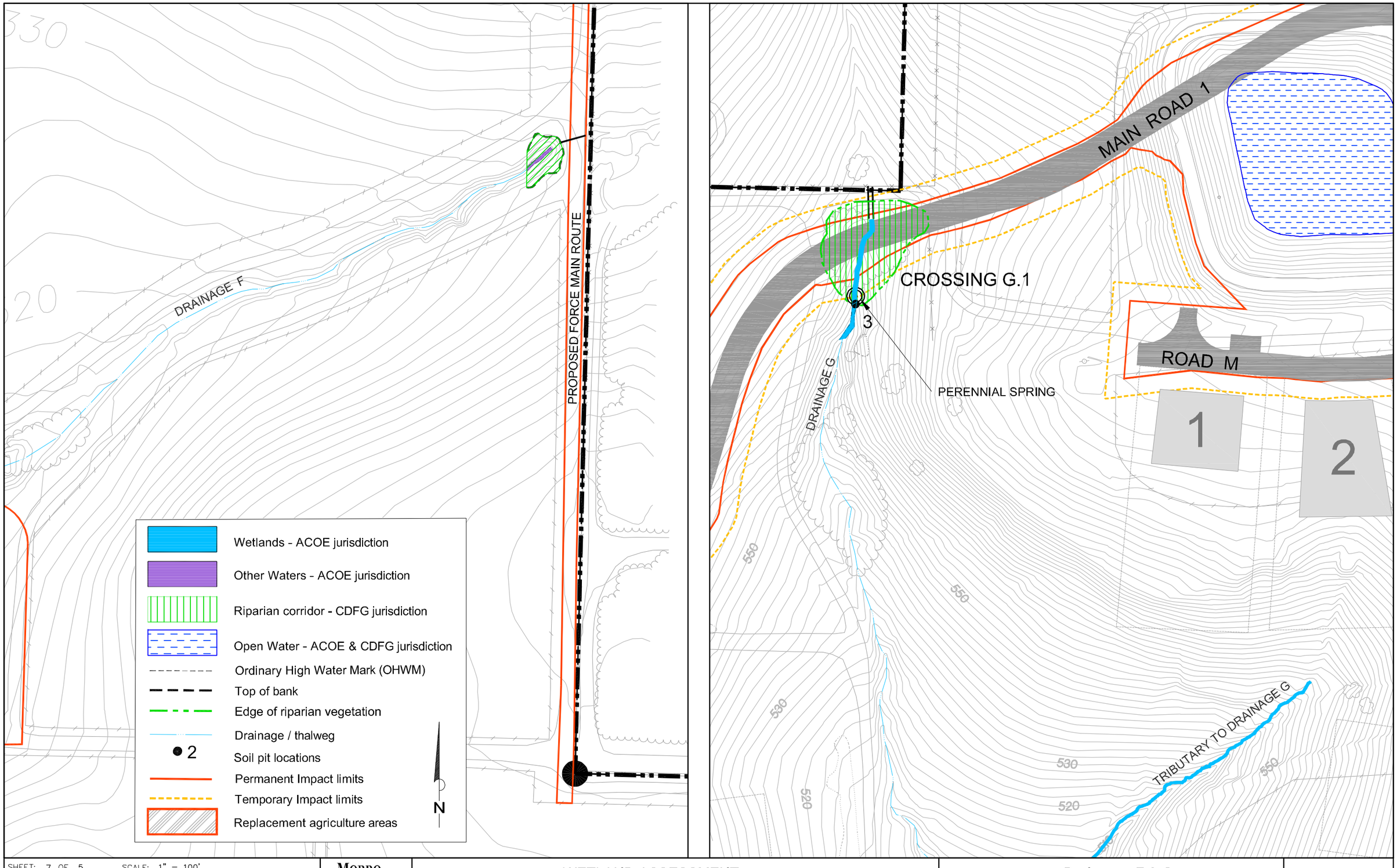
DATE: 10.19.07 BY: dh REV.

MORRO GROUP, INC.
Environmental Services

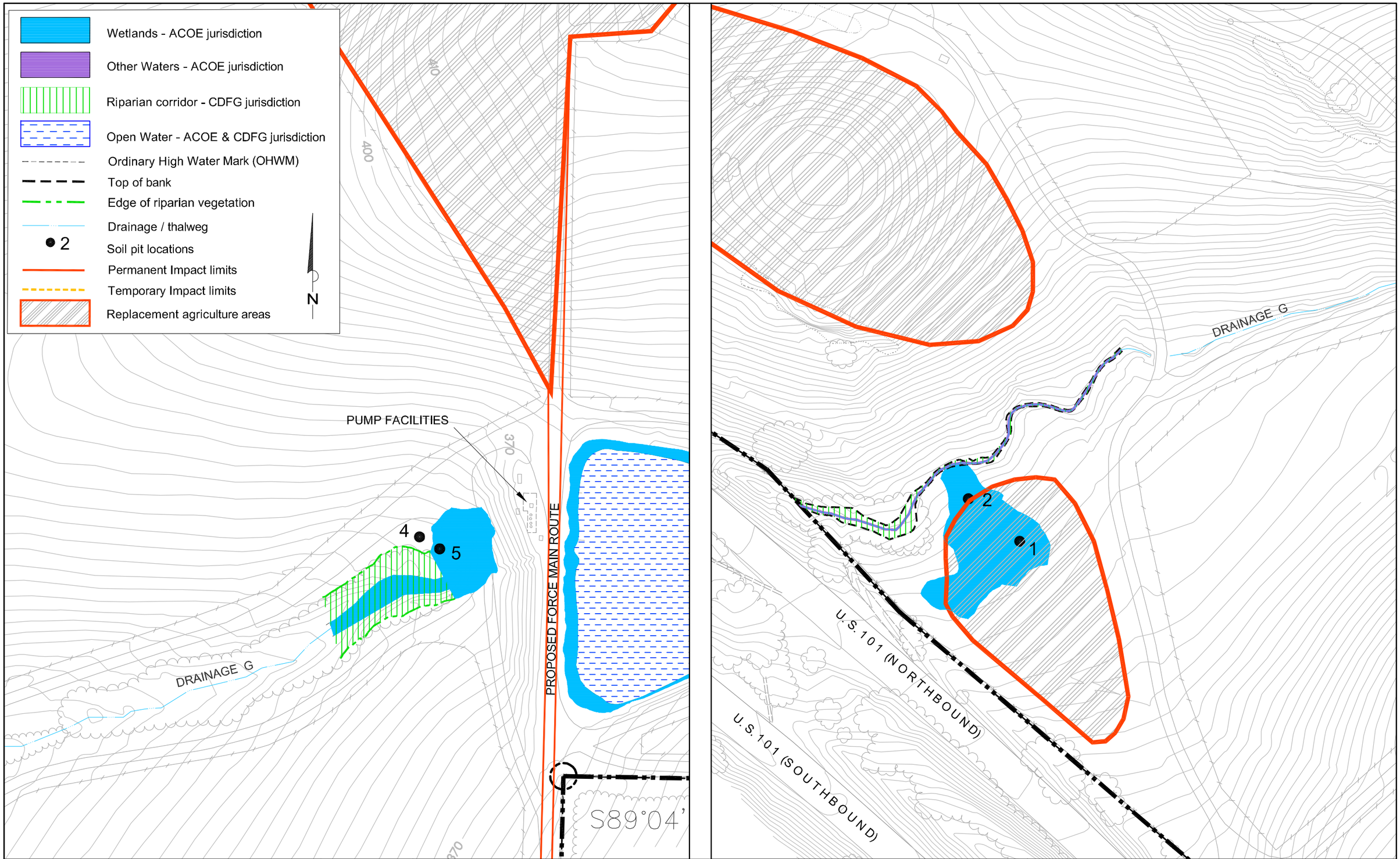
WETLAND ASSESSMENT
Laetitia Agricultural Cluster Project

Drainage E
Jurisdictional Waters of the U.S.

FIGURE 5.3



SHEET: 7 OF 5 SCALE: 1" = 100' CADD FILE: 05-513 Laetitia EIR\Bio-wetdel.dwg DATE: 10.19.07 BY: dh REV.	MORRO GROUP, INC. Environmental Services	WETLAND ASSESSMENT Laetitia Agricultural Cluster Project	Drainages F & G Jurisdictional Waters of the U.S.	FIGURE 5.4



SHEET: 7 OF 6 SCALE: 1" = 100' CADD FILE: 05-513 Laetitia EIR\Bio-wetdel.dwg DATE: 10.19.07 BY: dh REV.	MORRO GROUP, INC. Environmental Services	WETLAND ASSESSMENT Laetitia Agricultural Cluster Project	Drainage G Jursidictional Waters of the U.S.	FIGURE 5.5

Wetlands - ACOE jurisdiction
Other Waters - ACOE jurisdiction
Riparian corridor - CDFG jurisdiction
Open Water - ACOE & CDFG jurisdiction
Ordinary High Water Mark (OHWM)
Top of bank
Edge of riparian vegetation
Drainage / thalweg
2 Soil pit locations
Permanent Impact limits
Temporary Impact limits
Replacement agriculture areas

N

47
48
51
50
49
59
63
64
56
57
55
DRAINAGE I
DRAINAGE M
CROSSING I.1
CROSSING M.1
ROAD D
MAIN ROAD 1
ROAD P
POTENTIAL IMPACTS TO JURISDICTIONAL WATERS FROM FUTURE LOT DEVELOPMENT
POSSIBLE CULVERT INSTALLATION WITH DRAINAGE CONNECTIVITY TO DRAINAGE M
POTENTIAL IMPACTS TO DRAINAGE M FROM REPLACEMENT AG DEVELOPMENT

SHEET: 7 OF 7 SCALE: 1" = 100'	MORRO GROUP, INC. Environmental Services	WETLAND ASSESSMENT Laetitia Agricultural Cluster Project	Drainages I & M Jurisdictional Waters of the U.S.	FIGURE 5.6
CADD FILE: 05-513 Laetitia EIR\Bio-wetdel.dwg				
DATE: 10.19.07 BY: dh REV.				

III. RESULTS

A. HYDROLOGIC CONDITIONS

Los Berros Creek is located along the southern property boundary of the project site and is the main hydrologic conduit for water that flows from the site. Thirteen unnamed ephemeral drainages that are tributaries to Los Berros Creek originate within or pass through the project site (refer to Figure 2). To facilitate discussion in this report, these unnamed channels have been designated alphabetically as Drainages A through M. Drainages A through G, K, and L are direct tributaries to Los Berros Creek; whereas, Drainages H, I, J, and M are tributaries to Drainage G. In addition, several of these drainages have smaller tributaries that appear as swales with minimal bed or bank characteristics, or significant vegetative differences from surrounding areas. These swales convey water during rain events; however, generally do not maintain characteristics of jurisdictional waters and are only discussed in this report if the proposed project may impact the feature.

1. Drainages A and B

These drainages are located in the eastern portion of the site, and traverse the proposed dude ranch area before crossing Los Berros Road and entering Los Berros Creek (refer to Figure 4). Drainages A and B are very similar in size and depth, and exhibit similar vegetative and hydrologic conditions. These drainages are surrounded by annual grassland, coastal scrub, and oak woodland habitats on steeply sloping hillsides. Bed and bank conditions are defined throughout the length of the channels. OHWM's are approximately three feet wide and are approximately two feet deep at the thalweg.

2. Drainages C, D, and E

These drainages cross the central portion of the site before crossing Upper Los Berros Road and entering Los Berros Creek. They originate in moderately to steeply sloping annual grassland and coastal scrub areas near the northern property boundary, and travel through active or proposed agricultural areas. Culverts and bridges for agricultural road crossings are present in the lower portions of these drainages. Bed and bank conditions are defined throughout the length of the drainages; however, these drainages maintain different hydrologic and vegetative conditions.

Drainage C is within Adobe Canyon, maintains perennial flows, and supports a dense Central Coast cottonwood-sycamore riparian forest throughout the property. The bed between the OHWM's varies from three to fifteen feet wide and the thalweg is approximately two feet deep.

Drainage D is ephemeral and supports annual grassland, coast live oak woodland, and sporadic sycamores and willows. The bed between the OHWM's varies from one to four feet wide and the thalweg is approximately one foot deep.

Drainage E is ephemeral in the upper reach; however, midway through the property this drainage becomes perennial. Water is supplied to the perennial portion of Drainage E by a seep that is centrally located within the property. Currently the seep is partially filled by an agricultural road. Upstream of the seep Drainage E supports disturbed annual grassland, vineyard, and OHWM's

that are approximately one foot apart; the thalweg is approximately six inches deep. Downstream of the seep, Drainage E supports freshwater marsh and willow riparian scrub; and, maintains an approximately five foot wide bed between OHWM's.

3. Drainages F, G, H, and I

These drainages are located in the western portion of the site, and are surrounded by agricultural development consisting of vineyards, citrus orchards, pasture land, and a winery facility. Topography is gently to moderately sloped, and several culverts and bridges for agricultural road crossings are present in the lower portions of these drainages. Drainage F crosses under Highway 101 and connects directly with Los Berros Creek, while G, H, and I join within the Highway 101 right-of-way before continuing west to Los Berros Creek. These drainages maintain clearly defined bed, bank, and OHWM features; and are generally characterized by incised channels, steep banks, and sporadic willow canopies.

Drainage G is notable because it traverses the entire width of the central portion of the property and maintains wetland and other waters features. A perennial spring is located at the upper reach of this drainage. The spring supplies enough water to maintain surface flows through the northern half of the drainage; however, the bed of the southern half of the drainage was dry at the time of the field inspection. Drainage G has been dammed near the central portion of the property (refer to Figures 5.0 and 5.5 and Appendix B, Photos 9 and 10). The impoundment has created an agricultural retention pond that supplies irrigation water to the vineyards. In addition, a small slope wetland feature is located directly adjacent to Drainage G near the confluence with the Highway 101 right-of-way (refer to Figures 5.0 and 5.5). This area contains a shallow restrictive layer and collects surface and subsurface run off from the adjacent vineyards. The slope wetland supports the three parameters of an ACOE jurisdictional wetland and direct connectivity to Drainage G.

4. Drainages J, K, L, and M

These drainages are located in various parts of the property and with the exception of Drainage L are not mapped as blue line features. Drainages K and L are direct tributaries to Los Berros Creek. Drainage J conveys flows to Drainage G; and, Drainage M is connected to Drainage H.

Drainage J is located in the northwestern portion of the property and is a tributary to Drainage G. The upper reach of Drainage J is ephemeral; however, wetland characteristics are evident approximately 200 feet downstream of the headwaters. An agricultural water line is located in this vicinity and seems to be contributing to the hydrology of the drainage.

Drainage K is located at the southern boundary of the property and is a tributary to Los Berros Creek. This drainage is ephemeral and maintains top-of-bank and OHWM features. Drainage K supports riparian scrub and appears to convey surface and subsurface flows from the surrounding vineyards.

Drainage L is a blue line feature with the headwaters centrally located in the property, but quickly flows outside of the property boundaries before its confluence with Los Berros Creek. Drainage L conveys flows from a small watershed that consists of vineyard and disturbed annual

grassland. The upper reach of Drainage L does not maintain an OHWM; however the lower reach maintains evidence of ACOE jurisdictional wetlands.

Drainage M is a small ephemeral drainage that is located in the northwestern portion of the property and conveys overland flows from surrounding vineyards to Drainage H. Drainage M maintains characteristics of ACOE jurisdictional other waters in the lower reach of the drainage. However, the upper reach of the drainage does not maintain evidence of a defined bed, bank or OHWM.

B. SOIL CONDITIONS

1. Soil Types in the Project Area

The *Soil Survey of San Luis Obispo County, California Coastal Part* maps seventeen soil units as present within the project site (United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS); September 1984). The soil series present on the site range from clays to shaly loams, and are listed in Table 1 below. None of the soil types mapped as present on the site are listed by the NRCS as hydric soils. Soil colors are described according to Munsell Color standards (Munsell Color, 2000). In general, the steeper soils (Gazos-Lodo, Lopez, Nacimiento, Rock outcrop, and Santa Lucia) are found in the northeastern portions of the site, while the southern and western areas contain the less steeply sloping soil types (Chamise, Diablo/Cibo, Lodo rock outcrop, and Still). Still gravelly sandy clay loam, 2 to 9 percent slopes, although not listed as hydric, is mapped along the southern portion of Los Berros Creek. The thirteen drainages traversing the site occur in a wide variety of soil types, and are evidently too small to significantly affect soil conditions on a scale visible on SCS maps. Sample soil pits within the OHWM of a few drainages on the site found hydric soil conditions or riverwash deposits.

2. Soil Test Pits

Seven soil test pits were investigated in various locations throughout the property. Test pits were investigated in areas that are proposed for improvements and appeared to have wetland characteristics. Soil test pits were not investigated in areas that obviously lacked wetland hydrology or vegetation. Field data sheets are provided in Appendix A; and, Table 2 provides a summary of the test pit results.

Test Pits 1 and 2 were located at the lower reach of Drainage G and just upstream of the Drainage G and Highway 101 right-of-way intersection (refer to Figure 5.5). This is a sloped area that is surrounded by annual grasslands and active vineyards. As proposed this area would be converted to vineyard. The vegetation within the investigated plots is routinely mowed and grazed. Test Pit 1 is located within a patch of dense brown headed rush and revealed a dark redox surface (F6) (10YR/2/1) with prominent concentrations in the pore lining and root channels (2.5YR/4/8). The surface layer is on top of a restrictive layer that is approximately four inches below the surface. The restrictive layer consisted of dry clayey soil with a matrix color of 10YR/3/3 and no redox features. The area investigated around Test Pit 1 lacked primary indicators of wetland hydrology; however, presence of the aquitard (D3) and dominance by a FACW species (D5) satisfied the two required secondary indicators. Test Pit 2 indicated the same soil characteristics as Pit 1; however, the vegetation and hydrology differed. The

vegetation was dominated by weedy annuals including *Hordeum histrex* (FAC); and, the aquitard was the only hydrologic indicator observed. Even though this area lacked primary wetland hydrology indicators, it has been classified as a wetland based on the presence of wetland soils and vegetation as described on pages 93-95 of the Arid West Supplement.

Test Pit 3 was located in the upper reach of Drainage G and directly adjacent to the OHWM (refer to Figure 5.4). As proposed, a 32-foot wide road crossing would be installed in this location. A perennial seep is located approximately ten feet upstream of the pit. Despite the dry year, the seep maintained surface flows within the thalweg of the drainage. Soils in the plot maintained typical color (10YR/3/1) for the mapped soil type; however, prominent (10YR/5/8) soft masses were evident in the matrix and root channels. Soil Pit 3 was determined to be in a wetland.

Soil Pits 4 and 5 were located directly adjacent to Drainage G and just downstream of an agricultural pond (refer to Figure 5.5). An agricultural road has impounded flows within Drainage G and created the pond. The proposed project would install force main utilities within the road bed. Investigation of Pit 4 revealed mixed soils, presumably altered by the adjacent roads and agricultural practices. The soils contained lots of rock and road base with some moisture starting at eight inches from the surface. No evidence of redoximorphic features or wetland hydrology were observed in Soil Pit 4. Soil Pit 4 was determined to be in uplands. Soil Pit 5 was located approximately 20 feet from the road, approximately five vertical feet above the Drainage G OHWM, and within a dense stand of cattails. Soils in this area were dark (10YR/3/2) and saturated at the surface. At approximately ten inches, gley soils (Gley1/3/N) were evident. The soils in this pit emitted a strong hydrogen sulfide odor. Soil Pit 5 was determined to be in a wetland.

Soil Pits 6 and 7 were located directly adjacent to the channel of Drainage E (refer to Figure 5.3). This area has been altered by the installation of several agricultural roads that travel over a perennial seep. An intersection of two 32 foot wide roads is proposed in this location. Soil Pit 6 was located at the top of the defined channel and just off the side of the agricultural road. The vegetation in the plot is routinely mowed and consisted of ruderal and freshwater marsh species. Surface water was present and soils within the pit were saturated. The black matrix (10YR/2/1) is typical of the Diablo Cibo clays; however, lighter colored (10YR/4/2) patches were scattered throughout the matrix starting at approximately three inches. In addition, dark reddish brown (5YR/3/4) concentrations were also evident within the matrix. The soil in this plot emitted a strong hydrogen sulfide odor. Soil Pit 6 was determined to be in a wetland. Soil Pit 7 was located approximately five feet from Pit 6 and within the road shoulder. Vegetation in the area consisted of ruderal roadside species. This plot revealed the same black soils as pit 6; however, lacked any evidence of the redox depressions and concentrations. Soil Pit 7 was determined to be in uplands.

C. VEGETATIVE CONDITIONS

The project site consists of a mixture of agricultural development, annual grassland, coastal scrub, and oak woodland habitats. The drainage channels and Los Berros Creek contain a variety of riparian vegetation, ranging from sycamore and willow canopy to exotic annual grasses and broad-leafed herbs. In general, the Los Berros Creek riparian corridor supports

multi-level riparian woodland and riparian scrub communities. The riparian woodlands are dominated by coast live oak (*Quercus agrifolia*), sycamore (*Platanus racemosa*), and cotton woods (*Populus balsamifera*). The riparian scrub layer in the Los Berros Creek consists of a patchy mosaic of California blackberry (*Rubus ursinus*), California rose (*Rosa californica*), and poison oak (*Toxidendron diversilobum*).

The thirteen tributary drainage channels support discontinuous willow thickets that are intermixed with ruderal and freshwater marsh species. Dryer portions of the drainages are covered with ruderal species that include: Italian ryegrass (*Lolium multiflorum*), perennial mustard (*Hirschfeldia incana*), purple star thistle (*Centaurea calcitrapa*), ripgut brome (*Bromus diandrus*), fennel (*Foeniculum vulgare*), hemlock (*Conium maculatum*), and bull thistle (*Cirsium vulgare*). Freshwater marsh communities are sporadically intermixed within the willow thickets and ruderal species. The freshwater marsh communities include: cattail (*Typha* sp.), fireweed (*Epilobium ciliatum*), small-fruit bulrush (*Scirpus microcarpus*), rabbits foot grass (*Polypogon monspeliensis*), tall flat-sedge (*Cyperus eragrostis*), brown-headed rush (*Juncus phaeocephalus*), spikerush (*Eleocharis macrostachya*), and watercress (*Rorippa nasturtium-aquaticum*).

D. JURISDICTIONAL DETERMINATION

Jurisdictional wetlands and other waters areas per ACOE criteria were found to be associated with Drainages A through M and the section of Los Berros Creek adjacent to the site (refer to Figures 5.0 through 5.6). The OHWM within these drainages was identified and defined by the evidence of scour and vegetation lines. In several of the investigated drainages evidence of an OHWM was sporadic or discontinuous. In these instances, jurisdictional determinations were based on the evidence of jurisdictional features at the impact area. In areas where wetland characteristics were evident, soil test pits were investigated. Table 2 provides a summary of the test pit results. Please refer to section IV for a detailed discussion of the jurisdictional determinations for each proposed impact site.

TABLE 1
Sample Plot Jurisdictional Wetland Determination Summary

Sample Plot	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Wetlands Present
1	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes
4	Yes	No	No	No
5	Yes	Yes	Yes	Yes
6	Yes	Yes	Yes	Yes
7	Yes	No	No	No

E. FUNCTIONS AND VALUES OF IDENTIFIED JURISDICTIONAL AREAS

General functions and values of identified jurisdictional areas and surrounding habitat were evaluated, based on observed vegetative cover and diversity, hydrologic connectivity, and surrounding land uses. A brief discussion of these attributes follows. Drainage C and Los Berros Creek consist of a riverine, lower perennial system with an unconsolidated bottom (Cowardin et al. 1979) supporting Central Coast cottonwood-sycamore riparian forest. These areas maintain surface flows throughout the year and provide habitat for numerous aquatic, terrestrial, and avian species. Their functions and values are not only to convey runoff but also to serve as conduits for water quality improvement (e.g., filtering), storm and floodwater storage, groundwater discharge and recharge, and relatively high biological diversity and habitat value.

The areas associated with the ephemeral drainages are vegetated with annual grasses, weedy species, sporadic freshwater marsh, and willow riparian scrub. These channels have a variety of substrates and convey water for short durations of time. The ephemeral nature and current condition of the drainages greatly minimizes their functionality.

1. Vegetative Cover and Diversity

The ephemeral drainages on the property support a relatively low diversity of vegetation. Typically the drainages support willow thickets with ruderal species in the under story or annual grassland with weedy herbs. Freshwater marsh species are sporadically dispersed within the wetter portions of the drainages. The willow thickets provide valuable nesting and foraging habitat for avian species, while protecting the channel from rapid erosion. Areas that are dominated by annual grass and ruderal forbs appear to do nothing more than convey flows during rain events. These areas provide minimal habitat for wildlife and are ineffective at protecting the channel from erosion. The freshwater marsh areas provide habitat for aquatic species including California red-legged frog and may assist in ground water recharge within the immediate vicinity.

Drainage C and Los Berros Creek support a diverse Central Coast cottonwood-sycamore riparian forest. This community provides valuable habitat for terrestrial, avian, and aquatic species that utilize the corridors for foraging, dispersal, cover, and breeding habitat. In addition, the riparian vegetation assists in water quality improvement, filtering, and channel stabilization.

2. Hydrologic Connectivity

All thirteen drainages on the property maintain connectivity to Los Berros Creek, which is a tributary to Arroyo Grande Creek. Drainages A, through G, K, and L are direct tributaries to Los Berros Creek; whereas, Drainages H, I, J, and M are tributaries to Drainage G. Los Berros Creek, Drainage C, Drainage E, and Drainage G are perennial features. Perennial flows in Drainages E and G are spring fed and localized in specific areas within the channels. The perennial features rank moderate to high in functions and values. They provide storm water storage, groundwater discharge, and groundwater recharge, subsequently improving water quality within Los Berros Creek, which supports numerous aquatic species. In addition, the water resources within the site are vital to the adjacent agricultural industry.

Drainages A, B, D, F, G, K, and L are ephemeral and rank low to moderate in functions and values. This is indicative of their primary function to convey runoff and their minimal availability for floodwater storage capacity. In addition, their minimal vegetative diversity provides marginal habitat for wildlife species

3. Surrounding Uses

Identified jurisdictional areas are surrounded by active vineyard, orchard, agricultural roads, annual grasslands, coastal scrub, and oak woodland. The surrounding agricultural uses reduce habitat quality, but do not preclude wildlife presence within and adjacent to the stream corridors. The Los Berros Creek and Drainage C corridors are likely a significant water source, refuge, and migration corridor for numerous wildlife species. The history of agricultural uses directly adjacent to and within the drainages has resulted in incised channels that are subject to rapid erosion.

IV. IMPACT ASSESSMENT

The following discussion is specific to project-related impacts to Waters of the U.S., including wetlands, as defined by the ACOE. The proposed project has the potential to cause permanent, temporary, direct, and indirect impacts to ACOE jurisdictional areas associated with Los Berros Creek and its tributaries. Permanent and direct impacts could result from proposed road crossings and utility installation in wetland and other waters areas (refer to Figures 5.0 through 5.6). Temporary impacts could result from equipment access to the project site. Indirect impacts could result from various project activities being implemented directly adjacent to jurisdictional areas. The following discussion focuses on areas that are proposed for direct impacts resulting from project activities. In instances where the proposed project could impact a portion of a drainage that does not maintain evidence of an OHWM or relatively permanent waters, the impact area was considered non-jurisdictional; even if, the drainage maintained evidence of an OHWM downstream of the impact area. This determination is based on the lack of jurisdictional characteristics within the impact area. Estimated impacts to waters of the U.S. are summarized in Table 3 and are based on conceptual design drawings provided by RRM (2006) (refer to Figure 4). Estimated impacts to California Department of Fish and Game (CDFG) jurisdictional areas are also summarized in Table 3.

TABLE 2
Impact Areas within ACOE and CDFG Jurisdiction

Habitat	Total Area in sq. ft. (acres)	Permanent Impact Areas in sq. ft. (acres)	Temporary Impact Areas in sq. ft. (acres)
ACOE Jurisdictional Areas			
Wetlands	16,738 sq. ft (0.38 ac)	14,952 sq. ft (0.34 ac)	1,786 sq. ft (0.04 ac)
Other Waters	2,004 sq. ft (0.05 ac)	1,126 sq. ft (0.03 ac)	878 sq. ft (0.02 ac)
TOTAL ACOE IMPACT AREAS		16,078 sq. ft (0.37 ac)	2,664 sq. ft (0.06 ac)
CDFG Jurisdictional Areas	106,225 sq. ft (2.44 ac)	44,353 sq. ft (1.02 ac)	61,872 sq. ft (1.42 ac)

A. DRAINAGES A AND B

Drainages A and B maintain characteristics of ACOE jurisdictional other waters. Future development associated with the proposed project includes construction of a dude ranch within the watershed of Drainages A and B. Construction of the dude ranch would require installation of road crossings within the drainages (refer to Figure 5.0 and Photos 1 and 2), which would result in permanent and temporary impacts to the jurisdictional features. Currently, the applicant has not provided conceptual plans for the road crossings; consequently, impacts to Drainages A and B can not be estimated at this time. Table 3 does not include potential impacts resulting from this future development.

B. DRAINAGES C, D, AND E

Drainage C maintains characteristics of ACOE jurisdictional wetlands and the proposed project would result in permanent and temporary impacts to the drainage in one location. The proposed project includes installing a road crossing in a portion of the drainage that maintains OHWM's that are approximately fifteen feet apart (refer to Figure 5.1 Crossing C.1 and Photo 3). The proposed road crossing would be approximately thirty-two feet wide and provide primary access to the residential development. The proposed road construction could result in 0.023 acres of permanent and 0.015 acres of temporary impacts to ACOE Jurisdictional Wetlands. Proposed activities could also result in 0.140 acres of permanent and 0.090 acres of temporary impacts to CDFG jurisdictional areas in Drainage C.

Drainage D maintains characteristics of ACOE jurisdictional other waters and the proposed project would result in permanent and temporary impacts in one location. The proposed alignment for Main Road 2 would require the installation of a road crossing within the drainage refer to Figure 5.1 Crossing D.1 and Photo 4). The crossing would be approximately thirty-two feet wide and provide access to the residential development. An agricultural road exists in the location of the proposed crossing and the area supports a small willow thicket. Installation of the road crossing could result in 0.011 acres of permanent and 0.003 acres of temporary impacts to ACOE jurisdictional other waters. Proposed activities could also result in 0.044 acres of permanent and 0.016 acres of temporary impacts to CDFG jurisdictional areas in Drainage D.

Drainage E maintains characteristics of ACOE jurisdictional other waters and wetlands. The proposed project would impact Drainage E in four locations.

The proposed alignment of Access Road L at Main Road 1 would require installation of a road crossing within the lower reach of Drainage E (refer to Figure 5.2, Crossing E.1 and Photo 5). Crossing E.1 would be located in an area that maintains characteristics of ACOE jurisdictional wetlands. At the time of the field investigation, the proposed location of Crossing E.1 maintained perennial flows and a dense willow thicket with watercress within the thalweg. Installation of Crossing E.1 could result in 0.005 acres of permanent and 0.005 acres of temporary impacts to ACOE jurisdictional wetland. Proposed activities could also result in 0.056 acres of permanent and 0.050 acres of temporary impacts to CDFG jurisdictional areas associated with Crossing E.1.

The proposed alignment of Main Road 1 would require installing a culvert (refer to Figure 5.3 Crossing E.2 and Photo 6) through a perennial seep that supplies flows to the lower portion of the drainage. The proposed crossing is at the intersection of Main Roads 1 and 2, and would include filling a wetland and potentially a portion of the drainage channel. Installation of the road crossing and intersection could result in 0.001 acres of permanent and 0.001 acres of temporary impacts to ACOE jurisdictional wetlands. Proposed activities could also result in 0.035 acres of permanent and 0.036 acres of temporary impacts to CDFG jurisdictional areas associated with Crossing E.2.

The alignment of Main Road 2 would require installation of a road crossing within the upper reach of Drainage E (refer to Figure 5.3, Crossing E.3). Crossing E.3 would impact ACOE jurisdictional other waters in a location that supports disturbed annual grasslands. Installation of Crossing E.3 could result in 0.003 acres of permanent and 0.002 acres of temporary impacts to ACOE jurisdictional other waters, and in 0.020 acres of permanent and 0.010 acres of temporary impacts to CDFG jurisdictional areas.

In addition, Access Road L would parallel the channel of a tributary to Drainage E between Crossing D.1 and E.3 (refer to Figures 5.1, 5.2 and Photo 7). The tributary maintains characteristics of ACOE jurisdictional other waters; and, construction of Access Road L could result in 0.004 acres of temporary impacts to ACOE other waters in the tributary. Construction of Access Road L could also result in 0.009 acres of permanent and 0.413 acres of temporary impacts to CDFG jurisdictional areas in addition to impacts at Crossing E.1.

Lot 92 would be situated between Drainage E and a tributary to Drainage E. The driveway for Lot 92 would require installation of a culvert and road fill within the tributary channel (refer to Figure 5.3, Crossing E.4). Installation of the driveway could result in 0.002 acres of permanent and 0.002 acres of temporary impacts to ACOE jurisdictional other waters, and in 0.002 acres of permanent and 0.002 acres of temporary impacts to CDFG jurisdictional areas.

C. DRAINAGES F, G, H, AND I

Drainage F maintains characteristics of ACOE jurisdictional other waters and the proposed project may impact the drainage in one location (refer to Figure 5.4). An existing agricultural road crosses Drainage F approximately 1,500-feet upstream of the drainage intersection with Highway 101. The applicant proposes to install a force main utility system within the road bed,

which may result in widening the road and replacing or extending an existing culvert. These activities could result in permanent and temporary impacts to ACOE jurisdictional other waters, which cannot be quantified at this time due to the conceptual nature of the project plans.

Drainage G maintains characteristics of both ACOE jurisdictional other waters and wetlands. The proposed project could impact Drainage G in three locations. As proposed, the project would construct Main Road 1 over an existing road crossing at the upper reach of the drainage (refer to Figure 5.4, Crossing G.1). The road improvements would require widening the road and replacing the existing culverts. These activities could result in 0.008 acres of permanent and 0.003 acres of temporary impacts to ACOE jurisdictional wetlands. Proposed activities could also result in 0.148 acres of permanent and 0.065 acres of temporary impacts to CDFG jurisdictional areas associated with Crossing G.1.

The flows within Drainage G are impounded by an existing agricultural road approximately 4,000-feet downstream of the proposed Crossing G.1. The impoundment has created an in-stream agricultural pond that is controlled by a pumping station (refer to Photo 9). Drainage G maintains wetland characteristics immediately downstream from the pumping station (refer to Photo 10). As proposed, the project would require installing force main utilities within the existing agricultural road (refer to Figure 5.5, Crossing G.2). These activities may require widening the road to allow for equipment access or rerouting the controlled flows to and from the pumping station. These improvements could result in permanent and temporary impacts to ACOE jurisdictional wetlands, which cannot be quantified at this time due to the conceptual nature of the project plans.

Located approximately 200 feet upstream of the Highway 101 and Drainage G intersection is an adjacent slope wetland (refer to Figure 5.5, Pits 1 and 2). The slope wetland is located in an area proposed for agricultural development, which would require tilling the soil past the depth of the restrictive layer. This land use change would alter the geologic features that are supporting the existing slope wetland, resulting in 0.302 acres of permanent impacts caused by the loss of the entire ACOE jurisdictional wetland.

Drainage H traverses the western portion of the property and maintains characteristics of ACOE jurisdictional other waters in the lower reach of the drainage. The upper reach of the drainage has been significantly altered by agricultural practices and does not maintain evidence of a defined bed, bank or OHWM. The proposed project includes the construction of a new 32-foot wide road (Main Road 1), which would require a culvert where the road crosses the upper reach of Drainage H (refer to Figure 5.0). At the location of the new culvert, Drainage H does not maintain evidence of jurisdictional features (e.g. OHWM or Relatively Permanent Waters); therefore, the road and culvert would not impact waters of the U.S.

Drainage I is located in the northwestern corner of the property and maintains characteristics of ACOE jurisdictional other waters. The proposed project would result in impacts to Drainage I in two locations. The proposed project includes constructing a 26-foot secondary access road (Road D) that would cross Drainage I (refer to Figure 5.6 Crossing I.1, and Photo 11). Construction of Road D would require installation of a culvert in the drainage, which would result in 0.009 acres of permanent and 0.008 acres of temporary impacts to ACOE jurisdictional

other waters. Proposed activities could also result in 0.026 acres of permanent and 0.018 acres of temporary impacts to CDFG jurisdictional areas associated with Crossing I.1.

In addition, the proposed home site of Lot 56 is located in the headwaters of Drainage I. Access and development of Lot 56 could result in permanent and temporary impacts to ACOE other waters and CDFG jurisdictional areas, which cannot be quantified at this time due to the conceptual nature of the project plans.

D. DRAINAGES J, K, L, AND M

No road crossings or other structures are proposed on Drainages J, K, or L; however, the project would result in land use conversions adjacent to Drainages K and L. Approximately 20.8 acres of existing vineyard adjacent to Drainage K would be converted to a waste water effluent spray site. In addition, approximately 3.0 acres of non-native annual grassland located near the headwaters of Drainage L would be converted to active agricultural land. As proposed, these land use conversions would not result in dredge or fill of jurisdictional waters; however, could result in increased sediment loading of adjacent jurisdictional areas.

The lower reach of Drainage M maintains characteristics of ACOE jurisdictional other waters; however, the upper reach of the drainage does not maintain evidence of a defined bed, bank or OHWM. The proposed project includes a road crossing and culvert at the headwaters of the drainage (refer to Figure 5.6 Crossing M.1, and Photo 12). Due to the lack of jurisdictional features at the impact location, Crossing M.1 is not anticipated to result in impacts to jurisdictional areas. In addition, the proposed project would convert the sloped areas adjacent to Drainage M to vineyards. This land conversion would not result in fill of the drainage; consequently, impacts to jurisdictional areas are not anticipated.

V. REGULATORY IMPLICATIONS

A. U.S. ARMY CORPS OF ENGINEERS

Section 404 of the Clean Water Act (CWA) regulates activities that result in the discharge of dredge or fill materials into Waters of the United States, including wetlands. The ACOE is charged with administering and regulating various sections of the CWA. Placement of access road crossings or any other material below the OHWM of Los Berros Creek or its tributaries would require submittal of a permit application to the ACOE for determination of permitting/mitigation requirements.

B. CALIFORNIA DEPARTMENT OF FISH AND GAME

Sections 1600 through 1607 of the CDFG Code regulate activities that would alter the flow, bed, channel, or bank of streams and lakes. CDFG jurisdiction typically extends to the top of the creek bank or the outside edge of riparian vegetation. Placement of access road crossings or any other material between the creek banks of Los Berros Creek or its tributaries will likely require coordination with and permit approval from the CDFG.

C. REGIONAL WATER QUALITY CONTROL BOARD

Section 401 of the Clean Water Act regulates activities that have the potential to cause water quality impacts to Waters of the United States, including wetlands, as defined by the ACOE. This certification typically precedes ACOE permit issuance. Any work in or adjacent to areas considered jurisdictional by the ACOE will require a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

VI. REFERENCES

Cowardin, Lewis M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Prepared for the U.S. Fish and Wildlife Service. FWS/OBS-79/31.

Environmental Laboratory. 1987. U.S Army Corps of Engineers wetlands delineation manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Environmental Laboratory. 2006. U.S Army Corps of Engineers Interim Regional Supplement to the Wetlands Delineation Manual: Arid West Region. Technical Report TR-06-16, Wetlands Regulatory Assistance Program.

Hickman, J. Ed. 1993. The Jepson manual: higher plants of California. University of California Press: Berkeley, California.

Hoover, Robert F. 1970. The vascular plants of San Luis Obispo County, California. University of California Press: Berkeley, California.

Munsell Color. 2000. Munsell soil color charts. GretagMacbeth. New Windsor, New York.

Reed, Porter B. Jr. 1988. National list of plant species that occur in wetlands: California (Region 0). National Ecology Research Center, U.S. Fish and Wildlife Service, St. Petersburg, Florida.

Rincon Consultants, Inc. 2001. Laetitia Winery and Expansion Project, Biological and Wetland Assessment. Prepared forTower Grove Vintners. May 4, 2001.

Soil Conservation Service (SCS). 1984. Soil survey of San Luis Obispo County, California, Coastal Portion. United States Department of Agriculture, Washington, D.C.

United States Geological Service. 1965, Revised 1994. 7.5 minute series quadrangle for Oceano, California.

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ATTACHMENT A

- Field Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 1

Investigator(s): Travis Belt, Barrett Holland Section, Township, Range: 26, Township, 35 W

Landform (hillslope, terrace, etc.): Hillslope/Toeslope Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR): C Lat: 35 05' 12.93" Long: 120 31' 57.13" Datum: WGS 1984

Soil Map Unit Name: 116 Chamise Shaly Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Annual rainfall for this season has been very low. This area is located adjacent to the lower reach of Drainage G and at the toe of a slope. Sub surface flows from the nearby vineyard appear to be collecting on top of a restrictive layer as they flow down from the hillside and into the drainage.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Juncus phaeocephalus	95	Yes	FACW
2. Lactucea serriola	2	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	97		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 3 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

This area is covered with J. phaeocephalus and has a few scattered L. serriola. Areas surrounding the Juncus "patch" are dominated by annual grasses including Bromus sp. and Avena sp.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"								Dry, organic material
1-4"	10yr/2/1	90	2.5yr/4/8	10	C	RC/PL	silt/loam	Very dry with lots of roots
> 4"	10yr/3/3	100						Clayey Restrictive layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: hard pan

Depth (inches): 4"

Hydric Soil Present? Yes X No _____

Remarks:

Soil is extremely dry due to low seasonal rain. This soil layer is on top of a restrictive layer. The root channels and poor linings have prominent redox concentrations. The observed matrix color is only slightly darker than the USGS mapped 10YR/3/1; however, evidence of prominent redox concentrations in the root channels and pore linings indicate a redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The observed hydrologic indicators are secondary and include the impermeable layer (D3) and the vegetation passing the Fac-neutral test. In addition, according to page 93-95, "wetlands that periodically lack wetland hydrology" are considered a wetland if hydric vegetation and soils are present. This area has wetland hydrology due to the presence of secondary indicators, hydric soils, and vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 2

Investigator(s): Barrett Holland Section, Township, Range: 26, Township, 35 W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR): C Lat: 35 05' 13.40"N Long: 120 31" 57.85"W Datum: WGS 1984

Soil Map Unit Name: 116 Chamise Shaly Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes _____ No X	

Remarks: Very dry year. This area is located adjacent to the lower reach of Drainage G and at the toe of a slope. Sub surface flows from the nearby vineyard appears to be collecting on top of a restrictive layer as they flow down from the hillside and into the drainage. The only hydrologic indicator is the impermeable layer (D3) which is secondary. However, according to page 93-95, "wetlands that periodically lack indicators of wetland hydrology" this area is wetland due to the presence of hydric soils and vegetation.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Hordeum histrex	70	Yes	FAC
2. Bromus hordeaceus	10	No	FACU
3. Bromus diandrus	10	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	90		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Vegetation is heavily browsed by managed goat herds and is significantly different than that of test pit 1.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"								Dry, organic material
1-4"	10yr/2/1	90	2.5yr/4/8	10	C	RC/PL	silt/loam	
> 4"	10yr/3/3	100						Clayey Restrictive layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: hard pan

Depth (inches): 4"

Hydric Soil Present? Yes X No _____

Remarks:

Soil is extremely dry due to low seasonal rain. This soil layer is on top of a restrictive layer. The root channels and poor linings have prominent redox concentrations. The observed matrix color is only slightly darker than the USGS mapped 10YR/3/1; however, evidence of prominent redox concentrations in the root channels and poor linings indicate a redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The only hydrologic indicator is the impermeable layer (D3) which is secondary. However, according to page 93-95, "wetlands that periodically lack indicators of wetland hydrology" this area has wetland hydrology due to the presence of hydric soils and vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 3

Investigator(s): Travis Belt, Barrett Holland Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Drainage channel Local relief (concave, convex, none): Concave Slope (%): 30

Subregion (LRR): C Lat: 35 05' 50.74"N Long: 120 31' 07.60"W Datum: WGS 1984

Soil Map Unit Name: 156 Lopez very shaley clay loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Dry year. This pit is located directly adjacent to the OHWM of Drainage G. A perennial spring is located just upstream of the pit and maintains surface flows in a thelweg that is approximately 1' deep. No evidence of wetland indicators are present outside of the OHWM.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	80	Yes	FACW
2.			
3.			
4.			
Total Cover:	80		
Sapling/Shrub Stratum			
1. Baccharis pilularis (coyote bush)	20	Yes	UPL
2.			
3.			
4.			
5.			
Total Cover:	20		
Herb Stratum			
1. Urtica dioica (stinging nettle)	40	Yes	FACW
2. Polypogon monspeliensis (beard grass)	20	Yes	FACW
3. Picris echoides (bristly ox-tongue)	20	Yes	FAC
4. Veronica anagallis-aquatica(water speedwell)	5	No	OBL
5. Conium maculatum (poison hemlock)	10	No	FACW
6.			
7.			
8.			
Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 % (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

The wetland tree stratum, upland shrub stratum, and multilayered wetland species in the herb stratum are characteristic of a disturbed drainage.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22"	10yr/3/1	95	10yr/5/8	5	C	RC/M	clay	prominent soft masses, rocky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: none

Depth (inches): none

Hydric Soil Present? Yes X No _____

Remarks:

This a deep clay soil that has prominent redox concentrations in the matrix and in the root channels. The matrix color is typical of the USGS mapped soil type.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0

Water Table Present? Yes X No _____ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water is directly adjacent to the pit and is supplied by the nearby spring. Spring water flows to an agricultural retention pond. No standing water in the pit.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 4

Investigator(s): Travis Belt Section, Township, Range: 36, Township, 13 E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): C Lat: 35 05' 28.56"N Long: 120 31' 28.98" Datum: WGS 1984

Soil Map Unit Name: 131 diablo and cibo clays NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Very dry season. This pit is located directly downstream from an in-stream agricultural impoundment in Drainage G. This area is directly adjacent to agriculture roads and the soils have been disturbed by routine road maintenance.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Lolium perenne	50	Yes	FAC
2. Picris echioides	30	Yes	FAC
3. Typha latifolia	15	No	OBL
4.			
5.			
6.			
7.			
8.			
Total Cover:	85 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Vegetation is routinely mowed and is typical of a roadside plant community.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5yr/2.5/1	100					loamy/clay	Lots of roots & small rocks. Dry.
8-16"	7.5yr/2.5/1	80					clay	Remaining 20%=gravel, moist
16-21"	7.5yr/2.5/1	90					clay	Remaining 10%=gravel,moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N.A.

Depth (inches): N.A.

Hydric Soil Present? Yes _____ No X

Remarks:

What at first glance appeared to be concretions are just decomposing sandstone rocks mixed with road base and other rocky debris. No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

During rain fall events, this area may receive sheet flows. However, routine maintenance may be masking any evidence of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 5

Investigator(s): Travis Belt Section, Township, Range: 36, Township, 13 E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): C Lat: 35 05' 28.44"N Long: 120 31' 28.71"W Datum: WGS 1984

Soil Map Unit Name: 131 diablo and cibo clays NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks: Dry year. This pit is located directly downstream from an in-stream agricultural impoundment and adjacent to agriculture roads. Saturated soils and dense fresh water marsh vegetation are present. This area is directly adjacent to Drainage G and approximately five vertical feet above the OHWM. It appears that water from the upstream agricultural pond seeps under the road and saturates the vicinity. These flows then re-enter Drainage G and remain on or near the surface for an approximately 1000 foot stream reach.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1. Salix lasiolepis	10	No	FACW
2.			
3.			
4.			
5.			
Total Cover:	10		
Herb Stratum			
1. Typha latifolia	80	Yes	OBL
2. Picris echioides	15	No	FAC
3. Melilotus indica	5	No	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

The vegetation surrounding the pit is primarily cattails with a few weedy species intermixed. The willow canopy is over hanging from the adjacent stream channel.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10"	10yr/3/2	100						Saturated, Mucky, Stinky
10-14"	Gley1/3/N							Mucky with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N.A.

Depth (inches): N.A.

Hydric Soil Present? Yes X No _____

Remarks:

This area is saturated with mucky mineral soils and strong hydrogen sulfide odors. Gley soils were observed in the lower 4" of the pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- X Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- X Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrology in this location is subject to control by the agricultural impoundment and associated pumps that are directly upstream.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 6

Investigator(s): Travis Belt Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Drainage Local relief (concave, convex, none): Concave Slope (%): 8

Subregion (LRR): C Lat: 35 05' 53.98"N Long: 120 31' 51.87"W Datum: WGS 1984

Soil Map Unit Name: 131 Diablo and Cibo clays NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks: Very dry year. This location has several agricultural roads intersecting over a perennial seep. The drainage channel is unrecognizable upstream of the plot, most likely due to the ongoing agricultural practices. The perennial spring supplies surface flows to this portion of Drainage E.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Urtica dioica	40	Yes	FACW
2. Conium maculatum	20	Yes	FACW
3. Cyperus eragstis	20	Yes	FACW
4. Xanthium strumarium	5	No	FAC
5. Picris echioides	5	No	FAC
6. Lolium perenne	5	No	FAC
7.			
8.			
Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

The vegetation in this plot is disturbed by the road and mowing. Vegetation within the channel is characteristic of fresh water marsh and riparian scrub.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10yr/2/1	100					clay	Saturated with surface water
3-20"	10yr/2/1	70	10yr/4/2	25	D	M	clay	dark grayish brown patches
3-20"	10yr/2/1		5yr/3/4	5	C	M		dark reddish brown concent.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N.A.

Depth (inches): N.A.

Hydric Soil Present? Yes X No _____

Remarks:

The black clay soil is saturated from flows that are coming from a subsurface seep that is located under an existing agricultural road. the dark matrix is typical of this soil type; however, patches of dark grayish brown areas appear to be depletions and the dark reddish brown appears to be concentrations within the matrix. This soil is emitting a strong hydrogen sulfide odor.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Wetland hydrology is supplied by a seep that is located under an agricultural road.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Laetitia Ag Cluster City/County: Arroyo Grande/SLO Sampling Date: 7/25/07

Applicant/Owner: Tower Grove Vinters, Inc. State: CA Sampling Point: 7

Investigator(s): Travis Belt Section, Township, Range: 32, Township, 14E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): C Lat: 35 05' 53.99"N Long: 120 31' 51.64" Datum: WGS 1984

Soil Map Unit Name: 131 diablo and cibo clays NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: Dry year. This pit is located approximately 8' above the OHWM of the drainage and adjacent to the agriculture road.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Lolium perenne	80	Yes	FAC
2. Picris echioides	10	No	FAC
3. Hirshfeildia incana	10	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

The vegetation in this location is typical of roadside weeds that are mowed on a regular basis.

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10yr/2/1	100					Clay	Dry, blocky, rocks, and roots
3-20"	10yr/2/1	100					Clay	Dry with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5) (**LRR C**)
___ 1 cm Muck (A9) (**LRR D**)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) (**LRR C**)
___ 2 cm Muck (A10) (**LRR B**)
___ Reduced Vertic (F18)
___ Red Parent Material (TF2)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: N.A.

Depth (inches): N.A.

Hydric Soil Present? Yes _____ No X

Remarks:

This black clay soil is dry and blocky with no evidence of redox features.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1) (**Nonriverine**)
___ Sediment Deposits (B2) (**Nonriverine**)
___ Drift Deposits (B3) (**Nonriverine**)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Water-Stained Leaves (B9)
___ Salt Crust (B11)
___ Biotic Crust (B12)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Plowed Soils (C6)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water Marks (B1) (**Riverine**)
___ Sediment Deposits (B2) (**Riverine**)
___ Drift Deposits (B3) (**Riverine**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Thin Muck Surface (C7)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This area may be subject to seasonal surface flows. However, routine maintenance would mask any evidence of wetland hydrology.

ATTACHMENT B

- Photo Documentation

PHOTO 1:

View of the upstream portion of Drainage A. The photo was taken from an existing road crossing in the approximate location of the future dude ranch access road.

Photo taken January 24, 2006.

PHOTO 2:

View looking upstream of Drainage B. The photo was taken from an existing road crossing in the approximate location of the future dude ranch access road.

Photo taken April 21, 2006.

PHOTO 3:

View of the approximate location of the proposed Main Road 2 crossing at Drainage C. Note the mature Central Coast cottonwood-sycamore riparian forest.

Photo taken September 5, 2007.

PHOTO DOCUMENTATION

PHOTO 4:

View looking upstream of Drainage D in the approximate location of proposed Crossing D.1. The photo was taken from the culvert of an existing agricultural road.

Photo taken January 24, 2006.

PHOTO 5:

View looking across Drainage E in the approximate location of proposed Crossing E.1. This area is downstream of the perennial seep and maintains perennial flows.

Photo taken April 19, 2006.

PHOTO 6:

View of the perennial seep that is located near the upper reach of Drainage E. This is the approximate location of the proposed intersection of Main Roads 1 and 2; and, the location of Soil Pit 6.

Photo taken August 27, 2007.

PHOTO DOCUMENTATION

PHOTO 7:

View of the approximate location where proposed Road L would cross the ephemeral tributary to Drainage E.

Photo taken January 24, 2006.

PHOTO 8:

View of the existing agricultural road and proposed location of Crossing G.1. The perennial spring is located within the willows seen on the right of the photo.

Photo taken July 26, 2007.

PHOTO 9:

View of the agricultural pond that is located within the channel of Drainage G. As proposed, force main utilities would be installed within the agricultural road seen in the foreground.

Photo taken August 23, 2007.

PHOTO 10:

View of the freshwater marsh area located directly downstream of the agricultural pond seen in Photo 9. The shovel marks the location of Soil Pit 4. Soil Pit 5 was located within the cattails.

Photo taken August 23, 2007.

PHOTO 11:

View looking up Drainage I in the approximate location of proposed Road D. The photo was taken from the existing culvert outlet.

Photo taken April 19, 2006.

PHOTO 12:

View of the upper portion of Drainage M. Proposed Crossing M.1 would be located in the vineyard seen in the background.

Photo taken January 24, 2006.