DELINEATION OF WATERS OF THE UNITED STATES

IONE BAND OF MIWOK INDIANS

CASINO PROJECT

JULY 2004

Lead Agency:

U.S. Department of the Interior, Bureau of Indian Affairs
Pacific Region, 2800 Cottage Way, Room W-2820
Sacramento, CA 95825-1846

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Prepared For:

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AES

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JULY 2004

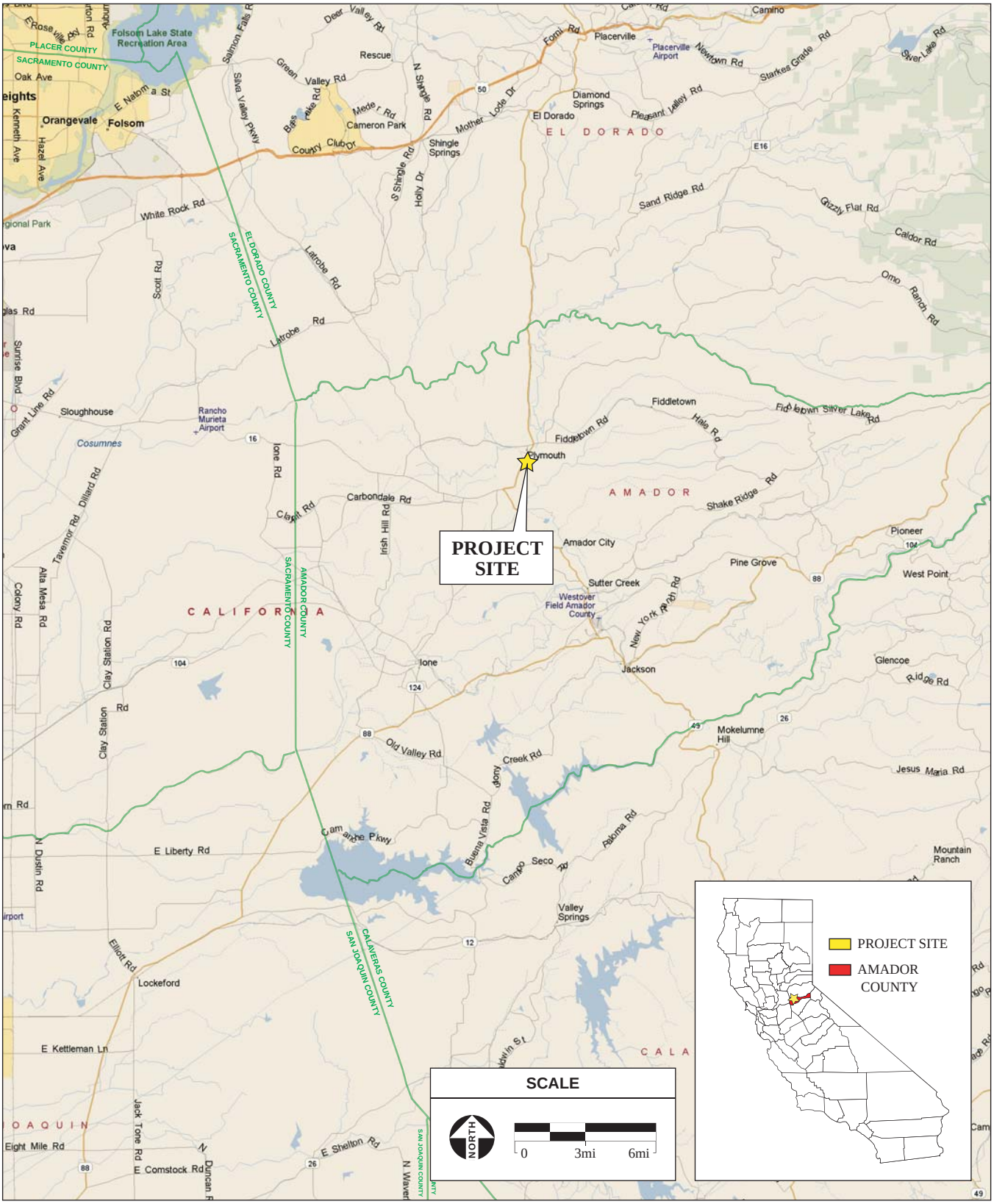
1.0 INTRODUCTION

Analytical Environmental Services (AES) has conducted a formal delineation of "waters of the U.S." occurring within the 230 ± acre Ione Casino study area. The study area includes 10±-acres of land located within the City of Plymouth, while the remaining acres are located on unincorporated land within Amador County (**Figure 1**). This location is found within portions of Sections 14 and 15 of Township 7 North, Range 10 East, Mount Diablo Baseline and Meridian, on the "Amador City, Calif." U.S. Geological Survey 7.5-minute quadrangle map (**Figure 2**). The project area is shown on an aerial photograph in **Figure 3**.

2.0 ENVIRONMENTAL SETTING

Amador County is moderately moist and the average annual temperature is approximately 65 ^{o} F, with temperatures ranging from below freezing to over 100^{o} F. The region is in climate Zone 7 – "Great Valley and Surrounding Low Mountains," characterized by marked seasons of hot, dry summers, and moderately cold, wet winters, with most of the precipitation falling during the six months of winter (Sketchley, 1965; Hickman, 1993). Annual precipitation totals 25-30 inches, and the prevailing wind is westerly, averaging less than 10 miles per hour.

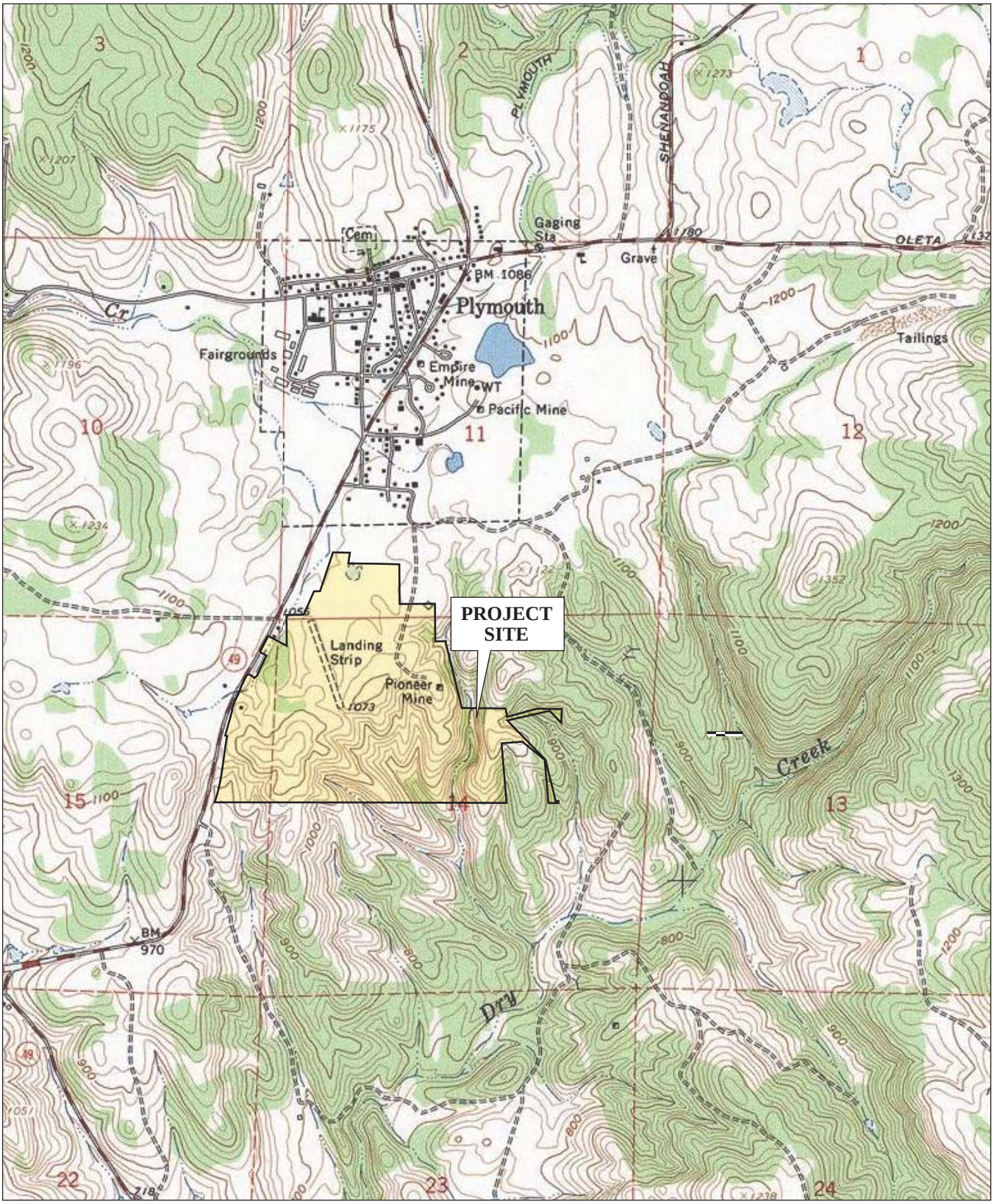
The study area is located in the foothills of the western slope of the Sierra Nevada, at an elevation ranging from 900 to 1,150 feet above sea level. The geology of the surrounding area (Amador County) is dominated by steeply dipping, faulted and folded metamorphic rocks that have been intruded by several types of igneous rocks, and overlaying the bedrock in many places are mantles of river gravel and volcanic debris (Sketchley, 1965). The general trend of ridges and rock formations is northwest to southeast, and drainage is generally to southeast. The northern portion of the county lies within the Cosumnes River basin, and the southern portion, including the study area, lies within the Mokelumne River basin. The geology in the project vicinity consists of metasedimentary rocks of the Calaveras Complex such as slate, metamorphosed sandstone, conglomerate, and some limestone and volcanic rock. The sediments that formed these rocks were deposited in an ocean basin during the



SOURCE: Microsoft Streets & Trips, 2003 ; AES, 2004

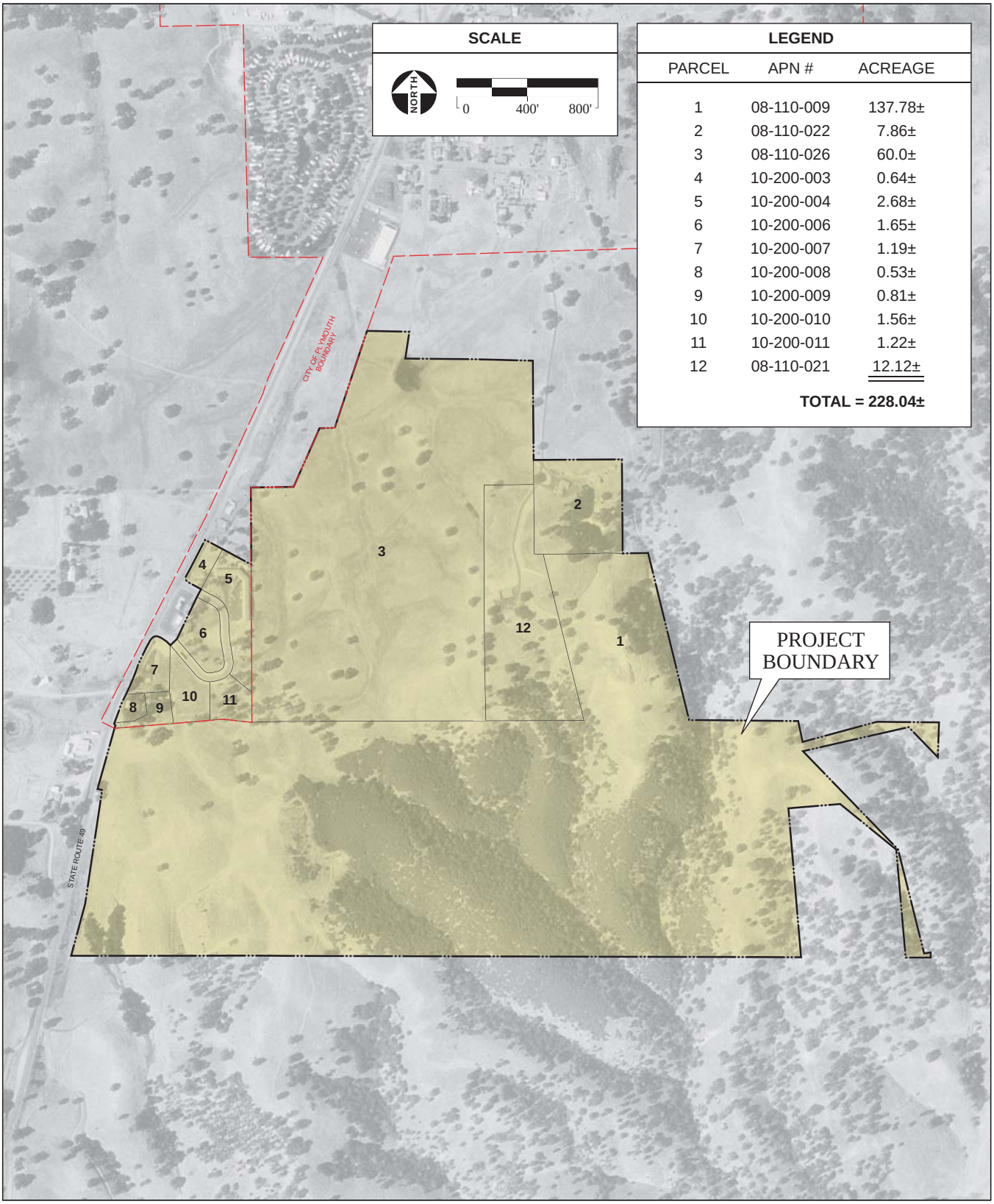
Ione Band of Miwok Indians Casino Project Waters of the US / 203525 ■

Figure 1
Regional Location Map



SOURCE: "Amador City, CA" USGS 7.5 Minute Topographic Quadrangle, Sections 11, 14, & 15, T7N, R10E, Mt. Diablo Baseline and Meridian ; AES, 2004

Figure 2
Site and Vicinity



SOURCE: USGS Aerial Photograph, 8/16/1998 ; AES, 2004

Figure 3
Aerial Site Map

Upper Paleozoic Period and were then intensely folded, sheared, heated, and fractured by processes that created the Sierra Nevada. The Calaveras Complex is highly fractured and has exposures at the project site in stream bottoms. This fractured bedrock serves as a shallow groundwater aquifer.

3.0 METHODOLOGY

Prior to conducting the field delineation the following information sources were reviewed:

- USGS "Amador City" 7.5 minute topographic quadrangle
- Color aerial photography of the study area and vicinity
- Tentative Natural Resources Conservation Service soil survey maps and unit descriptions
- Hydric soil information obtained from the Natural Resources Conservation Service

The field delineation was conducted by AES biologists G. O. Graening, John Howe, and John Miller on November 19 and 25, 2003, and by Paul Garcia and John Miller on January 16, 2004. The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) was used as the standard for determining if specific areas qualify as wetlands subject to the provisions of the Clean Water Act. U.S. Army Corps of Engineers' regulations (33 CFR 328) were used to determine the presence of jurisdictional "waters of the U.S." other than wetlands.

The entire study area was assessed in such a manner as to view all areas to the degree necessary to determine the presence or absence of jurisdictional features. Data collection points were chosen at representative locations and detailed information on vegetation, soils, and hydrology characteristics were taken for each data point. Plant nomenclature follows *The Jepson Manual: Higher Plants of California* (Hickman 1993). The 1988 *National List of Vascular Plant Species that Occur in Wetlands, California Region 0* (Reed 1988), was used to determine the status of observed plants as wetland indicator species. A standard Munsell® soil color chart was used to determine soil matrix and mottle colors.

Vernal pools were delineated with using a combination of out-of-season floristic data (presence or absence of patches of persistent plant skeletons of vernal pool endemic species) and topographic position since the site soils were generally thin and uniformly of high chroma, underlain by near-surface slate bedrock. Disturbance of the site included active grazing and historic mining activities, and remnant graded areas of an abandoned landing strip. The only areas meeting all three mandatory wetland criteria were beds of hydrophytes adjacent to a blue-line stream on the site. The floor of old stock ponds and blocked swales, and a leakage area at the base of one of the dams on the property, possessed hydrophytic vegetation and wetland hydrology, but generally lacked hydric soils. Instead

these sites had thin soils only a few inches thick that were underlain with slate bedrock, sometimes iron stained or with lightly discolored rocky clay chunks weathered from indurate slate slabs. Intermittent watercourses were assessed for indicators of two-year flood-flow such as down-cutting, microterraces, gravels, sands, and cobbles.

Data sheets which document the basis for determining if suspect features qualify as jurisdictional "waters of the U.S." were completed for representative locations and are included in the **Appendix** of this report. The boundaries of all "waters of the U.S." located in the study area were measured in the field and recorded on a 1" = 200' aerial photograph. These data were then digitized to calculate acreage and to produce the "waters of the U.S." delineation maps.

4.0 RESULTS

4.1 UPLAND HABITATS

ANNUAL GRASSLAND

The northeastern portion of the study area is this vegetated by annual grassland (Analytical Environmental Services, 2004). Plant species of these areas found during site visits include creeping bent (*Agrostis stolonifera*), silver European hairgrass (*Aira caryophyllea*), sweet vernal grass (*Anthoxanthum odoratum*), wild oat (*Avena fatua*), cultivated oat (*Avena sativa*), California brome (*Bromus carinatus*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), yellow star-thistle (*Centaurea solstitialis*), dogtail fescue (*Cynosurus echinatus*), filaree (*Erodium cicutarium*), California fescue (*Festuca californica*), tarweed (*Hemizonia fasciculata*), meadow barley (*Hordeum brachyantherum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), weed barley (*Hordeum murinum* ssp. *leporinum*), hedge mustard (*Sisymbrium officinale*), milk thistle (*Silybum marianum*), winter vetch (*Vicia villosa*), and Zorro fescue (*Vulpia myuros*).

CHAPARRAL

Within the southern half of the project area chaparral occurs (Analytical Environmental Services, 2004). The chaparral within the project area is a chamise chaparral. Plants identified in these areas during site visits include chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos manzanita*), wood fern (*Dryopteris arguta*), yerba santa (*Eriodictyon californicum*), pearly everlasting (*Anaphalis margaritacea*), sticky monkey flower (*Mimulus aurantiacus*), and interior live oak (*Quercus wislizenii*).

OAK SAVANNA

Oak savanna comprises portions of the project area (Analytical Environmental Services, 2004), and it is often interspersed with annual grassland. The oak savanna of the site is dominated by blue oak (*Quercus douglasii*). Plants identified in these areas during site visits included primarily blue oak and the same dominant annual grasses identified in the previous paragraphs (Analytical Environmental Services, 2004).

OAK WOODLAND

Oak woodland is also present in the project area, and is dominated by blue oaks but also includes scattered interior live oaks, black oaks (*Quercus kelloggii*), gray pines (*Pinus sabiniana*), and ponderosa pines (*Pinus ponderosa*). Understory vegetation included poison oak (*Toxicodendron diversilobum*), manzanita (*Arctostaphylos manzanita*), toyon (*Heteromeles arbutifolia*), dogtail fescue, and goldenback fern (*Pentagramma triangularis* ssp. *triangularis*) (Analytical Environmental Services, 2004).

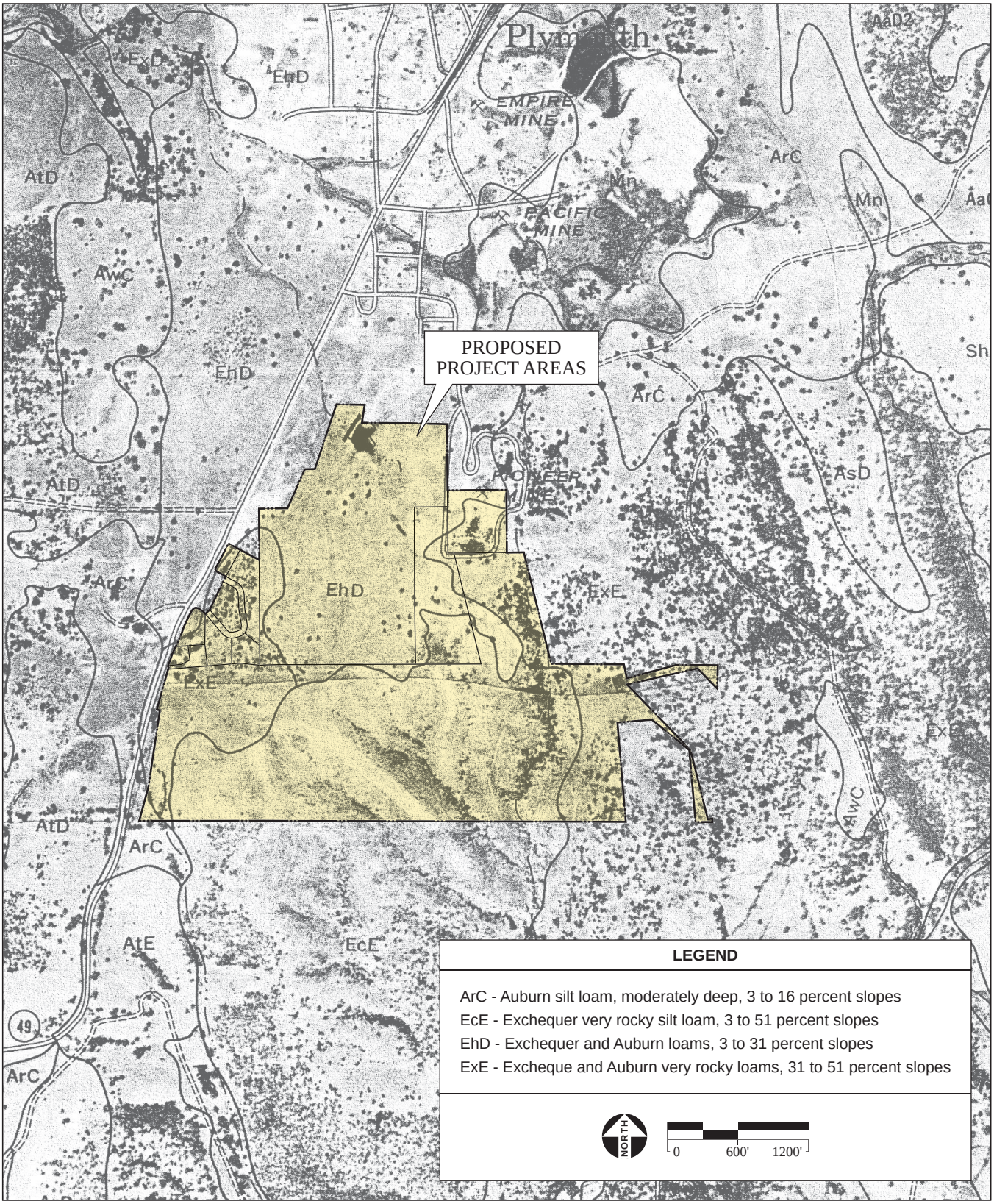
RIPARIAN WOODLAND

Riparian or moisture-loving plant habitat occurs in canyons and arroyos along rivers and streams and often forms scrub or woodland. Deciduous trees, shrubs, grasses and forbs dominate the riparian woodland of the site even though rivers and perennial streams are absent. Riparian woodlands occur in association with the ephemeral and intermittent drainages in Parcel 1. All but one of the riparian areas support a canopy dominated by interior live oaks, which intergrades with the adjoining chaparral. Dominant plant species identified in these areas during site visits included interior live oak, California buckeye (*Aesculus californicus*), toyon, California black walnut (*Juglans californica*), holly-leaf redberry (*Rhamnus ilicifolia*), and poison oak.

The deep eastern drainage on the site is steep sided with well-developed woodland equivalent to mixed oak-pine riparian woodland. Plant species identified in this area included interior live oak, black oak (*Quercus kelloggii*), California black walnut, gray pine, ponderosa pine, and red willow (*Salix laevigata*) (Analytical Environmental Services, 2004).

4.2 SOIL TYPES

The soils of the project site consist of soils of the Auburn-Exchequer association (**Figure 4**). Soils of this association are characteristically very shallow to moderately deep, rocky or gravelly soils from



SOURCE: USDA Soil Conservation, 1965 ; AES, 2004

Figure 4
Soil Types

metabasic rocks and metasedimentary slate and schist. Vertical outcrops of schistose rocks occupy 20 to 50 percent of the surface in some areas with abundant rock fragments visible in profile. Exchequer soils adjoin Auburn soils (Sketchley, 1965).

The Auburn series of the association consists of well-drained, shallow to moderately deep soils formed from metabasic igneous rock and metasedimentary rock. The subsoil in the Auburn series ranges in color from yellow-red, reddish brown to brown. The Exchequer series of the association consists of excessively drained, very rocky, very shallow soils that are slightly acidic. Surface soil is granular, friable and slightly acidic very rocky silt loam. The soil color varies from dark brown, brown to grayish brown with a predominantly shallow depth to bedrock, about 6 inches in most places (Sketchley, 1965).

4.3 HYDROLOGY

Portions of the site within the watershed of Dry Creek are characterized by dissected topography, which supports ephemeral to intermittent drainages. Surface water was observed flowing on January 16, 2004, but no flows were evident late the previous year. However, evidence of flow may be deduced from the rounding of angular sheets of slate that litter the floor of each drainage on the site. An excavated, disturbed intermittent stream runs parallel to State Highway 49, which was flowing in mid-January.

Slate bedrock is exposed at or near the surface on much of the site, and the near vertical bedding planes and indurate nature of the rock impedes groundwater recharge. Localized ponding was observed on January 16, 2004 in natural and man-made depressions on the site, especially in areas having thin soil and near-surface parent material. Hydrologic control is afforded by an abandoned landing strip on the site, which acts as a dam causing localized ponding in two areas. Several excavated cattle ponds occur on the site. All were filled with water by January 16, 2004. In addition, a constructed detention basin occurs adjacent to State Highway 49, and this had about six-inches of ponded water when the site was visited in mid-January.

Since the bulk of the site is on top of the hills on the south outskirts of the town of Plymouth, most of the hydrology emanates from precipitation, and there is little, if any runoff entering the property from surrounding lands.

4.4 WATERS OF THE U.S.

The United States Fish & Wildlife Service has inventoried several wetlands in the area as part of its National Wetlands Inventory (NWI). These include palustrine emergent and unconsolidated wetlands

that were natural and/or impounded. All of the stock ponds and one of the seasonal ponds (i.e. the pond formed from the abandoned aircraft runway fill) appeared on the NWI (**Figure 5**).

The AES field survey confirmed the presence of the seasonal wetlands that were identified in the NWI, including cattle ponds, a detention basin, intermittent and ephemeral streams, vernal pools and swales; and, in addition, mapped additional potential waters of the U. S. features. These features are discussed below, appear as images (**Figure 6-1 and 6-2**), are mapped in **Figure 7**, and are documented by USACE data forms that appear in the **Appendix**.

SEASONAL WETLANDS

Seasonal wetlands are characterized by vegetation that is typically adapted to seasonal flooding and varying levels soils saturation. These areas are typically occurring either adjacent to streams or freshwater wetlands where seasonal flooding occurs, or in areas that have seasonally saturated soils either due to pooling of seasonal rains or due to shallow groundwater conditions. These features include cattle ponds, a detention basin, a modified drainage, vernal swales/pools, and other seasonal wetlands (**Figures 6-1, 6-2, and 7**).

CATTLE PONDS

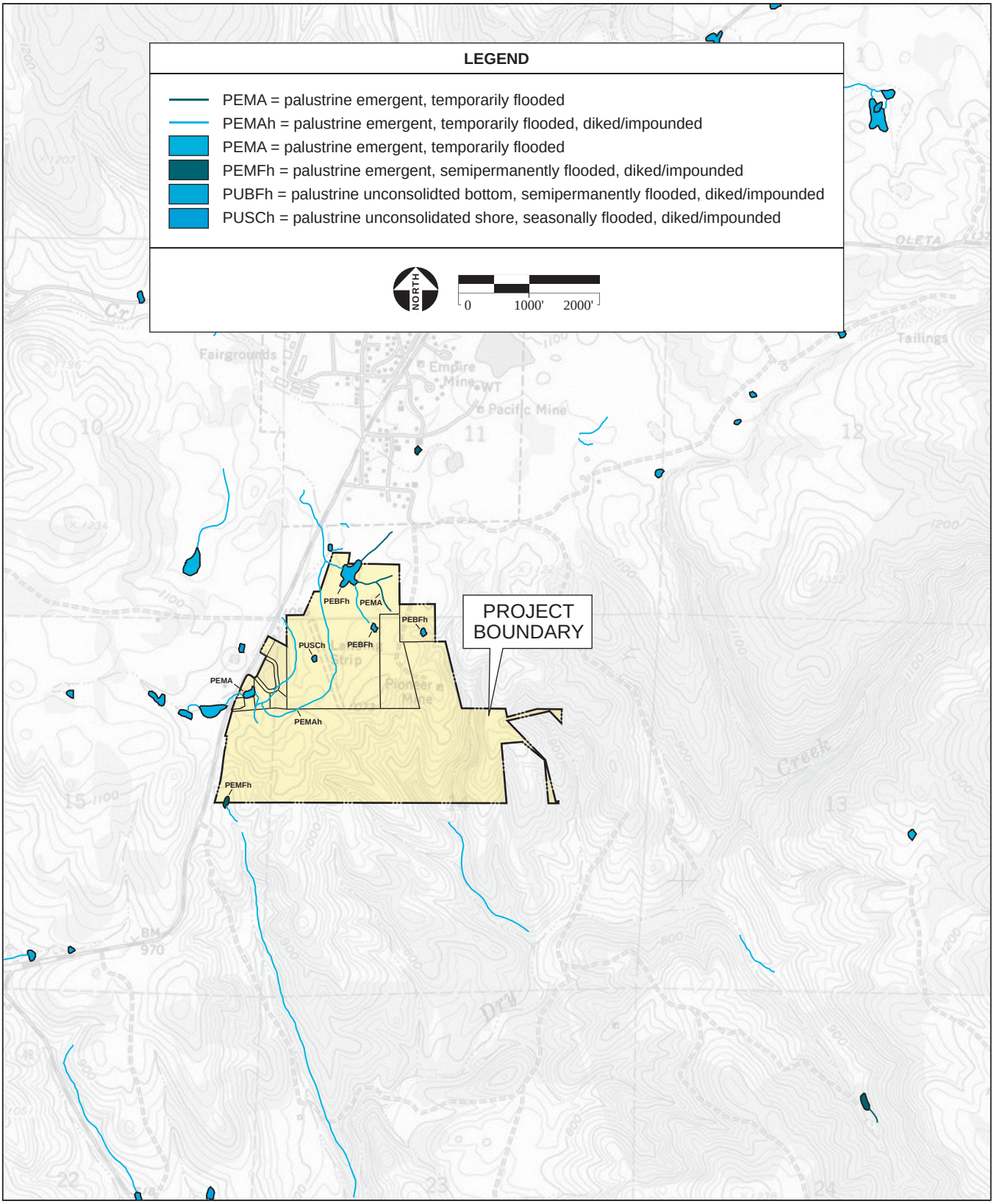
Four cattle ponds occur on the project site. A cattle pond was observed near the southwest corner of Parcel 1. This feature is fed by two swales that capture runoff from nearby Highway 49 and the surrounding landscape. The pond and its perimeter are devoid of vegetation, except for scattered willow weed (*Polygonum lapathifolium*). This feature is a result of excavation and damming to create an impoundment suitable for stock watering (**Figures 6-1, 6-2, and 7**).

Another cattle pond is located near the northern boundary of Parcel 3. The impoundment consists of open water that varies in depth through out the season and a peripheral area that is saturated long enough through the wet season to support a thick herbaceous layer dominated by spikerush (*Eleocharis macrostachya*). This feature is a result of excavation and damming of a swale for purposes of stock watering. Below the dam face a small seep exists. The seep is vegetated with spikerush and Baltic rush (*Juncus balticus*) (**Figures 6-1, 6-2, and 7**).

A third cattle pond occurs along the eastern boundary of Parcel 3. No vegetation was observed in association with this pond. The fourth cattle pond is at the edge of the central parcel.

DETENTION BASIN AND INTERMITTENT DRAINAGE

A detention basin exists along the western boundary of Parcel 7. This feature appears to collect runoff from this portion of the site and channel it into a culvert that daylights just north of the gas



SOURCE: "Amador City, CA" USGS 7.5 Minute Topographic Quadrangle, Sections 11, 14, & 15, T7N, R10E, Mt. Diablo Baseline and Meridian ; USFWS National Wetlands Inventory, 2003 ; AES, 2004

Figure 5
National Wetland Inventory Map

Photograph 1
Intermittent stream in an excavated ditch fronting State Highway 49.

Photograph 2
Seasonal wetland formed when the abandoned aircraft runway in the center of the image, blocked a vernal swale.

Photograph 3
Large stock watering pond at the northwest corner of the project site.

Photograph 4
Stock watering pond in the northwest corner of the project site.

SOURCE: AES, 2004

Figure 6-1
Site Photographs

Photograph 5
Pond showing its position relative to the abandoned aircraft runway.

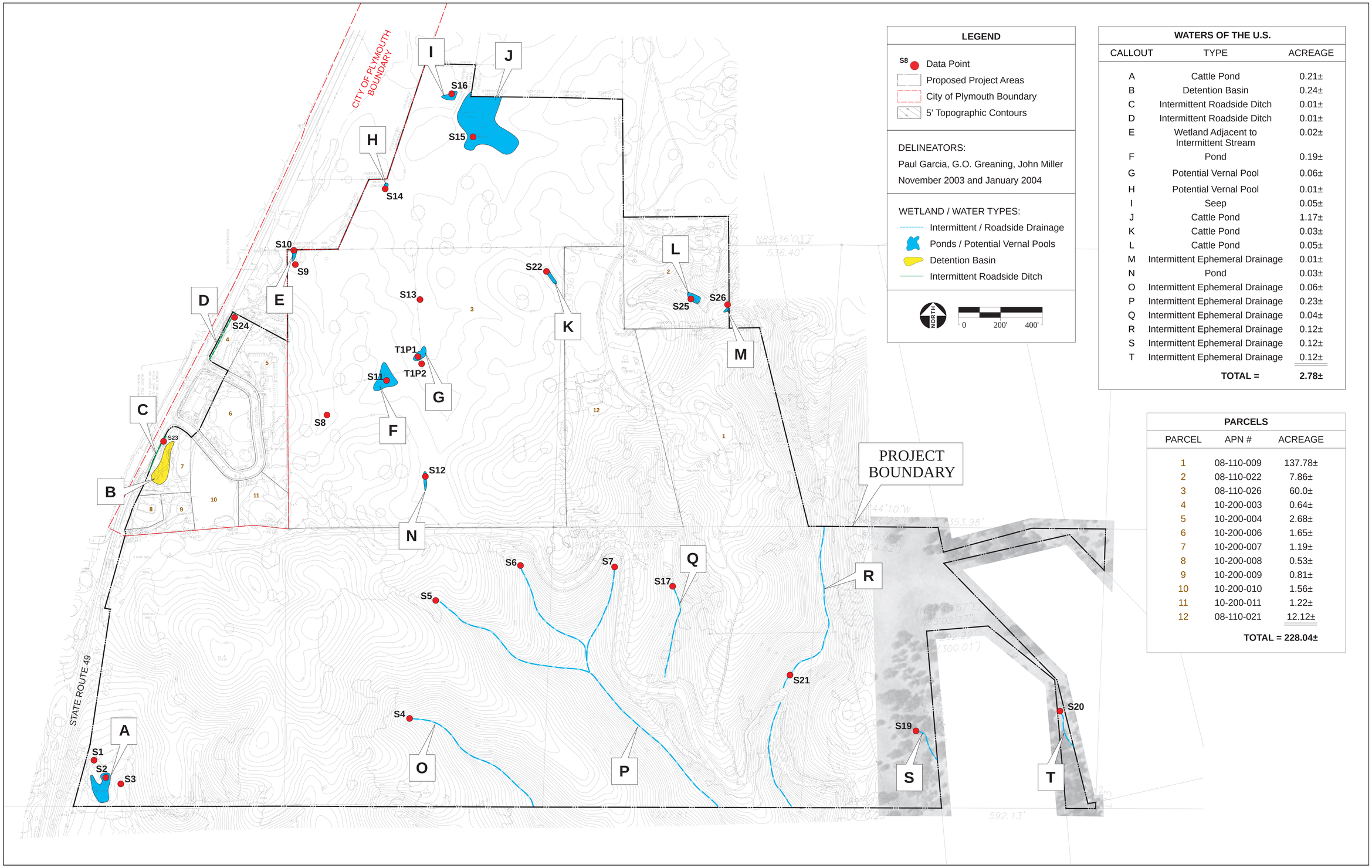
Photograph 6
Vernal pond and swale.

Photograph 7
Cattle Pond

Photograph 8
Head of a tributary to Dry Creek. Water flows out of a spring where down cutting of a channel first became discernable.

SOURCE: AES, 2004

Figure 6-2
Site Photographs



LEGEND

- S8 Data Point
- Proposed Project Areas
- City of Plymouth Boundary
- 5' Topographic Contours

DELINEATORS:
Paul Garcia, G.O. Greaning, John Miller
November 2003 and January 2004

WETLAND / WATER TYPES:
- Intermittent / Roadside Drainage
- Ponds / Potential Vernal Pools
- Detention Basin
- Intermittent Roadside Ditch

NORTH
0 200' 400'

WATERS OF THE U.S.

CALLOUT	TYPE	ACREAGE
A	Cattle Pond	0.21±
B	Detention Basin	0.24±
C	Intermittent Roadside Ditch	0.01±
D	Intermittent Roadside Ditch	0.01±
E	Wetland Adjacent to Intermittent Stream	0.02±
F	Pond	0.19±
G	Potential Vernal Pool	0.06±
H	Potential Vernal Pool	0.01±
I	Seep	0.05±
J	Cattle Pond	1.17±
K	Cattle Pond	0.03±
L	Cattle Pond	0.05±
M	Intermittent Ephemeral Drainage	0.01±
N	Pond	0.03±
O	Intermittent Ephemeral Drainage	0.06±
P	Intermittent Ephemeral Drainage	0.23±
Q	Intermittent Ephemeral Drainage	0.04±
R	Intermittent Ephemeral Drainage	0.12±
S	Intermittent Ephemeral Drainage	0.12±
T	Intermittent Ephemeral Drainage	0.12±
	TOTAL =	**2.78±**

PARCELS

PARCEL	APN #	ACREAGE
1	08-110-009	137.78±
2	08-110-022	7.86±
3	08-110-026	60.0±
4	10-200-003	0.64±
5	10-200-004	2.68±
6	10-200-006	1.65±
7	10-200-007	1.19±
8	10-200-008	0.53±
9	10-200-009	0.81±
10	10-200-010	1.56±
11	10-200-011	1.22±
12	08-110-021	12.12±
	TOTAL = 228.04±	

SOURCE: USGS Aerial Photograph, 8/16/1998 ; American Aerial Mapping, 2003 ; AES, 2004

Figure 7
Delineation of Waters of the United States (Revised 10/26/2004)

station and continues as a roadside ditch. The ditch is shown as an intermittent drainage on the USGS quadrangle map. This portion of the drainage appears to be a modification of a historic drainage that once flowed through the western portion of Parcel 4 paralleling State Route 49. Dominant plants identified during site visits include broadleaf cattail (*Typha latifolia*), and Himalaya blackberry (*Rubus discolor*). Plants identified within the drainage include broadleaf cattail, curly dock (*Rumex crispus*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*).

INTERMITTENT AND EPHEMERAL DRAINAGES

The floor of ephemeral drainages is littered with partially rounded slate fragments and slabs, and vegetated with non-native grasses and forbs and often shaded by the canopies of the riparian shrubs and trees (Analytical Environmental Services, 2004). The first evidence of flow in these channels is a down-cut channel and seep point or spring at the head of the deeper canyons (**Figure 6-2**).

VERNAL POOLS

The area in the vicinity of the abandoned aircraft runway (visible on the USGS quadrangle map) in Parcel 3 has a vernal pool and seasonal pond (see next (**Figures 6-1, 6-2, and 7**). These areas were either saturated to the surface or ponded water on January 16, 2004, but were completely dry two month's earlier.

Vernal pools of the Plymouth site formed in thin subsoil, only a few inches thick; weathered from shallow, indurate slate bedrock, often in tilted or near vertical bedding planes. Evidently, the shallow slate bedrock blocks infiltration of surface water for a period of time long enough the support the growth of vernal pool indicator species and obligate wetland plants in ponded microsites. Plants identified at the time of the surveys included spikerush (*Eleocharis macrostachya*), Vasey's branching coyote thistle (*Eryngium castrense*), and pillwort (*Pilularia americana*). The spring flora of these pools has not yet been studied (**Appendix; Figures 6-1, 6-2, and 7**).

OTHER SEASONAL WETLANDS

Two other areas of seasonal wetlands exist within Parcel 3. One of these features is a seasonal wetland that the abandoned aircraft runway grade formed by impounding water on the uphill side of it. This feature pools water during the winter and is dominated by spikerush. The other area consists of two small wetland areas near the western boundary of Parcel 3. These features are associated with a swale that drains into the aforementioned drainage that runs immediately adjacent to this portion of the site. These features are severely disturbed by cattle. The seasonal wetland area associated with the abandoned aircraft runway is dominated by spikerush. Plant fragments identified in the wetland area near the drainage during the late fall surveys include Dallis grass (*Paspalum dilatatum*), crab grass

(*Cynodon dactylon*), loosestrife hyssop (*Lythrum hyssopifolium*), and Himalaya blackberry (*Rubus discolor*) (**Figures 6-1, 6-2 and 7**).

The "waters of the U.S." of the site occupy a total of 3.41 acres. **Table 1** below provides an acreage summary. The "Waters of the U.S." delineation map is folded in the rear pocket of the report and constitutes **Figure 7**. Completed standard USACE 1987 Manual data forms appear in the **Appendix**.

TABLE 1.
WATERS OF THE U. S. SUMMARY

Feature	Mapping Callout on Figure 7	Acreage
Cattle Ponds	A, J, K, & L	1.46
Detention Basin	B	0.24
Intermittent Road Side Ditch	C & D	0.02
Ponds	F & N	0.22
Wetland Adjacent to Intermittent Stream	E	0.02
Potential Vernal Pools	G & H	0.07
Intermittent and Ephemeral Drainages	M, O, P, Q, R, S, T	0.7
Seep	I	0.05
TOTAL		**2.78**

5.0 SUMMARY

Analytical Environmental Services has conducted a delineation of "waters of the U.S." occurring within the 230± acre Ione Casino study area. The study area is located near Plymouth, and is adjacent to State Route 49 in Amador County, California. The study area was systematically walked by AES biologists on November 19 and 25, 2003; and on January 16, 2004. All areas were viewed to the degree necessary to determine the presence or absence of jurisdictional "waters of the U.S." Waters of the U.S. have been mapped within the study area including intermittent and ephemeral streams, cattle ponds, vernal pools and a vernal swale. These "waters of the U.S." occupy a total of 2.78 acres.

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APPENDIX

DELINEATION DATA SHEETS

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Swale S of Hwy. 49
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Quercus douglasii	T	NOL	9		
2 Toxicodendron diversilobum	S	NOL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/2 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

No indicators

SOILS

loam, 31 to 51 percent slope S1

Map Unit Name (Series and Phase): Exchequer & Auburn very rocky	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES NO	

Remarks

No indicators; no evidence of flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Stock pond S of Hwy 49
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	SZ

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Polygonum lapathifolium	H	OBL	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/1 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>18	(in)
Depth to Saturated Soil	>18	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria met. Site is a maintained stock watering pond.

SOILS

loam, 31 to 51 percent slope S2

Map Unit Name (Series and Phase): Ex chequer & Auburn very rocky	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	B	10YR 4/2	7.5YR 5/6	80% dull	clay
12-18	C	2.5Y 7/6			mixed w/ 7.5YR 5/6 clay

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Bedrock is within a foot of the surface and has been subjected to weathering by the water of the stock pond.

Criteria met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	

Remarks

Site is a man-made stock pond with wetland characteristics.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Swale SE of Hwy 49
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S3

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Quercus douglasii	T	NOL	9		
2 Claytonia parviflora	H	FAC	10		
3 Avena fatua	H	NOL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/3 = 33%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

No indicators.

SOILS

loam, 31 to 51 percent slopes S3

Map Unit Name (Series and Phase): Exchequer & Auburn very rocky	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES NO	

Remarks

No indicators. No evidence of flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Dry Cr. Trib w branch
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Quercus wislizenii	T	NOL	9		
2 Toxicodendron diversilibum	S	NOL	10		
3 Heteromeles arbutifolia	S	NOL	11		
4 Adenostoma fasciculatum	S	NOL	12		
5 Arctostaphylos manzanita	S	NOL	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/5 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks on slate fragments
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Weak indicators of intermittent flow at upper end of drainage. Downcutting apparent.

SOILS

loam, 31 to 51 percent slopes. S4

Map Unit Name (Series and Phase): Exchequer very rocky silt	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

Site is at or near the upper end of an intermittent drainage in an ephemeral channel. Weak indicators of flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Dry Cr. Trib. WA/W from
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S5

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Quercus wislizenii	T	NOL	9		
2 Toxicodendron diversilobum	S	NOL	10		
3 Cynosurus echinatus	H	NOL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/3 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Beginnings of channel incision; sorting of fines.

SOILS

31 to 51 percent slopes. S5

Map Unit Name (Series and Phase): Exchequer very rocky silt loam,	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

Site is at the upper end of a drainage with intermittent to ephemeral flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Ione Casino Project	Date: 11/19/03
Applicant / Owner	County: Amador
Investigator: G.O. Graening, John Howe, John Miller	State: CA
Do Normal Circumstances exist on the site? (YES) NO	Community ID
Is the site significantly disturbed (Atypical Situation)? YES (NO)	Transect ID: NW Dry Cr. Trib. NW branch
Is the area a potential Problem Area? (If needed, explain on reverse) YES (NO)	Plot ID: S6

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Quercus wislizenii	T	NOL	9		
2 Toxicodendron diversilobum	S	NOL	10		
3 Cynosurus echinatus	H	NOL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/3 = 0%

Remarks: Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Incised channel 3-feet deep; sorting of fines

SOILS

31 to 51 percent slopes. S6

Map Unit Name (Series and Phase): Exchequer very rocky silt loam	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

Site is at the upper end of a drainage with intermittent to ephemeral flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Dry Ck. Trib. N branch
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S7

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Quercus wislizenii	T	NOL	9		
2 Heteromeles arbutifolia	S	NOL	10		
3 Cynosurus echinatus	H	NOL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/3 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Beginnings of channel formation; sorting of fines.

SOILS

3 to 5 percent slopes S7

Map Unit Name (Series and Phase): Exchequer very rocky silt loam,	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

Site is at the head of an intermittent channel in the zone of ephemeral flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator		State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Swale behind motel
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S8

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Hemizonia fasciculata	H	NOL	9		
2 Eremocarpus setigerus	H	NOL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/2 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS	
Depth of Surface Water	∅ (in)
Depth to Free Water in Pit	>18 (in)
Depth to Saturated Soil	>18 (in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria not met.

SOILS

to 31 percent slopes

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-14	A	2.5Y 4/3	10YR 4/4	20%, dull	silt loam
14-16	A	2.5Y 4/3	N/A	none	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES (NO)	

Remarks

Criteria not met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Swale behind culvert at ditch
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S9

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Paspalum dilatatum	H	FAC	9		
2 Lythrum hyssopifolium	H	FACW	10		
3 Cynodon dactylon	H	FAC	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 3/3 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>8	(in)
Depth to Saturated Soil	>8	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Slate bedrock near surface apparently causes seasonal ponding. Criteria met.

SOILS

31 percent slopes S9

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3 to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	5Y 4/1	N/A	none	clay loam
2-8	B	2.5Y 4/2	10YR 4/4	60%, dull	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Bedrock at 8" depth.

Criteria met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	

Remarks

Criteria met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Ditch behind store
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S10

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Rubus discolor	S	FACW*	9		
2 Paspalum dilatatum	H	FAC	10		
3 Cynodon dactylon	H	FAC	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 3/3 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>8	(in)
Depth to Saturated Soil	6	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Shallow slate bedrock creates a perched water table here. Criteria met

SOILS

31 percent slopes. S10

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3 to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	A	2.5 Y 4/1	10 YR 4/4	30%, dull	clay loam
3-8	B	2.5 Y 4/1	10 YR 4/4	30%, dull	rocky clay

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria met. Slate bedrock encountered at 8" depth.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	

Remarks

Criteria met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Vernal Swale W of landing strip
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S11

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eleocharis macrostachya	H	OBL	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/1 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

FIELD OBSERVATIONS

Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>16	(in)
Depth to Saturated Soil	>16	(in)

Vernal swale has been blocked by old landing strip fill, which causes seasonal ponding. Criteria met.

SOILS

31 percent slopes. S11

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3 to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	2.5Y 4/2		10% faint	clay loam
2-16	B	2.5Y 4/3			clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met. Hydric soil indicators are weak, and occur in the surface layer only.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

This feature is a man-made, artificial pond with hydrophytes.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	B.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Vernal swale at S end of landin
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S12

st

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eryngium castrense	H	FACW	9		
2 Agrostis stolonifera	H	FACW	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/2 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	> 14	(in)
Depth to Saturated Soil	> 14	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Vernal swale has been blocked by old landing strip fill which causes seasonal ponding.

SOILS

31 percent slopes. S12

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 31c	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-14	A	2.5Y 5/3	10YR 4/4	40%, dull	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is a vernal swale at its head.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Verna. swale E of landing str
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	~~TIP1~~ S27

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eleocharis macrostachya	H	OBL	9		
2 Eryngium castrense	H	FACW	10		
3 Eremocarpus setigerus	H	NOL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/3 = 67%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>6	(in)
Depth to Saturated Soil	>6	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Shallow bedrock creates conditions that lead to the seasonal ponding of water. Criteria met.

SOILS

31 percent slopes. TIP1

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3 to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	A	2.5Y 5/3	2.5Y 5/6	10%, bright	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

Slate bedrock is at or near the ground surface.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is a vernal swale.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Vernal swale E of landing str
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	FHPZ 528

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Hemizonia fasciculata	H	NOL	9		
2 Vulpia myuros	H	FACU*	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/2 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>8	(in)
Depth to Saturated Soil	>8	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

No indicators apparent.

SOILS

to 31 percent slopes - TIP2

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	2.5Y 5/4	N/A	none	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met. Slate bedrock is near the ground surface.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES (NO)	

Remarks

Criteria not met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Vernal swale N of landing str.
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S13

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eryngium castrense	H	FACW	9		
2 Lythrum hyssopifolium	H	FACW	10		
3 Hemizonia fasciculata	H	NOL	11		
4 Vulpia myuros	H	FACU*	12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/4 = 50%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>10	(in)
Depth to Saturated Soil	>10	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria not met.

SOILS

31 percent slope S13

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	2.5Y 5/4	N/A	none	Sandy loam
8-10	B	2.5Y 4/4	N/A	none	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES (NO)	

Remarks

Criteria not met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Vernal pool E of Hwy. 49
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S14

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eleocharis macrostachya	H	OBL	9		
2 Eryngium castrense	H	FACW	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 2/2 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>8	(in)
Depth to Saturated Soil	>8	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☒ Other (Explain in Remarks) algal mats

Shallow bedrock facilitates the seasonal ponding of water. Criteria me

SOILS

to 31 percent slopes S14

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	2.5Y 4/3	N/A	none	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

Slate bedrock is near surface.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is a vernal pool.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	North stock pond
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S15

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eleocharis macrostachya	H	OBL	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/1 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS	
Depth of Surface Water	12 * (in)
Depth to Free Water in Pit	>12 (in)
Depth to Saturated Soil	>12 (in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☒ Inundated * 100 ft. from S15
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria met.

SOILS

to 31 percent slopes S15

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y 5/4	2.5Y 4/4	faint	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

This is a stock pond with hydrophytic vegetation.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/19/03
Applicant / Owner		County	Amador
Investigator	G.O. Graening, John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Seep at base of dam
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S16

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Eleocharis macrostachya	H	OBL	9		
2 Juncus balticus	H	OBL	10		
3 Mentha pulegium	H	OBL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 3/3 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>12	(in)
Depth to Saturated Soil	>12	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

OBL species suggest that hydrology is present at other times in the year.

SOILS

31 percent slopes S16

Map Unit Name (Series and Phase): Exchequer and Auburn loam, 3 to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	A	2.5Y 5/4	N/A	none	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met. Slate bedrock is found 1-foot below the ground level.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

OBL species indicate that forcing hydrology is present, however, the lack of hydric soils suggest a recent origin for this seep.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Trib Dry Cr. NNE transc
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S17

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Aesculus californica	S	NOL	9		
2 Claytonia parviflora	H	FAC	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/2 = 50%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☒ Other (Explain in Remarks)

Rounded edges of slate fragments in streambed indicate flow.

SOILS

31 to 51 percent slopes S17

Map Unit Name (Series and Phase): Exchequer very rocky silt loam,	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

Site is an intermittent channel.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Trib Dry Cr. main stem
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S18

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Aesculus californica	S	NOL	9		
2 Carduus pycnocephalus	H	NOL	10		
3 Claytonia parviflora	H	FAC	11		
4 Bromus carinatus	H	NOL	12		
5 Avena fatua	H	NOL	13		
6 Anthriscus caucalis	H	NOL	14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/6 = 17%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS	
Depth of Surface Water	Ø (in)
Depth to Free Water in Pit	N/A (in)
Depth to Saturated Soil	N/A (in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☒ Other (Explain in Remarks)

Rounded edges of slate fragments in streambed indicates flow.

SOILS

31 to 51 percent slopes S18

Map Unit Name (Series and Phase): Exchequer very rocky silt loam,	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is an intermittent channel.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Trib Dry Cr. NE swale
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S19

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Avena fatua	H	NOL	9		
2 Taeniatherum caput-medusae	H	NOL	10		
3 Vulpia myuros	H	FACU*	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/3 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS	
Depth of Surface Water	Ø (in)
Depth to Free Water in Pit	N/A (in)
Depth to Saturated Soil	N/A (in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

No indicators apparent.

SOILS

loams, 31 to 51 percent slope. S19

Map Unit Name (Series and Phase): Exchequer And Auburn very rocky	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	YES (NO)	
Hydric Soils Present?	YES (NO)	

Remarks

No indicators apparent.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Trib Dry Cr. ENE branch
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S20

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Pinus sabiniana	T	NOL	9		
2 Carduus pycnocephalus	H	NOL	10		
3 Taeniatherum caput-medusae	H	NOL	11		
4 Cynosurus echinatus	H	NOL	12		
5 Vulpia myuros	H	FACU*	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/5 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

FIELD OBSERVATIONS

Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

Incision and sorting of fines suggests ephemeral flow.

SOILS

loams, 31 to 51 percent slopes S20

Map Unit Name (Series and Phase): Exchequer and Auburn very rocky	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is at the upper end of an intermittent drainage at or near the zone of ephemeral flow.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	NW Dry Cr. Trib NE branch
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S21

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Aesculus californica	S	NOL	9		
2 Toxicodendron diversilobum	S	NOL	10		
3 Cynosurus echinatus	H	NOL	11		
4 Trifolium angustifolium	H	NOL	12		
5 Avena fatua	H	NOL	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0/5 = 0%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	N/A	(in)
Depth to Saturated Soil	N/A	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☒ Other (Explain in Remarks)

Rounded fragments of slate in the streambed indicates flow.

SOILS

to 51 pirant slopes. S21

Map Unit Name (Series and Phase): Exchequer very rocky silt loam, 31	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

No pit was excavated here.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is an intermittently-flowing channel.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Central stock pond
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S22

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Juncus balticus	H	OBL	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/1 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	>4	(in)
Depth to Saturated Soil	>4	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Stock pond excavated to slate bedrock which traps water; tank is a

SOILS

31 percent slopes. S22

Map Unit Name (Series and Phase): Exchequer and Auburn loams, 3 to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	B	5Y 4/2	N/A	none	clay loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Slate bedrock near or at surface.

Criteria not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES NO	

Remarks

Site is a man-made stock watering pond.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Ditch at detention pond
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S23

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Populus fremontii	S	FACW	9		
2 Rubus discolor	S	FACW*	10		
3 Typha latifolia	H	OBL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 3/3 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	6	(in)
Depth to Saturated Soil	2	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria met.

SOILS

31 percent slopes. S23

Map Unit Name (Series and Phase): Exchequer and Auburn loams, 3-to	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-16	A	5Y 4/1	N/A	none	silty sand with foreign plastic debris

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	

Remarks

Criteria met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	11/25/03
Applicant / Owner		County	Amador
Investigator	John Howe, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Ditch in front of motel
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S24

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Salix lasiolepis	S	FACW	9		
2 Typha latifolia	H	OBL	10		
3 Epilobium ciliatum	H	FACW	11		
4 Cyperus eragrostis	H	FACW	12		
5 Cynodon dactylon	H	FAC	13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 5/5 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	4	(in)
Depth to Saturated Soil	Ø	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria met.

SOILS

percent slopes S24

Map Unit Name (Series and Phase): Exchequer ≠ Auburn loams, 3-31	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	A	2.5Y 4/3	N/A	none	silty sand
		mixed with			
		5Y 4/1			silty clay

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Slate bedrock near base of ditch.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	

Remarks

Criteria met.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	1/16/04
Applicant / Owner		County	Amador
Investigator	Paul Garcia, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Stock pond head Dry Cr. Trib
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S25

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Typha latifolia	H	OBL	9		
2 Juncus balticus	H	OBL	10		
3 Cyperus eragrostis	H	FACW	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 3/3 = 100%

Remarks

Criteria met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)

- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	Ø	(in)
Depth to Saturated Soil	Ø	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:

- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☒ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):

- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria met.

SOILS

3 to 31 percent slopes. S25

Map Unit Name (Series and Phase): Exchequer and Auburn loams,	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	B	2.5Y 4/1	N/A	none	rocky clay
6-8	C	5Y 6/2	N/A	none	rocky clay

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Slate bedrock near or at surface

Criteria met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(YES) NO	Is this Sampling Point Within a Wetland? (YES) NO
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	(YES) NO	

Remarks

Criteria met. Site is a man-made stock watering pond.

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site	Ione Casino Project	Date	1/16/04
Applicant / Owner		County	Amador
Investigator	Paul Garcia, John Miller	State	CA
Do Normal Circumstances exist on the site?	(YES) NO	Community ID	
Is the site significantly disturbed (Atypical Situation)?	YES (NO)	Transect ID	Head of Dry Creek Trib.
Is the area a potential Problem Area? (If needed, explain on reverse)	YES (NO)	Plot ID	S 26

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Claytonia perfoliata	H	FAC	9		
2 Cynosurus echinatus	H	NOL	10		
3 Stellaria media	H	FACU	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 1/3 = 33%

Remarks

Criteria not met.

HYDROLOGY

☐ Recorded Data (Describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	Ø	(in)
Depth to Free Water in Pit	Ø	(in)
Depth to Saturated Soil	Ø	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Criteria met.

SOILS

3 to 31 percent slopes - S26

Map Unit Name (Series and Phase): Exchequer and Auburn loams,	Drainage Class: excessively drained
Taxonomy (Subgroup)	Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-16	A	2.5Y 3/2	N/A	none	rocky clay

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Criteria not met.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	YES (NO)	Is this Sampling Point Within a Wetland? YES (NO)
Wetland Hydrology Present?	(YES) NO	
Hydric Soils Present?	YES (NO)	

Remarks

Site is waters of the U.S. at the headwaters.