Appendix F

Hazardous Materials Technical Report for the Carryover Storage and San Vicente Dam Raise EIR/EIS

Prepared by Rincon Consultants, Inc.

HAZARDOUS MATERIALS TECHNICAL REPORTS FOR CARRYOVER STORAGE AND SAN VICENTE DAM RAISE EIR/EIS AND MOOSA RESERVIOR

Prepared by: Rincon Consultants, Inc.

Prepared for: PBS&J

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1.0 Alternative 1: San Vicente 100,000 Acre-Feet

1.1 Environmental Setting

2.1.1 Study Area

[Provided by PBS&J]

1.1.2 Background

[Provided by PBS&J]

1.2 Project Description

[Provided by PBS&J]

1.3 Field Survey Methods

1.3.1 Field Reconnaissance

Rincon Consultants performed a reconnaissance of the site on September 30, 2005. Rincon personnel were accompanied by Tad Brierton from the San Diego County Water Authority. The purpose of the reconnaissance was to assess whether current practices or land uses involving the use, storage, treatment, generation, or disposal of hazardous substances may be taking place within the immediate area of the San Vicente 100K inundation limits and downstream dam construction zone. In addition, an environmental questionnaire was provided to Mr. Nelson Manville, the Lakes Program Supervisor for the City of San Diego Water Department.

1.3.2 Review of Reported Hazardous Waste Sites

Federal, state, and local lists of reported hazardous waste sites for the project area were reviewed to determine if any known sites are near the project area. The environmental release listings were provided by Track Info Services (FirstSearch). The lists provided by FirstSearch (FirstSearch 2006) are detailed in the report which is incorporated into this document by reference and is available for inspection at the Authority's San Diego office.

1.3.3 Review of Historical Land Uses

Research on historical land use was conducted for the purpose of determining whether past practices involving the use, storage, treatment, generation, or disposal of hazardous substances may have taken place within the San Vicente 100K inundation limits and downstream dam construction zone. The historical land use review was conducted to assess whether former land use activities may have caused or contributed to site contamination, which could affect water quality when the additional area is inundated.

The immediate surrounding area is important because runoff from a contaminated area could affect reservoir water quality. Historical aerial photographs and historical topographic maps were provided by Geosearch of Ojai, California. The 1953, 1963, 1974, 1980, 1990, 1991, 1996, and 2002 aerial photographs were reviewed and the 1939, 1955, 1955 (photo revised 1971), and 1996 historical topographic maps were reviewed.

1.3.4 Survey Limitations

Access to the site near the dam portion was granted and accessed via dirt roadways. There were no restricted portions of the site. Inaccessible areas due to geographic constraints were encountered. The northern, southern, and eastern edges of the inundation area were not observed. The field reconnaissance was limited to areas observable from the roadways and walking paths.

1.4 Affected Environment

1.4.1 Affected Environment Observed during Field Reconnaissance

Rincon Consultants performed a reconnaissance of the inundation area and downstream construction zone (site) on September 30, 2005. The following information is based on observations noted or information obtained during the site reconnaissance and our review of the completed questionnaire.

According to Mr. Manville, the downstream construction zone and inundation area to the south of the reservoir were in rural residential and agricultural land uses, and included the end of the line for a railroad serving eastern San Diego County prior to the construction of the San Vicente Dam in 1941. According to Mr. Manville, the primary use of the subject property is to support water impoundment via the San Vicente Dam and water related recreation activities. An operations yard is situated near the base of the dam and includes the administrative offices for the Lakes Recreation. A paved parking lot and public restrooms are located near the boat dock on the northwest portion of the subject property. During the site reconnaissance, Rincon did not observe above-ground tanks or evidence of underground storage tanks. Mr. Manville indicated on his questionnaire that there have been no above or below ground storage tanks on the property.

No hazardous substances were identified in connection with the site operations. No unidentified substance containers were observed in accessible portions of the subject property. No transformers or other indications of PCBs were observed on, or adjacent to the subject property.

1.4.2 Affected Environment Observed during Review of Reported Hazardous Waste Sites

The following table summarizes the listing summary of sites within one-mile of the inundation limits and downstream construction zone:

Track Info Listing Summary of Properties
Within One-Mile of the Project Area

Site Name	Site Address	Estimated Distance from Project Area	Database Reference
SD City Water- San Vicente Lake	13500 Moreno Avenue	Site	PERMITS
Armor Products	12540 Vigilante Road	<1/8 mile S	PERMITS
Minshaw Brothers Land Co.	12578 Vigilante Road	1/8 to 1/4 mile SW	PERMITS
Eniss Materials	12421 Vigilante Road	1/8 to 1/4 mile S	PERMITS
Hanson Lakeside Quarry / Earthwise Industrial	12535 Vigilante Road	¼ to ½ mile SW	LUST, PERMITS
Cal-Mat Lakeside	12060 Highway 67	¼ to ½ mile S	LUST, PERMITS, RCRAGN, UST
Atlas Pumping	12740 Vigilante Road	¼ to ½ mile SW	PERMITS, RCRAGN
Chuck Green and Associates	12211 Highway 67	¼ to ½ mile SW	PERMITS
Clark Steel Fabricators, Inc.	12610 Vigilante Road	¼ to ½ mile SW	PERMITS
County Green Waste Recycling Facility	12243 Highway 67 and Vigilante Road	¼ to ½ mile SW	SWL
U.S. Disposal Services / Interstate VW Used Parts	12300 Highway 67	1/4 to ½ mile SW	LUST, PERMITS
Bob Turner's Crane Service, Inc.	12101 Highway 67	½ to 3/4 mile SW	PERMITS
Erreca Associates	12570 Slaughterhouse Road	3/4 to 1 mile W	LUST
Sparklett's Drinking Water Corp.	11811 Highway 67	¾ to 1 mile S	NFRAP
Barona Rancheria	No Address	>1 mile SE	TRIBALLAND

A total of 15 facilities with environmental listings were reported to be located within 1 mile of the site based on the broad search area used by the FirstSearch Report. Upon review of each of these facilities, only one (SD City Water-San Vicente Lake) appears to be located within the inundation area and downstream construction zone. The other facilities appear to be located to the southwest of the downstream dam construction zone however; none of the facilities appear to be adjacent to the site.

The one onsite facility known as the San Diego City Water- San Vicente Lake is located at 13500 Moreno Avenue. Files from the County of San Diego Department of Environmental Health (CSDDEH # H33432) indicated the permits were purged on November 11, 1995 and the site is no longer permitted. Because this specified site is no longer permitted, this site is not considered an environmental concern at this time.

Four facilities with environmental listings where an unauthorized release occurred were reported to be within a one-mile radius of the subject property. The Hanson Lakeside Quarry site located at 12535 Vigilante Road, the Calmat Co Lakeside site located at 12060 Highway 67, the U.S. Disposal Services / Interstate VW Used Parts facility located at 12300 Highway 67, and the Erreca Associates facility located at 12570 Slaughterhouse Road were all listed as LUST sites in the database.

The first facility reported in the LUST database is the Hanson Lakeside Quarry / Earthwise Industrial located at 12535 Vigilante Road (1/4 to 1/2 mile Southwest). According to the database report, a diesel fuel release was discovered at Hanson Lakeside Quarry on January 1, 2003. Reportedly, only soil was impacted and the case was closed on January 1, 2003. Due to the fact that only soil was impacted, case status (closed), and the distance from the subject property, this site is not expected to impact the subject property.

The second facility reported in the LUST database is the Calmat Co. Lakeside located at 12060 Highway 67 (1/4 to 1/2 mile South). Reportedly, Calmat Co Lakeside received a case closed status in October 1987. Due to the unknown nature of the release files maintained by the CSDDEH were reviewed. Files reviewed (CSDDEH # H02472) indicated on October 15, 1987 an AST failed a leak test and diesel fuel was released onto the soil. Only soil was impacted and the case was closed on December 14, 1987. Due to the case closed status, the fact that only soil was impacted and the distance from the subject property, this site is not considered an environmental concern at this time.

The third facility reported in the LUST database is the U.S. Disposal Services / Interstate VW Used Parts facility located at 12300 Highway 67 (1/4 to ½ mile Southwest). Reportedly, this facility had a release of diesel fuel that was discovered in August 1990. No other information was provided. Further investigation was conducted using the County of San Diego Department of Environmental Health website and facility finder. This facility was listed as a complaint that occurred in August of 1990 and the case status was listed as "preliminary assessment." Additional research was conducted using the Geotracker website provided by the State Water Resources Control Board (SWRCB). This facility was not listed on the Geotracker website. Based the distance from downstream dam construction area, the nature of the case type "complaint," the lack of further detail/documentation regarding this release, and the lack of further case investigation, this site is not considered an environmental concern at this time.

The fourth facility reported in the LUST database is the Erreca Associates facility located at 12570 Slaughterhouse Road (3/4 to 1 mile West). This facility reportedly had a waste oil release due to a loose fitting. The release occurred in August 2004. The aquifer was reportedly affected. The release case was closed in August, 2004. Further review conducted on the Geotracker website maintained by the SWRCB also indicated that the case status of this facility is "closed." Due to the case closed status and the distance from the subject property, this site is not considered an environmental concern at this time.

While conducting additional research for the above four facilities an additional release case was noted in both the SWRCB Geotracker website and the DEH case listings. This facility is known as Asphalt, Inc. located at 12560 Highway 67 (3/4 to 1 mile West). The facility reportedly has three release cases H02233-001, -002, and -003. Release case -001

was reportedly soil only and was closed in January, 1999. Release case -002 occurred in October of 1995 and was a diesel fuel release that affected the drinking water aquifer. The case status is listed as open and "remedial action" is reportedly taking place. Release case -003 occurred in March, 1999 and was an unleaded gasoline release from a dispenser failure that reportedly affected the drinking water aquifer. The case status is listed as open and "remedial action" is reportedly taking place. No further details were provided. Based on the interpreted location of this facility down gradient of the downstream dam construction zone area, this facility is not considered an environmental concern at this time.

The County Green Waste Recycling Facility is listed on the SWL database as a solid waste landfill site. This facility is reportedly "planned" and will be operated as a composting operation for green waste. Due to the "planned" status of the facility, no reported releases, and the distance from the subject property, this site is not considered an environmental concern at this time.

Due to the distance from the subject property and the nature of the environmental listings, the remaining ten sites with environmental listings reported within a one-mile radius of the subject property would not be expected to impact the subject property.

1.4.3 Affected Environment Observed during Review of Historical Land Uses

Review of Historic Aerial Photographs

Copies of aerial photographs were provided by Geosearch of Ojai, California and reviewed on October 24, 2006. A brief summary of each aerial photograph is provided below:

- ***1953 - (ASCA-USDA, 1" = 1800')*** – Two photographs were necessary to capture the entire subject property. The San Vicente Dam is present however inundation levels appear to be lower than the current level. Several small structures are depicted on the subject property to the southwest of the dam area in the downstream construction zone. A roadway along the southwest portion of the downstream construction zone was noted. In addition a roadway along the northwest perimeter of the reservoir was noted. Surrounding properties are depicted as undeveloped land.

- ***1963 - (Cartwright aerial surveys, 1" = 1800')*** – Four photographs were necessary to capture the entire subject property. The San Vicente Dam and inundation area appears to be filled with more water than the previous photograph. The roadways along the northwestern portion and southwest portion of the site are still present. Increased disturbed land is noted to the south of the Dam and a small structure is present. The area around the current boat launch area appears to be developed and a roadway along the western side of reservoir is noted. Surrounding properties are depicted as undeveloped land.

- ***1974 - (Aerial Map Industries, 1" = 1800')*** – Two photographs were necessary to capture the entire subject property. The site is depicted similar to the 1963 aerial photograph with the exception of an improved road leading to the boat launch area which appears developed with a parking lot area. In addition, several small structures appear adjacent to the south of the San Vicente Reservoir. Mining operations to the southwest were observed. The surrounding properties are depicted similar to the 1963 aerial photograph.

- ***1980 - (Aerial Map Industries, 1" = 1800')*** – Four photographs were necessary to capture the entire subject property. The site and surrounding properties are depicted similar to the 1974 aerial photograph with the exception of the dock area appearing to be under construction. The mining operations to the southwest have a larger area of disturbance. Increase development to the south of the downstream construction zone is noted. The surrounding properties to the west, north, and east are depicted as undeveloped land.

- ***1990 - (Aerial Map Industries, 1" = 1800')*** – Two photographs were necessary to capture the entire subject property. The site is depicted similar to the 1980 aerial photograph with the exception of greater surface mining occurring to the southwest of the downstream construction zone. An area of increased disturbance is noted to the northwest of the dock area. The surrounding properties are depicted similar to the 1980 aerial photograph with the exception of industrial buildings appearing adjacent to Highway 67 and agriculture appearing to the southeast of Moreno Avenue.

- **1991-** ***(Aerial Map Industries, 1"= 1800')-*** The photograph only covers the northeast portion of the subject site. The area and site vicinity appear similar to the 1990 photograph with the exception of increased residential development to the southeast of the subject site.

- ***1996 – (USGS, 1' = 1800')*** –The site and surrounding properties are depicted similar to the 1991 aerial photograph.

- ***2002 – (USGS, 1' = 1800')*** – Two photographs were necessary to capture the entire subject property. The site and surrounding properties are depicted similar to the 1996 aerial photograph with the exception of increased mining activities to the southwest of the subject property, appearance of industrial activities southeast of Moreno Avenue, and increased industrial activity on the surrounding properties, adjacent to Vigilante Road and Highway 67.

Review of Historic Topographic Maps

Historic topographic maps were ordered from Geosearch and reviewed on October 24, 2006. The following is a summary of our review of these maps.

- ***1939 USGS Topographic Quadrangle Map – El Cajon, CA (Scale 1:62,500)*** – The subject property is depicted as undeveloped land with the exception of seven structures depicted along the valley floor and near the present day San Vicente Dam. A roadway was depicted running from the north east to the southwest through the bottom of the valley. The surrounding properties are depicted as undeveloped land.

- ***1955 USGS Topographic Quadrangle Map – San Vicente Reservoir, CA (Scale 1:24,000)*** – A portion of the northern section of the subject property is not depicted on this map. A pipeline is depicted on the southwestern portion of the site and is interpreted to be a part of the San Diego Aqueduct system. In addition, a roadway and resort area are labeled in the northeast portion of the site however, no structures were depicted. The site and surrounding properties are depicted similar to the 1939 map with the exception of the appearance of the San Vicente Dam on the subject property and the area is inundated to approximately 650 feet above mean sea level.

- ***1955 photo-revised in 1971 USGS Topographic Quadrangle Map – San Vicente Reservoir, CA (Scale 1:24,000)*** – A portion of the northern section of the subject property is not depicted on this map. A rock quarry pit and several roads are depicted to the south of the inundated area. The site and surrounding properties are depicted similar to the 1955 map.

- ***1996 USGS Topographic Quadrangle Map – San Vicente Reservoir, CA (Scale 1:24,000)*** – A portion of the northern section of the subject property is not depicted on this map. The site is depicted similar to the 1955 photo-revised 1971 map with the exception of a boat ramp and several structures appearing on the southwest portion of the property. The quarry pit to the southwest of the property appears to cover a larger area than in the 1955 (photo revised 1971) map.

1.5 Thresholds of Significance

Thresholds used to evaluate potential public safety impacts are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387) Appendix G; the ESP EIR/EIS; and the RWFMP PEIR. This impact would be significant if the research and field reconnaissance indicates that hazardous materials posing a threat to human health or environment could be present in the inundation limits and downstream dam construction zone of the San Vicente reservoir. A significant public safety impact would occur if the proposed action would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65965.5 and, as a result, would create a significant hazard to the public or the environment.

1.6 Environmental Consequences

1.6.1 Field Reconnaissance

Based on the field reconnaissance, no current site operations or uses indicated the use, storage, or disposal of hazardous materials. No significant impact was found based on the field reconnaissance.

1.6.2 Review of Reported Hazardous Waste Sites

Hazardous materials do not appear to be present within the San Vicente 100K reservoir inundation limits and downstream dam construction zone. Although some sites of possible contamination were identified in the research by FirstSearch (2006), none of these sites were found to be a threat to human health and safety and the environment. This impact would not be significant for the reservoir.

1.6.3 Review of Historical Land Uses

Based on the review of historical land use, no historic site or hydraulically up-gradient site vicinity land uses indicated the use, storage, or disposal of hazardous materials that could impact the water quality of the San Vicente 100K reservoir inundation limits and downstream dam construction zone. No significant impact was found base on the review of the historical land uses.

1.7 Mitigation Measures

No impacts were identified during the field reconnaissance, review of hazardous waste sites, or review of historical land uses portions of this assessment; therefore no mitigation measures are needed.

2.0 Alternative 2: Moosa 100,000 Acre-Feet

2.1 Environmental Setting

2.1.1 Study Area

[Provided by PBS&J]

2.1.2 Background

[Provided by PBS&J]

2.2 Project Description

[Provided by PBS&J]

2.3 Field Survey Methods

2.3.1 Field Reconnaissance

Rincon Consultants performed a drive by reconnaissance of the proposed inundation and pipeline areas of the site (Site) on November 8, 2006. The Site and site vicinity are shown in Figures 2 through 6 of this report. The purpose of the reconnaissance was to assess whether current practices or land uses involving the use, storage, treatment, generation, or disposal of hazardous substances may be taking place within the immediate area of the proposed Moosa100K inundation limits and pipeline areas.

2.3.2 Review of Reported Hazardous Materials Sites

Federal, state, and local lists of reported hazardous materials storage or release sites for the project area were reviewed to determine if any known sites are within or near the project area. The environmental listings were provided by Track Info Services (FirstSearch). The list provided by FirstSearch (FirstSearch 2006) is incorporated into this document by reference and is available for inspection at the Authority's San Diego office.

2.3.3 Review of Historical Land Uses

Research on historical land use was conducted for the purpose of determining whether past practices involving the use, storage, treatment, generation, or disposal of hazardous substances may have taken place within the Moosa 100K inundation limits and pipeline areas. The historical land use review was conducted to assess whether former land use activities may have caused or contributed to site contamination which could affect water quality when the area is inundated. The immediate surrounding area is important because runoff from a contaminated area could affect water quality in the reservoir. Aerial photographs from 2006 were provided by PBS&J and historical topographic maps were provided by Geosearch of Ojai, California. The 1949 and 1968 historical topographic maps for the Bonsall Quadrangle were reviewed. The 1949, 1968, 1968 (photorevised

1982), 1968 (photorevised 1988), and the 1997 historical topographic maps for the Pala Quadrangle were reviewed. The 1949, 1968, 1968 (photorevised 1975), and 1996 historical topographic maps for the Valley Center Quadrangle were reviewed.

2.3.4 Survey Limitations

The Site and surrounding areas were observed from paved and dirt public roadways. Several limitations were encountered due to private property, locked gates, and roadway constraints. The roadways that were accessed as a part of this site reconnaissance are depicted on each of the figures. Access to Cougar Pass Road to the west of Turner Lake, and a portion of the pipeline between Mirar De La Valle and Alps Way was not possible due to locked gates. Further, access to the central pipeline portion of the site from Old Castle Road through the valley to Turner Lake was not possible or practical due to a lack of roadways. In addition, access to the dam, pump station/water tank storage area, and equipment yard was not possible due to locked gates.

2.4 Affected Environment

2.4.1 Affected Environment Observed during Field Reconnaissance

Rincon Consultants performed a drive by reconnaissance of the Site on November 8, 2006. The following information is based on observations noted or information obtained during the site reconnaissance.

The site was observed from public roadways that surround and intersect portions of the proposed inundation and pipeline areas. The proposed inundation and pipeline areas consist primarily of agricultural lands (avocado groves), scattered residential houses, and undeveloped land. Castle Creek Country Club was observed to the north of Old Castle Road and several commercial sites were located to the south of Old Castle Road near the intersection with Champagne Blvd. Greenhouses and agricultural farming were observed to the south of Betsworth Road. Several nurseries were observed along Old Castle Road, Sierra Roja Road, and to the west and south of Betsworth Road. Although not observed during the site visit, agricultural properties may store pesticides and fuel. In addition, automobile and equipment repair may take place at some of the agricultural properties. Turner Lake, the dam, and associated water storage/pump facilities that may utilize and store hazardous materials were observed. In addition, an equipment yard that had stockpiles of soil and asphalt, telephone poles, and other miscellaneous supplies used by the Valley Center Municipal Water District was observed to the south of Betsworth Road.

Utilities including water lines and overhead power lines were observed throughout the site. Associated with the power lines were numerous pole-mounted transformers that are present throughout the site. In addition, many private residences within the proposed inundation area were observed to have exterior propane storage tanks near the homes. During the site reconnaissance, Rincon did not observe above-ground tanks or evidence of underground storage tanks.

In addition, septic tanks associated with the scattered residences are likely. A high tension power line was observed crossing the center portion of the site from north to south and the San Diego Aqueduct was observed at the intersection of Betsworth Road and Cougar Pass Road. Storage and application of pesticides and herbicides is anticipated to occur at many of the agricultural and nursery facilities.

The former Valley Center Landfill area to the west of Aerie Road was observed to be mostly vacant with several temporary structures and horse corrals upon it. Access to the landfill was limited due to locked gated entry points. Observations of the former landfill were from the public roadways to the north and east of the facility. Concrete drainage swales to convey water down the slope and two monitoring wells were observed. A large concrete enclosure with what appeared to be a vent pipe was observed in the southwest corner of the former landfill.

2.4.2 Affected Environment Observed during Review of Reported Hazardous Materials Sites

The following table summarizes the listing of environmental database sites within the inundation and pipeline areas and within a one-mile radius of the Site:

Track Info Listing Summary of Properties
Within One-Mile of the Moosa 100K Project Area

Site Name	Site Address	Estimated Distance From Project Area	Database
Betsworth 4 Bay	11580 Betsworth Road	Site	PERMITS
Valley Center SLF/Burnsite	28700 Aerie Road	Site	PERMITS, SWL
Ernest J. Allen	12363 Betsworth Road	Site	UST
Circle R. Ranch Trading Post	8751 Old Castle Road	Adjacent to pipeline portion of the site	LUST, PERMITS, UST
Janis Trucking	3850 Gopher Canyon Road	Adjacent to western end of pipeline portion of the site	PERMITS
H/T Farms/McMillan Farm Management	27775 Cougar Pass Road	Adjacent to SW pipeline portion of the site	PERMITS
Castle Creek Country Club	8797 Circle R Drive	Adjacent to the N of the pipeline portion of the site	LUST, PERMITS, UST
Walker Vice Nursery	11050 Mystery Mountain Road	<1/8 mile N of northeast pipeline portion of the site	PERMITS
Moosa Waste Water Treatment	8711 Circle R Road	1/8 to 1/4 mile N of pipeline portion of the site	PERMITS, UST
Wild Acres Ranch	1560 Wild Acres Road	1/8 mile N of the pipeline portion of the site	UST
Castle Creek Inn and Spa	29850 Circle K Way	1/4 to 1/2 mile N	PERMITS

Raymond Holdgrafter	10845 Mystery Mountain Road	1/4 to 1/2 mile NE of the site	PERMITS
Prudential Realty / Residence	30558 Alta Mesa Drive	1/4 to 1/2 mile N of the pipeline portion of the site	PERMITS
Stuck Flower Ranch, Inc.	11252 Rolling Hills Way	1/4 to 1/2 mile N of the pipeline portion of the site	LUST
Bonsall Sanitary Landfill	29000 Twin Oaks Valley Road	1/2 mile W of the pipeline portion of the site	SWL
J.R. Stanley Company	28957 Mountain Meadow Road	1 mile N of the pipeline portion of the site	RCRAGN
Meadow Lake Country Club	10333 E. Meadow Glen Way	1 mile SW of the site	LUST
Lilac Elementary School	30109 Lilac Road	1 mile N of the site	STATE

A total of 18 facilities with environmental listings were reported to be located in the vicinity of the Site based on the broad search area used by the FirstSearch Report. Upon review of each of these facilities, three facilities (Betsworth 4 Bay, Valley Center SLF/Burn site, and Ernest J. Allen) appear to be located within the inundation areas of the proposed Moosa 100K reservoir. Four of the facilities appear to be located adjacent to the inundation area and associated pipelines. The other eleven facilities appear to be located in the vicinity of the Site.

The first onsite facility is known as Betsworth 4 Bay facility. It is located at 11580 Betsworth Road, within the proposed inundation area, and was listed in the PERMITS database. This facility produces used oil filter waste (100 pounds a year) and waste oil (825 gallons a year). The waste oil is stored in metal 55-gallon drums. One violation was reported in March 1999 for not amending the business plan in a timely fashion. In addition, a 2,000-gallon above ground storage tank used to store propane was reported at this facility. Due to the unknown storage conditions of the oil waste, a release may have occurred that could impact the soil or groundwater at the site.

The second onsite facility is known as the Valley Center landfill. This facility is located at 28700 Aerie Road, within the proposed inundation area, and was listed in the Solid Waste Landfill (SWL) database. Further information regarding this facility was provided from a summary of the Solid Waste Assessment Test (SWAT) at the Valley Center Landfill by the County of San Diego Department of Public Works conducted by the IT Corporation in 1991. The summary their findings were included in the Draft EIR/EIS 312452400 Section 10- Water Resources. The report indicated the following information regarding the Valley Center Landfill:

> *"The landfill site covers 42 acres and has a landfill area of 11 acres. The landfill received a total of approximately 130,000 tons of refuse. There is no record of the landfill having accepted chemical, hazardous, or toxic waste, septage, or infectious wastes. In general, waste disposal was limited to residential and*

commercial waste, primarily organic rubbish. The landfill site is currently used as an equestrian center and has no permanent structures onsite.

From 1958 to 1969, the landfill was used as a rubbish-burning site, but no records exist that indicate the type and amount of waste handled during this time. From 1969 until it was closed, the landfill was operated as a solid waste disposal site suitable for receiving Class II and Class III wastes, including residential, agricultural, and commercial refuse, and non-decomposable inert solids. The landfill was closed on January 1, 1979.

According to the SWAT report, the site is not currently producing any leachate, although the landfill is not equipped with a leachate collection system. Site geology is relatively uniform and the condition of the landfill appears to be stable. The landfill was constructed without a liner system. The landfill cover/cap consists of native decomposed granite with an average thickness of 3 feet. Other than the groundwater monitoring wells, no leak detection system has been installed.

Groundwater is present in a fractured rock aquifer below the landfill, and the groundwater flow is confined to fractures within the granitic rocks. Groundwater flow is to the south-southwest, parallel to the joints and toward Moosa Canyon. The general chemistry of the groundwater samples collected from four monitoring wells was comparable to that of stream samples. No volatile organic compounds were detected in any of the groundwater or surface water samples, although some elevated concentrations of metals were detected. There is a lack of dissolved volatile organic compounds in groundwater and surface water samples taken at the site, which suggests that gas migration has not affected the regional groundwater or surface water to date. The permeability of the natural decomposed granitic rocks constituting the landfill cover could allow substantial infiltration of precipitation into the landfill in the event that surface runoff is not properly conveyed. Surface water runoff from the adjacent area and minor runoff from the landfill cover are diverted to trenches and concrete lined drains and returned to the natural channels down gradient of the landfill. However, because the landfill is located in the upper portion of an ephemeral stream valley, the potential for surface water contamination exists.

During normal storage capacity and probably maximum flood (PMF) condition, the southwestern portion of the landfill would become inundated by the reservoir, allowing waste within the landfill to become saturated and contact the drinking water supply. Furthermore, a major storm event or an earthquake could jeopardize the stability of the landfill or the onsite surface water features. This could expose the landfill material, which could then enter the reservoir via wind or surface water transport."

The third onsite facility is located partially within the inundation area in the southern portion of the site and is known as the Ernest J. Allen facility located at 12636 Betsworth Road. The facility was listed on the UST database and formerly utilized a 3,000-gallon leaded gasoline UST. No further information was provided. There is the potential that a release

that impacted the soil or groundwater may have occurred. If release did occur at this facility, contaminated soil and/or groundwater from this release may impact the pipeline and inundation areas identified on Figure 6.

Four facilities with environmental listings were located adjacent to the proposed inundation and pipeline areas. The first facility is the Circle R. Ranch Trading Post located at 8751 Old Castle Road and is listed on the LUST, PERMITS, and UST databases. The LUST case is associated with a release of unleaded gasoline that occurred in December 1993 and impacted the aquifer. The case was closed in December 1993. This facility had several reported violations in 1990 and 1992; however all appeared to be administrative in nature. In addition, this facility has a 500-gallon above ground storage tank used to store propane. This facility also has an animal clinic. The animal clinic stores and disposes of general infectious wastes. Several violations were reported in 1990 and 1999; however all were administrative in nature. This facility was also listed on the registered underground storage tank database which indicated that two 2,000-gallon USTs were located at the site but were subsequently removed. Contaminated soil and/or groundwater from this release may impact the pipeline area of the site identified on Figure 2.

A second facility located adjacent to the site along the pipeline area following Gopher Canyon Road is known as the Janis Trucking facility located at 3850 Gopher Canyon Road. This facility is listed on the PERMITS database as an inactive facility that formerly generated 220 gallons a year of waste oil and mixed oil. Groundwater and soil at the site does not appear to be impacted.

A third facility that is located adjacent to the southwest pipeline portion of the site is known as the H/T Farms / McMillan Farm Management facility which is located at 27775 Cougar Pass Road. This facility was listed on the PERMITS database and has two above ground liquid nitrogen fertilizer tanks with a total capacity of 510-gallons. No further information was provided. Groundwater and soil at the site does not appear to be impacted.

The fourth facility that is located adjacent to the north of the pipeline portion of the site is the Castle Creek Country Club located at 8797 Circle R Drive and was listed in the LUST, PERMITS, and UST databases. This facility had a diesel release that affected soil only. The case was closed in May, 1990. This facility also has one 500-gallon above ground gasoline tank and formerly had two 550-gallon diesel underground storage tanks. The location of the release was likely to have been in the maintenance area of the facility that was observed to the south of Circle R Drive and greater than ¼ mile to the north of Old Castle Road. Further, this facility generates 165-gallons a year of waste oil and mixed oil, 50-gallons of hydrocarbons solvents per year, 150 pounds of used oil filters per year, and 30-gallons of unspecified organic liquid mixture per year. Several violations from 1998, 1999, and 2000 were reported; however all appeared to be administrative in nature. Based on the distance from the interpreted release location to the pipeline area, medium affected (soil), and the nature of the violations, soil in the pipeline area of the site does not appear to be impacted.

Two other facilities (Stuck Flower Ranch and Meadow Lake Country Club) were listed in the LUST database. Both facilities have a reported case closed status and are located greater than ¼ mile from the subject site. The Stuck Flower Ranch release did not indicate whether

soil, groundwater or both were impacted. The Meadow Lake Country Club release only impacted soil. Based on the case status (closed) and distances from the subject property (greater than ¼ mile), these facilities do not appear to have impacted the inundation or pipeline areas.

Due to the distance from the subject property and the nature of the environmental listings, the remaining nine sites with reported environmental listings do not appear to have impacted the inundation or pipeline areas.

During the investigation of the above facilities, Rincon personnel reviewed the GeoTracker website maintained by the State Water Resources Control Board that provides details regarding releases. The website indicated that two additional facilities with open groundwater-impacted LUST cases in the vicinity and to the east of the proposed inundation and pipeline areas were present. The Valley Center Oil Corp. facility located 28010 Valley Center Road has two reported "open" release cases. This facility is located ½ to ¾ mile from the site. The second facility is the Apro 17 facility located at 27406 Valley Center Road that has one reported "open" release case. This facility is located over 1 mile to the east of the site. These two facilities are located cross gradient to the subject site and within ½ mile of a blue-line stream Moosa Creek that leads to Turner Lake (inundation area). Based on the distance from the subject property, these two facilities do not appear to have impacted the inundation and pipeline areas.

2.4.3 Affected Environment Observed during Review of Historical Land Uses

Review of Aerial Photographs

Copies of the 2006 aerial photographs were provided by PBS&J and were reviewed on October 31, 2006. Due to the large area of proposed site impact the aerial photographs were conveyed in a series of maps that showed the proposed inundation and pipeline areas of the Moosa 100K reservoir.

- ***Area A*** – This photograph depicts the western pipeline area along Gopher Canyon Road west of I-15 and extends across the Highway to Champagne Blvd. where the pipeline trends south until it turns east along Old Castle Road. Agriculture groves and scattered residences were noted adjacent to the pipeline area along Gopher Canyon Road. Castle Creek Country Club is noted to the north of the pipeline along Old Castle Road and several homes and businesses were observed to the south of Old Castle Road.

- ***Area B***– This photograph depicts the pipeline as it extends east along Old Castle Road. The area along the western portion of this photograph shows Castle Creek Country Club and golf course to the north as well as single family residential homes. To the south of Old Castle Road are several residences. The middle and eastern portions of this photograph shows undeveloped land to the north and scattered residences with large lots to the south of Old Castle Road.

- ***Area C*** – The northern portion of this photograph shows the pipeline extending east along Old Castle Road. Properties to the north are mostly undeveloped and properties to the south have scattered residential development. The central portion of the photograph depicts the area of Moosa Creek and a portion of the inundation area that leads to the main reservoir area. Land in this area consists of several structures and several areas of agriculture. The majority of the land is undeveloped. The southeastern portion of this photograph depicts the northwestern portion of the proposed reservoir. This area has agricultural fields, residences, and several roadways including Wilkes Road.

- ***Area D*** – This photograph shows the southwest portion of the inundation area including the existing Turner Lake and dam. Roadways including Betsworth Road and Cougar Pass Road are shown within the proposed inundation area. Several residences as well as Valley Center Municipal Water District Storage Tanks are depicted to the north of Betsworth Road. In addition, agriculture is noted north of Betsworth Road and east of Cougar Pass Road. A large disturbed area with open excavations and several stockpiles is noted to the south of Betsworth Road and north of Turner Lake.

- ***Area E*** – This photograph shows the eastern portion of the proposed inundation area and pipelines along Aerie Road and Sierra Rojo Road. The pipeline areas have scattered residences and agriculture properties adjacent to them. The inundation area shows Betsworth Road and has scattered residences and agricultural areas. In the northeast corner of the inundation area to the west of the intersection of Aerie Road and Wilmington Avenue is a large non-vegetated disturbed area that appears to be the Valley Center landfill.

- ***Area F-*** This area depicts the southeastern portion of the inundation area and also shows Turner Lake. This area consists of agricultural fields, agricultural greenhouses, open fields, and scattered residences. This photograph shows the portion of Betsworth Road that will be disturbed by the inundation area to the south and west.

- ***Area G*** –This photograph shows the extreme southwest portions of the pipeline and inundation area. The pipeline along Cougar Pass Road is depicted and several other inundation areas are shown. Several of these areas show agricultural activities and residences.

<u>Review of Historic Topographic Maps</u>

Historic topographic maps were ordered from Geosearch and reviewed on October 31, 2006. The following is a summary of our review of these maps.

- ***1949 USGS Topographic Quadrangle Map – Bonsall, CA (Scale 1:24,000)*** – The northwest portion of the subject property along Gopher Canyon Road is depicted as an improved roadway with one structure depicted to the north of the

roadway near Highway 395. Circle R Ranch is noted to the north of the subject property and has four structures depicted. A meandering blue-line stream is observed trending through the area labeled as Moosa Canyon. The surrounding properties are depicted as undeveloped land.

- ***1949 USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted as an improved roadway with two structures in the area of the present day Pamosa Road. The road appears to be in a slightly different location than the present roadway and has several structures along it. The San Diego Aqueduct is depicted trending north to south and crossing the northeast pipeline portion of the site crossing Old Castle Road to the west of Rolling Hills Drive. The surrounding properties are depicted as undeveloped land.

- ***1949 USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted and three structures are depicted along the future Pamosa Road in the northern portion of the Site. An unimproved roadway that will become Betsworth Road is noted crossing the site from west to east. A meandering blue-line east-west trending stream is observed through the central portion of inundation/pipeline area (Moosa Canyon). Six structures are depicted within the inundation limits around the future location of Turner Lake. The San Diego Aqueduct is depicted crossing the site in the area of Wilkes Road and through the valley to the north of the future Turner Lake. The surrounding properties are depicted as undeveloped land.

- ***1968 USGS Topographic Quadrangle Map – Bonsall, CA (Scale 1:24,000)*** – The northwest portion of the subject property along Gopher Canyon Road and New Castle Road are depicted as improved roadways. Circle R Ranch is noted to the north of the subject property and the golf course is depicted. Scattered residential structures are noted along the roadways. The Second San Diego Aqueduct is depicted along the western pipeline boundary crossing Gopher Canyon Road. A meandering blue-line stream is observed trending through the area titled Moosa Canyon. The surrounding properties are depicted as undeveloped land.

- ***1968 USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted as an improved roadway with scattered residential structures in the vicinity. The road appears to be in its present location. The San Diego Aqueduct is depicted trending north to south and crossing Old Castle Road and the northeast pipeline portion of the site. More scattered structures are present in comparison to the 1949 historical topographic map. The landing strip is depicted north of Old Castle Road. The surrounding properties are depicted as undeveloped land.

- ***1968 USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted. In the northern portion of the area, the Old Castle Ranch is depicted with several structures in the nearby vicinity. In the central portion of the site, Betsworth Road is depicted as an improved road crossing the site from west to east. Aerie Road is depicted trending to the north from Betsworth Road. Two pumping stations and a water tank are depicted northwest of Betsworth Road. The San Diego Aqueduct is depicted crossing Betsworth Road to the west of Turner Lake. Scattered residences were observed in the vicinity of inundation area and pipelines. The surrounding properties are depicted as undeveloped land.

- ***1968 (Photo Revised 1975) USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted and appear similar to the 1968 topographic map with several exceptions. Turner Lake is now visible to the south of Betsworth Road and Betsworth Road is improved leading to the pumping stations and water tanks to the north of the roadway. Several additional residential structures are depicted in the areas surrounding the site.

- ***1968 (Photo Revised 1982) USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted similar to the 1968 topographic map with the exception of more scattered residential structures in the vicinity of Old Castle Road. The surrounding properties are depicted as undeveloped land.

- ***1968 (Photo Revised 1988) USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted similar to the 1968 (Photo Revised 1982) topographic map with the exception of more scattered residential structures to the south and north of Old Castle Road.

- ***1996 USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted. Increased residential development including paved and dirt roadways as well as increased residential structures are noted to the north and south of Betsworth Road. Surrounding areas have increased scattered residential development but are mostly depicted as undeveloped land.

- ***1997 USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is shown. A circular track and several agricultural greenhouses are depicted south of Castle Ridge Road and Old Castle Road. Additional development including streets and residences north and south of Old Castle Road (northeast portion of the site and east of the Landing Strip) are depicted. The surrounding properties in the Moosa Canyon area are depicted as undeveloped land.

2.5 Thresholds of Significance

Thresholds used to evaluate potential public safety impacts are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387) Appendix G; the ESP EIR/EIS; and the RWFMP PEIR. This impact would be significant if the research and field reconnaissance indicates that hazardous materials posing a threat to human health or environment could be present in the inundation limits and downstream dam construction zone of the San Vicente reservoir. A significant public safety impact would occur if the proposed action would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65965.5 and, as a result, would create a significant hazard to the public or the environment.

2.6 Environmental Consequences

2.6.1 Field Reconnaissance

Based on the field reconnaissance, potential significant impacts (the storage, use, or disposal of hazardous materials) were found. The following potential impacts were identified:

A: Scattered Residences

Propane Above-ground Storage Tanks (ASTs)- Propane ASTs near many of the scattered residences were observed within the proposed inundation area.

Septic systems- There are possible septic systems associated with the scattered residences within the proposed inundation area. The septic systems could impact the water quality of the reservoir.

Transformers- Electrical transformers associated with power transmission lines were observed on several utility poles within the proposed inundation area. These transformers may have PCBs or other electric fluid associated with them and could impact the water quality of the reservoir.

B: Agricultural Activities

Pesticides and herbicides- There is the potential for the storage and use of pesticides and herbicides in conjunction with the agricultural operations (including farms, orchards, and nurseries) observed within the proposed inundation area. The pesticides and herbicides may impact the soil within the proposed inundation area.

Fuel tanks- There is the potential for above- or below-ground fuel storage tanks used to fuel farm equipment in conjunction with agricultural operations. The fuel tanks and potential leaking of petroleum hydrocarbons from these tanks may impact the soil or groundwater within the proposed inundation area.

Auto and equipment repair- There is the potential that repairs of automobile and farm equipment may take place in several areas at each of the farms. The repair areas may impact the soil within the proposed inundation area with petroleum hydrocarbons and other contaminants.

Equipment Storage Yards- There is the potential for metals and petroleum hydrocarbon contaminated soils within the proposed inundation area in association with the storage of vehicles and equipment.

Smudge Pots- There is the potential for the presence of smudge pots used to heat the trees to prevent frost within the orchard areas of the proposed inundation area. These smudge pots may impact the soil and groundwater due to unreported releases of petroleum hydrocarbons.

Windmills- Windmills were observed in several areas of the orchards within the proposed inundation area of the site. These windmills may be powered by gasoline or propane and may have small storage tanks associated with them. These tanks may have had a release that impacted the soil or groundwater within the proposed inundation area.

Greenhouses- Several greenhouses were observed within the proposed inundation area. They have the potential to store and use pesticides and herbicides. These activities could impact the soil from irrigation runoff containing high concentrations of pesticides and herbicides.

C: Equipment Area- Valley Center Municipal Water District- To the south of Betsworth Road the Valley Center Municipal Water District has an equipment/maintenance yard. This facility may store hazardous materials and fuel products that may have had a release that could impact the proposed inundation area and impact the water quality of the reservoir.

The potential impacts listed above are presently unknown. For the purpose of this evaluation we have assumed that hazardous materials exist. The presence of hazardous materials in association with the scattered residences, agricultural activities, and equipment areas are significant but mitigable impacts.

2.6.2 Review of Reported Hazardous Materials Sites

Based on the review of reported hazardous materials sites, four facilities (Betsworth 4 Bay, Valley Center Landfill, Circle R Ranch, and Ernest J. Allen) were found to have had a release or have the potential for a release that may impact the soil and groundwater in the vicinity of Moosa 100K inundation and pipeline areas.

D: **Betsworth 4 Bay (11580 Betsworth Road)**- This facility is listed in the PERMITS database and reportedly stores propane and motor oil and generates used oil filters and waste oil. The propane tank and waste oil could impact the water quality of the reservoir if they are not removed prior to dam construction and reservoir inundation.

E: **Valley Center Landfill (28700 Aerie Road)**- This facility is a former solid waste landfill and burn site for municipal waste. The former landfill could produce leachate with hazardous concentrations that could impact water quality of the reservoir if the landfill area is inundated.

F: **Ernest J. Allen (12363 Betsworth Road)**- The reported former UST at this facility is in an unknown location and it may have had a release of petroleum hydrocarbons that may have impacted the soil and groundwater at the site.

G: **Circle R Ranch Trading Post (8751 Old Castle Road)**- This facility has a reported LUST case that impacted the groundwater. This release case is closed, however, groundwater and soil adjacent to this site may have been impacted. The soil and groundwater within the pipeline portion of the site may have been impacted from this reported release.

H: **Other Adjacent Facilities-** Three facilities (Janis Trucking, H/T Farms/McMillan Farm Management, and Castle Creek Country Club) that are adjacent to the project area reportedly store, use, and dispose of hazardous materials. The Castle Creek Country Club facility also has a reported release. These facilities may have impacted the soil or groundwater within the proposed inundation area.

The potential impacts to the soil and groundwater may be significant but mitigable.

2.6.3 Review of Historical Land Uses

Based on the review of historical land use, former and present agricultural activities could impact the water quality of the Moosa 100K reservoir inundation limits and pipeline areas. As discussed above, there is a potential for agricultural chemicals to be present onsite in soils located within the inundation area. The potential soil contamination would be a significant but mitigable impact.

2.7 Mitigation Measures

2.7.1 Mitigation Measures for Impacts Identified during Field Reconnaissance

Based on the observed residential structures and agricultural activities currently conducted within the proposed inundation limits and pipeline areas of the proposed Moosa 100K reservoir the following mitigation measures should be conducted:

A: Scattered Residences

- Identify all residences and utility poles with transformers within the proposed inundation and pipeline areas. Identify and remove all propane storage tanks and septic tanks associated with the private residences. Identify and remove (or relocate) all pole-mounted transformers and utility poles that are within the proposed inundation area.

B. Agricultural Activities

- Conduct a site reconnaissance at each farming and nursery facility within the proposed inundation area to assess the presence of fuel tanks, auto equipment repair areas, equipment storage areas, smudge pots, windmills, greenhouses, and the storage and use of pesticides and herbicides.

- Conduct soil sampling as necessary at facilities that are potentially impacted. Analyze samples to determine if contaminants have impacted the soils in the proposed inundation and pipeline areas.

- If the analysis indicates that soils or groundwater have been contaminated, implement appropriate remedial action (clean-up) plans prior to construction of the dam and inundation of the area.

C: Equipment Area- Valley Center Municipal Water District

- Conduct a site reconnaissance at the facility to assess the area for the storage and use of hazardous materials.

- Request and review County of San Diego regulatory agency files and review them (if available) to gain further information regarding this facility.

- Conduct soil sampling if hazardous material storage, usage, or a release is identified. Analyze samples to determine if contaminants have impacted the soil in the vicinity of this facility.

- If the analysis indicates that soils have been contaminated, implement appropriate remedial action (clean-up) plans prior to construction of the dam and inundation of the area.

2.7.2 Mitigation Measures for Impacts Identified during Review of Reported Hazardous Materials Sites

Based on the reported hazardous materials sites within the proposed inundation limits and pipeline areas of the proposed Moosa 100K reservoir the following mitigation measures should be conducted:

D: Betsworth 4 Bay (11580 Betsworth Road)

- Request and review County of San Diego regulatory agency files and review them (if available) to gain further information regarding this facility.

- Perform a site visit to ascertain the potential for a release or other impact to the soil and groundwater of the site.

- If necessary, conduct soil and groundwater sampling to determine the areas and concentrations of a potential release.

- If necessary, implement an appropriate remedial action (clean-up) plan prior to construction of the dam and inundation of the area.

E: Valley Center Landfill (28700 Aerie Road)

- Request County of San Diego regulatory agency files and review them (if available) to find out the most recent ground water monitoring data and additional information regarding the former landfill.

- Perform excavation and removal of all landfill material and contaminated soils from the landfill area. Confirm the complete excavation of impacted material through confirmation sampling of the soil and groundwater. Or, construct an impermeable dam or other barrier between the inundation area and the former landfill area. This dam or wall is intended to prevent the inundation of the landfill area and migration of leachate or other potentially hazardous materials from migrating into the water of the proposed reservoir. Long term monitoring should be conducted to assess the effectiveness of the dam or barrier at preventing contamination incursion into the reservoir water.

F: Ernest J. Allen (12363 Betsworth Road)

- Request County of San Diego regulatory agency files and review (if available) to gain further information regarding this facility and the UST at this facility.

- Perform a site visit to determine the location of the UST and the potential to impact the proposed inundation area.

- If necessary, conduct soil and groundwater sampling to determine if a release has impacted the soil and groundwater within the proposed inundation area.

- Remove the tank and if necessary, implement an appropriate remedial action (removal and remediation) plan prior to construction of the dam and inundation of the area.

G: Circle R Ranch Trading Post (8751 Old Castle Road)

- Request County of San Diego regulatory agency files and review them (if available) to gain further information regarding this facility and the reported release.

- Perform a site visit to ascertain the release location and the potential impact to the pipeline area of the site.

- If necessary, conduct soil and groundwater sampling in the area of the pipeline to determine if the release has impacted the soil that will be excavated as a part of the pipeline construction.

- If necessary, implement an appropriate remedial action (clean-up) plan prior to construction of the pipeline.

H: Other Adjacent Facilities (Janis Trucking, H/T Farms/McMillan Farm Management, and Castle Creek Country Club)

- Review County of San Diego regulatory agency files to gain further information regarding these facilities and the reported release.

- If necessary, conduct monitoring of soils for contamination during dam construction activities on the adjacent inundation and pipeline areas.

2.7.3 Mitigation Measures for Impacts Identified during Review of Historical Land Uses

As identified in section *2.7.2 Mitigation Measures for Impacts Identified during Review of Reported Hazardous Waste Sites, Section A: Scattered Residences,* identify and remove all residences and associate propane tanks and septic tanks.

As identified in section *2.7.2 Mitigation Measures for Impacts Identified during Review of Reported Hazardous Waste Sites, Section B: Agricultural Sites,* review County of San Diego DEH files, site visits, soil sampling (as necessary), and remediation activities (as necessary) should be conducted to mitigate the potential impacts of pesticide and herbicide contaminated soil.

2.8 Residual Impacts after Mitigation

Implementation of the above mitigation measures would be extensive and expensive to complete. The mitigation measures are necessary to mitigate all impacts to below a level of significance. If fully implemented no residual impacts would occur.

2.9 Cumulative Impacts

Implementation of the above measures would mitigate all impacts to below a level of significance; therefore, no cumulative impacts would occur.

3.0 Alternative 3: San Vicente 50,000 Acre-Feet and Moosa 50,000 Acre-Feet

3.1 Environmental Setting

3.1.1 Study Area

[Provided by PBS&J]

3.1.2 Background

[Provided by PBS&J]

3.2 Project Description

[Provided by PBS&J]

3.3 Field Survey Methods

3.3.1 Field Reconnaissance

Rincon Consultants performed a reconnaissance of the San Vicente site on September 30, 2005. The Site and site vicinity is shown in Figure 7 of this report. Rincon personnel were accompanied by Tad Brierton from the San Diego County Water Authority. The purpose of the reconnaissance was to assess whether current practices or land uses involving the use, storage, treatment, generation, or disposal of hazardous substances may be taking place within the immediate area of the San Vicente 50K inundation limits and downstream dam construction zone. In addition, an environmental questionnaire was provided to Mr. Nelson Manville, the Lakes Program Supervisor for the City of San Diego Water Department.

Rincon Consultants performed a drive by reconnaissance of the proposed inundation and pipeline areas of the site (Site) on November 8, 2006. The Site and site vicinity are shown in Figure 8 of this report. The purpose of the reconnaissance was to assess whether current practices or land uses involving the use, storage, treatment, generation or disposal of hazardous substances may be taking place within the immediate area of the proposed Moosa 50K inundation limits and pipeline areas.

3.3.2 Review of Reported Hazardous Materials Sites

Federal, state, and local lists of reported hazardous materials storage or release sites for the project areas were reviewed to determine if any known sites are within or near the project areas. The environmental listings were provided by Track Info Services (FirstSearch). The lists provided by FirstSearch (FirstSearch 2006) are incorporated into this document by reference and are available for inspection at the Authority's San Diego office.

3.3.4 Review of Historical Land Uses

Research on historical land use was conducted for the purpose of determining whether past practices involving the use, storage, treatment, generation, or disposal of hazardous substances may have taken place within the San Vicente 50K inundation limits and downstream dam construction zone and within the Moosa 50K inundation and pipeline areas. The historical land use review was conducted to assess whether former land use activities may have caused or contributed to site contamination, which could affect water quality when the additional area is inundated. The immediate surrounding area is important because runoff from a contaminated area could affect water quality of the reservoir.

For the San Vicente 50K site historical aerial photographs and historical topographic maps were provided by Geosearch of Ojai, California. The 1953, 1963, 1974, 1980, 1990, 1991, 1996, and 2002 aerial photographs were reviewed and the 1939, 1955, 1955 (photo revised 1971), and 1996 historical topographic maps were reviewed.

For the Moosa 50K site 2006 aerial photographs were provided by PBS&J and historical topographic maps were provided by Geosearch of Ojai, California. The 1949 and 1968 historical topographic maps for the Bonsall Quadrangle were reviewed. The 1949, 1968, 1968 (photorevised 1982), 1968 (photorevised 1988), and the 1997 historical topographic maps for the Pala Quadrangle were reviewed. The 1949, 1968, 1968 (photorevised 1975), and 1996 historical topographic maps for the Valley Center Quadrangle were reviewed.

3.3.5 Survey Limitations

Access to the San Vicente 50K site near the dam portion was granted and accessed via dirt roadways. There were no restricted portions of the site. Inaccessible areas due to geographic constraints were encountered. The northern, southern, and eastern edges of the inundation area were not observed. The field reconnaissance was limited to areas observable from the roadways and walking paths.

The Moosa 50K site and surrounding areas were observed from paved and dirt public roadways. Several limitations were encountered due to private property, locked gates, and roadway constraints. The roadways that were accessed as a part of this site reconnaissance are depicted on Figure 8. Access to Cougar Pass Road to the west of Turner Lake, and a portion of the pipeline between Mirar De La Valle and Alps Way was not possible due to locked gates. Further, access to the central pipeline portion of the site from Old Castle Road through the valley to Turner Lake was not possible or practical due to a lack of roadways. In addition, access to the dam, pump station/water tank storage area, and equipment yard was not possible due to locked gates.

3.4 Affected Environment

3.4.1 Affected Environment Observed during Field Reconnaissance

Rincon Consultants performed a reconnaissance of the inundation area and downstream construction zone of the San Vicente 50K site on September 30, 2005. The following information is based on observations noted or information obtained during the site reconnaissance and our review of the completed questionnaire.

According to Mr. Manville, the downstream construction zone and inundation area to the south of the reservoir were in rural residential and agricultural land uses, and included the end of the line for a railroad serving eastern San Diego County prior to the construction of the San Vicente Dam in 1941. According to Mr. Manville, the primary use of the subject property is to support water impoundment via the San Vicente Dam and water related recreation activities. An operations yard is situated near the base of the dam and includes the administrative offices for the Lakes Recreation. A paved parking lot and public restrooms are located near the boat dock on the northwest portion of the subject property. During the site reconnaissance, Rincon did not observe above-ground tanks or evidence of underground storage tanks. Mr. Manville indicated on his questionnaire that there have been no above or below ground storage tanks on the property.

No hazardous substances were identified in connection with the San Vicente 50K site operations. No unidentified substance containers were observed in accessible portions of the subject property. No transformers or other indications of PCBs were observed on, or adjacent to the subject property.

Rincon Consultants performed a drive by reconnaissance of the Moosa 50K site on November 8, 2006. The following information is based on observations noted or information obtained during the site reconnaissance.

The Moosa 50K site was observed from public roadways that surround and intersect portions of the proposed inundation and pipeline areas. The proposed inundation and pipeline areas consist primarily of agricultural lands (avocado groves), scattered residential houses, and undeveloped land. Castle Creek Country Club was observed to the north of Old Castle Road and several commercial sites were located to the south of Old Castle Road near the intersection with Champagne Blvd. Greenhouses and agricultural farming were observed to the south of Betsworth Road. Several nurseries were observed along Old Castle Road, Sierra Roja Road, and to the west and south of Betsworth Road. Although not observed during the site visit, agricultural properties may store pesticides and fuel. In addition, automobile and equipment repair may take place at some of the agricultural properties. Turner Lake, the dam, and associated water storage/pump facilities that may utilize and store hazardous materials were observed. In addition, an equipment yard that had stockpiles of soil and asphalt, telephone poles, and other miscellaneous supplies used by the Valley Center Municipal Water District was observed to the south of Betsworth Road.

Utilities including water lines and overhead power lines were observed throughout the site. Associated with the power lines were numerous pole-mounted transformers that are present throughout the site. In addition, many private residences within the proposed inundation area were observed to have exterior propane storage tanks near the homes. During the site reconnaissance, Rincon did not observe above-ground tanks or evidence of underground storage tanks. In addition, septic tanks associated with the scattered residences are likely. A high tension power line was observed crossing the center portion of the site from north to south and the San Diego Aqueduct was observed at the intersection of Betsworth Road and Cougar Pass Road. Storage and application of pesticides and herbicides is anticipated to occur at many of the agricultural and nursery facilities.

The former Valley Center Landfill area to the west of Aerie Road was observed to be mostly vacant with several temporary structures and horse corrals upon it. Access to the landfill was limited due to locked gated entry points. Observations of the former landfill were from the public roadways to the north and east of the facility. Concrete drainage swales to convey water down the slope and two monitoring wells were observed. A large concrete enclosure with what appeared to be a vent pipe was observed in the southwest corner of the former landfill.

3.4.2 Affected Environment Observed during Review of Reported Hazardous Waste Sites for the San Vicente 50K Inundation and Construction Zone Area

The following table summarizes the listing summary of sites within one-mile of the inundation limits and downstream construction zone:

Track Info Listing Summary of Properties Within One-Mile of the San Vicente 50K Project Area

Site Name	Site Address	Estimated Distance from Project Area	Database Reference
SD City Water- San Vicente Lake	13500 Moreno Avenue	Site	PERMITS
Armor Products	12540 Vigilante Road	<1/8 mile S	PERMITS
Minshaw Brothers Land Co.	12578 Vigilante Road	1/8 to 1/4 mile SW	PERMITS
Eniss Materials	12421 Vigilante Road	1/8 to 1/4 mile S	PERMITS
Hanson Lakeside Quarry / Earthwise Industrial	12535 Vigilante Road	¼ to ½ mile SW	LUST, PERMITS
Cal-Mat Lakeside	12060 Highway 67	¼ to ½ mile S	LUST, PERMITS, RCRAGN, UST
Atlas Pumping	12740 Vigilante Road	¼ to ½ mile SW	PERMITS, RCRAGN
Chuck Green and Associates	12211 Highway 67	¼ to ½ mile SW	PERMITS
Clark Steel Fabricators, Inc.	12610 Vigilante Road	¼ to ½ mile SW	PERMITS
County Green Waste Recycling Facility	12243 Highway 67 and Vigilante Road	¼ to ½ mile SW	SWL

U.S. Disposal Services / Interstate VW Used Parts	12300 Highway 67	1/4 to ½ mile SW	LUST, PERMITS
Bob Turner's Crane Service, Inc.	12101 Highway 67	½ to 3/4 mile SW	PERMITS
Erreca Associates	12570 Slaughterhouse Road	3/4 to 1 mile W	LUST
Sparklett's Drinking Water Corp.	11811 Highway 67	¾ to 1 mile S	NFRAP
Barona Rancheria	No Address	>1 mile SE	TRIBALLAND

A total of 15 facilities with environmental listings were reported to be located within 1 mile of the San Vicente 50K site based on the broad search area used by the FirstSearch Report. Upon review of each of these facilities, only one (SD City Water-San Vicente Lake) appears to be located within the inundation area and downstream construction zone. The other facilities appear to be located to the southwest of the downstream dam construction zone however; none of the facilities appear to be adjacent to the site.

The one onsite facility known as the San Diego City Water- San Vicente Lake is located at 13500 Moreno Avenue. Files from the County of San Diego Department of Environmental Health (CSDDEH # H33432) indicated the permits were purged on November 11, 1995 and the site is no longer permitted. Because this specified site is no longer permitted, this site is not considered an environmental concern at this time.

Four facilities with environmental listings where an unauthorized release occurred were reported to be within a one-mile radius of the subject property. The Hanson Lakeside Quarry site located at 12535 Vigilante Road, the Calmat Co Lakeside site located at 12060 Highway 67, the U.S. Disposal Services / Interstate VW Used Parts facility located at 12300 Highway 67, and the Erreca Associates facility located at 12570 Slaughterhouse Road were all listed as LUST sites in the database.

The first facility reported in the LUST database is the Hanson Lakeside Quarry / Earthwise Industrial located at 12535 Vigilante Road (1/4 to ½ mile Southwest). According to the database report, a diesel fuel release was discovered at Hanson Lakeside Quarry on January 1, 2003. Reportedly, only soil was impacted and the case was closed on January 1, 2003. Due to the fact that only soil was impacted, case status (closed), and the distance from the subject property, this site is not expected to impact the subject property.

The second facility reported in the LUST database is the Calmat Co. Lakeside located at 12060 Highway 67 (1/4 to ½ mile South). Reportedly, Calmat Co Lakeside received a case closed status in October 1987. Due to the unknown nature of the release files maintained by the CSDDEH were reviewed. Files reviewed (CSDDEH # H02472) indicated on October 15, 1987 an AST failed a leak test and diesel fuel was released onto the soil. Only soil was impacted and the case was closed on December 14, 1987. Due to the case closed status, the fact that only soil was impacted and the distance from the subject property, this site is not considered an environmental concern at this time.

The third facility reported in the LUST database is the U.S. Disposal Services / Interstate VW Used Parts facility located at 12300 Highway 67 (1/4 to ½ mile Southwest). Reportedly, this facility had a release of diesel fuel that was discovered in August 1990.

No other information was provided. Further investigation was conducted using the County of San Diego Department of Environmental Health website and facility finder. This facility was listed as a complaint that occurred in August of 1990 and the case status was listed as "preliminary assessment." Additional research was conducted using the Geotracker website provided by the State Water Resources Control Board (SWRCB). This facility was not listed on the Geotracker website. Based the distance from downstream dam construction area, the nature of the case type "complaint," the lack of further detail/documentation regarding this release, and the lack of further case investigation, this site is not considered an environmental concern at this time.

The fourth facility reported in the LUST database is the Erreca Associates facility located at 12570 Slaughterhouse Road (3/4 to 1 mile West). This facility reportedly had a waste oil release due to a loose fitting. The release occurred in August 2004. The aquifer was reportedly affected. The release case was closed in August, 2004. Further review conducted on the Geotracker website maintained by the SWRCB also indicated that the case status of this facility is "closed." Due to the case closed status and the distance from the subject property, this site is not considered an environmental concern at this time.

While conducting additional research for the above four facilities an additional release case was noted in both the SWRCB Geotracker website and the DEH case listings. This facility is known as Asphalt, Inc. located at 12560 Highway 67 (3/4 to 1 mile West). The facility reportedly has three release cases H02233-001, -002, and -003. Release case -001 was reportedly soil only and was closed in January, 1999. Release case -002 occurred in October of 1995 and was a diesel fuel release that affected the drinking water aquifer. The case status is listed as open and "remedial action" is reportedly taking place. Release case -003 occurred in March, 1999 and was an unleaded gasoline release from a dispenser failure that reportedly affected the drinking water aquifer. The case status is listed as open and "remedial action" is reportedly taking place. No further details were provided. Based on the interpreted location of this facility down gradient of the downstream dam construction zone area, this facility is not considered an environmental concern at this time.

The County Green Waste Recycling Facility is listed on the SWL database as a solid waste landfill site. This facility is reportedly "planned" and will be operated as a composting operation for green waste. Due to the "planned" status of the facility, no reported releases, and the distance from the subject property, this site is not considered an environmental concern at this time.

Due to the distance from the subject property and the nature of the environmental listings, the remaining ten sites with environmental listings reported within a one-mile radius of the subject property would not be expected to impact the subject property.

3.4.3 Affected Environment Observed during Review of Reported Hazardous Materials Sites for the Moosa 50K Inundation and Pipeline Areas

The following table summarizes the listing of environmental database sites within the inundation and pipeline areas within a one-mile radius of the Site:

Track Info Listing Summary of Properties
Within One-Mile of the Moosa 50K Project Area

Site Name	Site Address	Estimated Distance From Project Area	Database
Betsworth 4 Bay	11580 Betsworth Road	Site	PERMITS
Valley Center SLF/Burnsite	28700 Aerie Road	Adjacent to the northeast of the site	PERMITS, SWL
Circle R. Ranch Trading Post	8751 Old Castle Road	Adjacent to pipeline portion of the site	LUST, PERMITS, UST
Janis Trucking	3850 Gopher Canyon Road	Adjacent to western end of the pipeline portion of the site	PERMITS
Castle Creek Country Club	8797 Circle R Drive	Adjacent to the N of the western pipeline portion of the site	LUST, PERMITS, UST
H/T Farms/McMillan Farm Management	27775 Cougar Pass Road	1/8 mile south of northeast pipeline portion of the site	PERMITS
Ernest J. Allen	12363 Betsworth Road	1/8 mile north of northeast pipeline portion of the site	UST
Walker Vice Nursery	11050 Mystery Mountain Road	1/8 to 1/4 mile N of pipeline portion of the site	PERMITS
Moosa Waste Water Treatment	8711 Circle R Road	1/8 to 1/4 mile N of pipeline portion of the site	PERMITS, UST
Wild Acres Ranch	1560 Wild Acres Road	1/8 mile N of the pipeline portion of the site	UST
Castle Creek Inn and Spa	29850 Circle K Way	1/4 to 1/2 mile N	PERMITS
Raymond Holdgrafter	10845 Mystery Mountain Road	1/4 to 1/2 mile NE of the site	PERMITS
Prudential Realty / Residence	30558 Alta Mesa Drive	1/4 to 1/2 mile N of the pipeline portion of the site	PERMITS
Stuck Flower Ranch, Inc.	11252 Rolling Hills Way	1/4 to 1/2 mile N of the pipeline portion of the site	LUST
Bonsall Sanitary Landfill	29000 Twin Oaks Valley Road	1/2 mile W of the pipeline portion of the site	SWL
J.R. Stanley Company	28957 Mountain Meadow Road	1 mile N of the pipeline portion of the site	RCRAGN

Meadow Lake Country Club	10333 E. Meadow Glen Way	1 mile SW of the site	LUST
Lilac Elementary School	30109 Lilac Road	1 mile N of the site	STATE

A total of 18 facilities with environmental listings were reported to be located in the vicinity of the Site based on the broad search area used by the FirstSearch Report. Upon review of each of these facilities, one facility (Betsworth 4 Bay) appears to be located within the inundation areas of the proposed Moosa 50K reservoir. Four of the facilities (Valley Center Landfill, Circle R Ranch Trading Post, Janis Trucking, and Castle Creek Country Club) are located adjacent to the inundation and associated pipeline areas. Four other facilities

The other thirteen facilities appear to be located in the vicinity of the Site.

The onsite facility is known as the Betsworth 4 Bay facility. It is located at 11580 Betsworth Road (within the proposed inundation area) and was listed in the PERMITS database. This facility produces used oil filter waste (100 pounds a year) and waste oil (825 gallons a year). The waste oil is stored in metal 55-gallon drums. One violation was reported in March 1999 for not amending the business plan in a timely fashion. In addition, a 2,000-gallon above ground storage tank used to store propane was reported at this facility. Due to the unknown storage conditions of the oil waste, a release that may have impacted the soil or groundwater at the site may have occurred.

The first adjacent facility is known as the Valley Center landfill. This facility is located at 28700 Aerie Road (adjacent to the northeast of the proposed inundation area) and was listed in the Solid Waste Landfill (SWL) database. Further information regarding this facility was provided from a summary of the Solid Waste Assessment Test (SWAT) at the Valley Center Landfill by the County of San Diego Department of Public Works conducted by the IT Corporation in 1991. The summary their findings were included in the Draft EIR/EIS 312452400 Section 10- Water Resources. The report indicated the following information regarding the Valley Center Landfill:

> *"The landfill site covers 42 acres and has a landfill area of 11 acres. The landfill received a total of approximately 130,000 tons of refuse. There is no record of the landfill having accepted chemical, hazardous, or toxic waste, septage, or infectious wastes. In general, waste disposal was limited to residential and commercial waste, primarily organic rubbish. The landfill site is currently used as an equestrian center and has no permanent structures onsite.*
>
> *From 1958 to 1969, the landfill was used as a rubbish-burning site, but no records exist that indicate the type and amount of waste handled during this time. From 1969 until it was closed, the landfill was operated as a solid waste disposal site suitable for receiving Class II and Class III wastes, including residential, agricultural, and commercial refuse, and non-decomposable inert solids. The landfill was closed on January 1, 1979.*
>
> *According to the SWAT report, the site is not currently producing any leachate, although the landfill is not equipped with a leachate collection system. Site*

geology is relatively uniform and the condition of the landfill appears to be stable. The landfill was constructed without a liner system. The landfill cover/cap consists of native decomposed granite with an average thickness of 3 feet. Other than the groundwater monitoring wells, no leak detection system has been installed.

Groundwater is present in a fractured rock aquifer below the landfill, and the groundwater flow is confined to fractures within the granitic rocks. Groundwater flow is to the south-southwest, parallel to the joints and toward Moosa Canyon. The general chemistry of the groundwater samples collected from four monitoring wells was comparable to that of stream samples. No volatile organic compounds were detected in any of the groundwater or surface water samples, although some elevated concentrations of metals were detected. There is a lack of dissolved volatile organic compounds in groundwater and surface water samples taken at the site, which suggests that gas migration has not affected the regional groundwater or surface water to date. The permeability of the natural decomposed granitic rocks constituting the landfill cover could allow substantial infiltration of precipitation into the landfill in the event that surface runoff is not properly conveyed. Surface water runoff from the adjacent area and minor runoff from the landfill cover are diverted to trenches and concrete lined drains and returned to the natural channels down gradient of the landfill. However, because the landfill is located in the upper portion of an ephemeral stream valley, the potential for surface water contamination exists.

During normal storage capacity and probably maximum flood (PMF) condition, the southwestern portion of the landfill would become inundated by the reservoir, allowing waste within the landfill to become saturated and contact the drinking water supply. Furthermore, a major storm event or an earthquake could jeopardize the stability of the landfill or the onsite surface water features. This could expose the landfill material, which could then enter the reservoir via wind or surface water transport."

The second facility located adjacent to the site is the Circle R. Ranch Trading Post located at 8751 Old Castle Road and is listed on the LUST, PERMITS, and UST databases. The LUST case is associated with a release of unleaded gasoline that occurred in December 1993 and impacted the aquifer. The case was closed in December 1993. This facility had several reported violations in 1990 and 1992; however all appeared to be administrative in nature. In addition, this facility has a 500-gallon above ground storage tank used to store propane. This facility also has an animal clinic. The animal clinic stores and disposes of general infectious wastes. Several violations were reported in 1990 and 1999; however all were administrative in nature. This facility was also listed on the registered underground storage tank database which indicated that two 2,000-gallon USTs were located at the site but were subsequently removed. Contaminated soil and/or groundwater from this release may impact the pipeline area of the site.

A third facility located adjacent to the site along the pipeline area following Gopher Canyon Road is known as the Janis Trucking facility located at 3850 Gopher Canyon Road. This facility is listed on the PERMITS database as an inactive facility that formerly generated 220 gallons a year of waste oil and mixed oil. Groundwater and soil at the site does not appear to be impacted.

The fourth facility that is located adjacent to the north of the pipeline portion of the site is the Castle Creek Country Club located at 8797 Circle R Drive and was listed in the LUST, PERMITS, and UST databases. This facility had a diesel release that affected soil only. The case was closed in May, 1990. This facility also has one 500-gallon above ground gasoline tank and formerly had two 550-gallon diesel underground storage tanks. The location of the release was likely to have been in the maintenance area of the facility that was observed to the south of Circle R Drive and greater than ¼ mile to the north of Old Castle Road. Further, this facility generates 165-gallons a year of waste oil and mixed oil, 50-gallons of hydrocarbons solvents per year, 150 pounds of used oil filters per year, and 30-gallons of unspecified organic liquid mixture per year. Several violations from 1998, 1999, and 2000 were reported; however all appeared to be administrative in nature. Based on the distance from the interpreted release location to the pipeline area, medium affected (soil), and the nature of the violations, soil in the pipeline area of the site does not appear to be impacted.

Two other facilities (Stuck Flower Ranch and Meadow Lake Country Club) were listed in the LUST database. Both facilities have a reported case closed status and are located greater than ¼ mile from the subject site. The Stuck Flower Ranch release did not indicate whether soil, groundwater or both were impacted. The Meadow Lake Country Club release only impacted soil. Based on the case status (closed) and distances from the subject property (greater than ¼ mile), these facilities do not appear to have impacted the inundation or pipeline areas.

Due to the distance from the subject property and the nature of the environmental listings, the remaining twelve sites with reported environmental listings do not appear to have a release to the soil or groundwater that may have impacted the inundation or pipeline areas.

During the investigation of the above facilities, Rincon personnel reviewed the GeoTracker website maintained by the State Water Resources Control Board that provides details regarding releases. The website indicated that two additional facilities with open groundwater-impacted LUST cases in the vicinity and to the east of the proposed inundation and pipeline areas were present. The Valley Center Oil Corp. facility located 28010 Valley Center Road has two reported "open" release cases. This facility is located ½ to ¾ mile from the site. The second facility is the Apro 17 facility located at 27406 Valley Center Road that has one reported "open" release case. This facility is located over 1 mile to the east of the site. These two facilities are located cross gradient to the subject site and within ½ mile of a blue-line stream Moosa Creek that leads to Turner Lake (inundation area). Based on the distance from the subject property, groundwater and soil at the site does not appear to be impacted.

3.4.4 Affected Environment Observed during Review of Historical Land Uses for the San Vicente 50K Reservoir

Review of Historic Aerial Photographs

Copies of aerial photographs were provided by Geosearch of Ojai, California and reviewed on October 24, 2006. A brief summary of each aerial photograph is provided below:

- ***1953 - (ASCA-USDA, 1" = 1800')*** – Two photographs were necessary to capture the entire subject property. The San Vicente Dam is present however inundation levels appear to be lower than the current level. Several small structures are depicted on the subject property to the southwest of the dam area in the downstream construction zone. A roadway along the southwest portion of the downstream construction zone was noted. In addition a roadway along the northwest perimeter of the reservoir was noted. Surrounding properties are depicted as undeveloped land.

- ***1963 - (Cartwright aerial surveys, 1" = 1800')*** – Four photographs were necessary to capture the entire subject property. The San Vicente Dam and inundation area appears to be filled with more water than the previous photograph. The roadways along the northwestern portion and southwest portion of the site are still present. Increased disturbed land is noted to the south of the Dam and a small structure is present. The area around the current boat launch area appears to be developed and a roadway along the western side of reservoir is noted. Surrounding properties are depicted as undeveloped land.

- ***1974 - (Aerial Map Industries, 1" = 1800')*** – Two photographs were necessary to capture the entire subject property. The site is depicted similar to the 1963 aerial photograph with the exception of an improved road leading to the boat launch area which appears developed with a parking lot area. In addition, several small structures appear adjacent to the south of the San Vicente Reservoir. Mining operations to the southwest were observed. The surrounding properties are depicted similar to the 1963 aerial photograph.

- ***1980 - (Aerial Map Industries, 1" = 1800')*** – Four photographs were necessary to capture the entire subject property. The site and surrounding properties are depicted similar to the 1974 aerial photograph with the exception of the dock area appearing to be under construction. The mining operations to the southwest have a larger area of disturbance. Increase development to the south of the downstream construction zone is noted. The surrounding properties to the west, north, and east are depicted as undeveloped land.

- ***1990 - (Aerial Map Industries, 1" = 1800')*** – Two photographs were necessary to capture the entire subject property. The site is depicted similar to the 1980 aerial photograph with the exception of greater surface mining occurring to the southwest of the downstream construction zone. An area of increased disturbance

is noted to the northwest of the dock area. The surrounding properties are depicted similar to the 1980 aerial photograph with the exception of industrial buildings appearing adjacent to Highway 67 and agriculture appearing to the southeast of Moreno Avenue.

- **1991**- ***(Aerial Map Industries, 1"= 1800')***- The photograph only covers the northeast portion of the subject site. The area and site vicinity appear similar to the 1990 photograph with the exception of increased residential development to the southeast of the subject site.

- ***1996 – (USGS, 1' = 1800')*** –The site and surrounding properties are depicted similar to the 1991 aerial photograph.

- ***2002 – (USGS, 1' = 1800')*** – Two photographs were necessary to capture the entire subject property. The site and surrounding properties are depicted similar to the 1996 aerial photograph with the exception of increased mining activities to the southwest of the subject property, appearance of industrial activities southeast of Moreno Avenue, and increased industrial activity on the surrounding properties, adjacent to Vigilante Road and Highway 67.

Review of Historic Topographic Maps

Historic topographic maps were ordered from Geosearch and reviewed on October 24, 2006. The following is a summary of our review of these maps.

- ***1939 USGS Topographic Quadrangle Map – El Cajon, CA (Scale 1:62,500)*** – The subject property is depicted as undeveloped land with the exception of seven structures depicted along the valley floor and near the present day San Vicente Dam. A roadway was depicted running from the north east to the southwest through the bottom of the valley. The surrounding properties are depicted as undeveloped land.

- ***1955 USGS Topographic Quadrangle Map – San Vicente Reservoir, CA (Scale 1:24,000)*** – A portion of the northern section of the subject property is not depicted on this map. A pipeline is depicted on the southwestern portion of the site and is interpreted to be a part of the San Diego Aqueduct system. In addition, a roadway and resort area are labeled in the northeast portion of the site however, no structures were depicted. The site and surrounding properties are depicted similar to the 1939 map with the exception of the appearance of the San Vicente Dam on the subject property and the area is inundated to approximately 650 feet above mean sea level.

- ***1955 photo-revised in 1971 USGS Topographic Quadrangle Map – San Vicente Reservoir, CA (Scale 1:24,000)*** – A portion of the northern section of the subject property is not depicted on this map. A rock quarry pit and several roads are depicted to the south of the inundated area. The site and surrounding properties are depicted similar to the 1955 map.

- ***1996 USGS Topographic Quadrangle Map – San Vicente Reservoir, CA (Scale 1:24,000)*** – A portion of the northern section of the subject property is not depicted on this map. The site is depicted similar to the 1955 photo-revised 1971 map with the exception of a boat ramp and several structures appearing on the southwest portion of the property. The quarry pit to the southwest of the property appears to cover a larger area than in the 1955 (photo revised 1971) map.

3.4.5 Affected Environment Observed during Review of Historical Land Uses for the Moosa 50K Reservoir

Review of Aerial Photographs

Copies of the 2006 aerial photographs were provided by PBS&J and were reviewed on October 31, 2006. Due to the large area of proposed site impact the aerial photographs were conveyed in a series of maps that showed the proposed inundation and pipeline areas of the Moosa 50K reservoir.

- ***Area A*** – This photograph depicts the western pipeline area along Gopher Canyon Road west of I-15 and extends across the Highway to Champagne Blvd. where the pipeline trends south until it turns east along Old Castle Road. Agriculture groves and scattered residences were noted adjacent to the pipeline area along Gopher Canyon Road. Castle Creek Country Club is noted to the north of the pipeline along Old Castle Road and several homes and businesses were observed to the south of Old Castle Road.

- ***Area B***– This photograph depicts the pipeline as it extends east along Old Castle Road. The area along the western portion of this photograph shows Castle Creek Country Club and golf course to the north as well as single family residential homes. To the south of Old Castle Road are several residences. The middle and eastern portions of this photograph shows undeveloped land to the north and scattered residences with large lots to the south of Old Castle Road.

- ***Area C*** – The northern portion of this photograph shows the pipeline extending east along Old Castle Road. Properties to the north are mostly undeveloped and properties to the south have scattered residential development. The central portion of the photograph depicts the area of Moosa Creek and a portion of the inundation area that leads to the main reservoir area. Land in this area consists of several structures and several areas of agriculture. The majority of the land is undeveloped. The southeastern portion of this photograph depicts the northwestern portion of the proposed reservoir. This area has agricultural fields, residences, and several roadways including Sierra Roja Road and Wilkes Road.

- ***Area D*** – This photograph shows the southwest portion of the inundation area including the existing Turner Lake and dam. Roadways including Betsworth Road and Cougar Pass Road are shown within the proposed inundation area. Several residences as well as Valley Center Municipal Water District Storage Tanks are depicted to the north of Betsworth Road. In addition, agriculture is

noted north of Betsworth Road and east of Cougar Pass Road. A large disturbed area with open excavations and several stockpiles is noted to the south of Betsworth Road and north of Turner Lake.

- ***Area E*** – This photograph shows the eastern portion of the proposed inundation area and pipelines along Aerie Road and Sierra Rojo Road. The pipeline areas have scattered residences and agriculture properties adjacent to them. The inundation area shows Betsworth Road and has scattered residences and agricultural areas. To the northeast of the inundation area to the west of the intersection of Aerie Road and Wilmington Avenue is a large non-vegetated disturbed area that appears to be the Valley Center landfill.

- ***Area F-*** This area depicts the southeastern portion of the inundation area and also shows Turner Lake. This area consists of agricultural fields, agricultural greenhouses, open fields, and scattered residences.

- ***Area G*** –This photograph shows the extreme southwest portions of the pipeline and inundation area. The pipeline along Cougar Pass Road is depicted and several other inundation areas are shown. Several of these areas show agricultural activities and residences.

<u>Review of Historic Topographic Maps</u>

Historic topographic maps were ordered from Geosearch and reviewed on October 31, 2006. The following is a summary of our review of these maps.

- ***1949 USGS Topographic Quadrangle Map – Bonsall, CA (Scale 1:24,000)*** – The northwest portion of the pipeline area along Gopher Canyon Road is depicted as an improved roadway with one structure depicted to the north of the roadway near Highway 395. Circle R Ranch is noted to the north of the subject property and has four structures depicted. A meandering blue-line stream is observed trending through the area titled Moosa Canyon. The surrounding properties are depicted as undeveloped land.

- ***1949 USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted as an improved roadway with two structures in the area of the present day Pamosa Road. The road appears to be in a slightly different location than the present roadway and has several structures along it. The San Diego Aqueduct is depicted trending north to south and crossing the northeast pipeline portion of the site crossing Old Castle Road to the west of Rolling Hills Drive. The surrounding properties are depicted as undeveloped land.

- ***1949 USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted and three structures are depicted along the future Pamosa Road in the northern portion of the Site. An unimproved roadway that will become Betsworth Road is

noted crossing the site from west to east. A meandering blue-line east-west trending stream is observed through the central portion of inundation/pipeline area (Moosa Canyon). Six structures are depicted within the inundation limits around the future location of Turner Lake. The San Diego Aqueduct is depicted crossing the site in the area of Wilkes Road and through the valley to the north of the future Turner Lake. The surrounding properties are depicted as undeveloped land.

- ***1968 USGS Topographic Quadrangle Map – Bonsall, CA (Scale 1:24,000)*** – The northwest portion of the subject property along Gopher Canyon Road and New Castle Road are depicted as improved roadways. Circle R Ranch is noted to the north of the subject property and the golf course is depicted. Scattered residential structures are noted along the roadways. The Second San Diego Aqueduct is depicted along the western pipeline boundary crossing Gopher Canyon Road. A meandering blue-line east-west trending stream is observed through the central portion of inundation/pipeline area (Moosa Canyon). The surrounding properties are depicted as undeveloped land.

- ***1968 USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted as an improved roadway with scattered residential structures in the vicinity. The road appears to be in its present location. The San Diego Aqueduct is depicted trending north to south and crossing Old Castle Road and the northeast pipeline portion of the site. More scattered structures are present in comparison to the 1949 historical topographic map. The landing strip is depicted north of Old Castle Road. The surrounding properties are depicted as undeveloped land.

- ***1968 USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted. In the northern portion of the area, the Old Castle Ranch is depicted with several structures in the nearby vicinity. In the central portion of the site, Betsworth Road is depicted as an improved road crossing the site from west to east. Aerie Road is depicted trending to the north from Betsworth Road. Two pumping stations and a water tank are depicted northwest of Betsworth Road. The San Diego Aqueduct is depicted crossing Betsworth Road to the west of Turner Lake. Scattered residences were observed in the vicinity of inundation area and pipelines. The surrounding properties are depicted as undeveloped land.

- ***1968 (Photo Revised 1975) USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted and appear similar to the 1968 topographic map with several exceptions. Turner Lake is now visible to the south of Betsworth Road and Betsworth Road is improved leading to the pumping stations and water tanks to the north of the roadway. Several additional residential structures are depicted in the areas surrounding the site.

- ***1968 (Photo Revised 1982) USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted similar to the 1968 topographic map with the exception of more scattered residential structures in the vicinity of Old Castle Road. The surrounding properties are depicted as undeveloped land.

- ***1968 (Photo Revised 1988) USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is depicted similar to the 1968 (Photo Revised 1982) topographic map with the exception of more scattered residential structures to the south and north of Old Castle Road.

- ***1996 USGS Topographic Quadrangle Map – Valley Center, CA (Scale 1:24,000)*** – The central and southern portions of the subject property are depicted. Increased residential development including paved and dirt roadways as well as increased residential structures are noted to the north and south of Betsworth Road. Surrounding areas have increased scattered residential development but are mostly depicted as undeveloped land.

- ***1997 USGS Topographic Quadrangle Map – Pala, CA (Scale 1:24,000)*** – The northern portion of the subject property along Old Castle Road is shown. A circular track and several agricultural greenhouses are depicted south of Castle Ridge Road and Old Castle Road. Additional development including streets and residences north and south of Old Castle Road (northeast portion of the site and east of the Landing Strip) are depicted. The surrounding properties in the Moosa Canyon area are depicted as undeveloped land.

3.5 Thresholds of Significance

Thresholds used to evaluate potential public safety impacts are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387) Appendix G; the ESP EIR/EIS; and the RWFMP PEIR. This impact would be significant if the research and field reconnaissance indicates that hazardous materials posing a threat to human health or environment could be present in the inundation limits and downstream dam construction zone of the San Vicente reservoir and proposed inundation and pipeline areas of the Moosa Reservoir. A significant public safety impact would occur if the proposed action would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65965.5 and, as a result, would create a significant hazard to the public or the environment.

3.6 Environmental Consequences

3.6.1 Field Reconnaissance

Based on the field reconnaissance conducted at the San Vicente site, no current site operations or uses indicated the use, storage, or disposal of hazardous materials. No significant impact was found based on the field reconnaissance performed at the San Vicente site.

Based on the field reconnaissance conducted at the Moosa site, potential significant impacts (the storage, use, or disposal of hazardous materials) were found. The following potential impacts were identified:

A: Scattered Residences

Propane Above-ground Storage Tanks (ASTs)- Propane ASTs near many of the scattered residences were observed within the proposed inundation area.

Septic systems- There are possible septic systems associated with the scattered residences within the proposed inundation area. The septic systems could impact the water quality of the reservoir.

Transformers- Electrical transformers associated with power transmission lines were observed on several utility poles within the proposed inundation area. These transformers may have PCBs or other electric fluid associated with them and could impact the water quality of the reservoir.

B: Agricultural Activities

Pesticides and herbicides- There is the potential for the storage and use of pesticides and herbicides in conjunction with the agricultural operations (including farms, orchards, and nurseries) observed within the proposed inundation area. The pesticides and herbicides may impact the soil within the proposed inundation area.

Fuel tanks- There is the potential for above- or below-ground fuel storage tanks used to fuel farm equipment in conjunction with agricultural operations. The fuel tanks and potential leaking of petroleum hydrocarbons from these tanks may impact the soil or groundwater within the proposed inundation area.

Auto and equipment repair- There is the potential that repairs of automobile and farm equipment may take place in several areas at each of the farms. The repair areas may impact the soil within the proposed inundation area with petroleum hydrocarbons and other contaminants.

Equipment Storage Yards- There is the potential for metals and petroleum hydrocarbon contaminated soils within the proposed inundation area in association with the storage of vehicles and equipment.

Smudge Pots- There is the potential for the presence of smudge pots used to heat the trees to prevent frost within the orchard areas of the proposed inundation area. These smudge pots may impact the soil and groundwater due to unreported releases of petroleum hydrocarbons.

Wind Machines- Wind machines were observed in several areas of the orchards within the proposed inundation area of the site. These wind machines may be powered by gasoline or propane and may have small storage tanks associated with them. These tanks may have had a release that impacted the soil or groundwater within the proposed inundation area.

Greenhouses- Several greenhouses were observed within the proposed inundation area. They have the potential to store and use pesticides and herbicides. These activities could impact the soil from irrigation runoff containing high concentrations of pesticides and herbicides.

The potential impacts listed above are presently unknown. For the purpose of this evaluation we have assumed that hazardous materials exist. The presence of hazardous materials in association with the scattered residences and agricultural activities are significant but mitigable impacts.

3.6.2 Review of Reported Hazardous Materials Sites

Hazardous materials do not appear to be present within the San Vicente 50K reservoir inundation limits and downstream dam construction zone. Although some sites of possible contamination were identified in the research by FirstSearch (2006), none of these sites were found to be a threat to human health and safety and the environment. This impact would not be significant for the San Vicente site.

Based on the review of reported hazardous materials sites, three facilities (Betsworth 4 Bay, Valley Center Landfill, and Circle R Ranch) were found to have had a release or have the potential for a release that may impact the soil and groundwater in the vicinity of Moosa 50K inundation and pipeline areas.

C: **Betsworth 4 Bay (11580 Betsworth Road)**- This facility is listed in the PERMITS database and reportedly stores propane and motor oil and generates used oil filters and waste oil. The propane tank and waste oil could impact the water quality of the reservoir if they are not removed prior to dam inundation.

D: **Valley Center Landfill (28700 Aerie Road)**- This facility is a former solid waste landfill and burn site for municipal waste. The former landfill could produce leachate with hazardous concentrations that could impact water quality of the reservoir if the landfill area is inundated.

E: **Circle R Ranch Trading Post (8751 Old Castle Road)-** This facility has a reported LUST case that impacted the groundwater. This release case is closed, however, groundwater and soil adjacent to this site may have been impacted. The soil and groundwater within the pipeline portion of the site may have been impacted from this reported release.

F: **Other Adjacent Facilities-** Two facilities (Janis Trucking and Castle Creek Country Club) that are adjacent to the project area reportedly store, use, and dispose of hazardous materials. The Castle Creek Country Club facility also has a reported release. These facilities may have impacted the soil or groundwater within the proposed inundation area.

The potential impacts to the soil and groundwater may be significant but mitigable.

3.6.3 Review of Historical Land Uses

Based on the review of historical land use for the San Vicente site, no historic site or hydraulically up-gradient site vicinity land uses indicated the use, storage, or disposal of hazardous materials that could impact the water quality of the San Vicente 50K reservoir inundation limits and downstream dam construction zone. No significant impact was found based on the review of the historical land uses.

Based on the review of historical land use, former and present agricultural activities could impact the water quality of the Moosa 50K reservoir inundation limits and pipeline areas. As discussed above, there is a potential for agricultural chemicals to be present onsite in soils located within the inundation area. The potential soil contamination would be a significant but mitigable impact.

3.7 Mitigation Measures

No impacts of the San Vicente site were identified during the field reconnaissance, review of hazardous waste sites, or review of historical land uses portions of this assessment; therefore no mitigation measures are needed.

Based on the observed residential structures and agricultural activities currently conducted within the proposed inundation limits and pipeline areas of the proposed Moosa 50K reservoir the following mitigation measures should be conducted:

A: **Scattered Residences**

- Identify all residences and utility poles with transformers within the proposed inundation and pipeline areas. Identify and remove all propane storage tanks and septic tanks associated with the private residences. Identify and remove (or relocate) all pole-mounted transformers and utility poles that are within the proposed inundation area.

C. Agricultural Activities

- Conduct a site reconnaissance at each farming and nursery facility within the proposed inundation area to assess the presence of fuel tanks, auto equipment repair areas, equipment storage areas, smudge pots, wind machines, greenhouses, and the storage and use of pesticides and herbicides.

- Conduct soil sampling as necessary at facilities that are potentially contaminated. Analyze samples to determine if contaminants have impacted the soils in the proposed inundation and pipeline areas.

- If the analysis indicates that soils or groundwater have been contaminated, implement appropriate remedial action plans prior to construction of the dam and inundation of the area.

3.7.1 Mitigation Measures for Impacts Identified during Review of Reported Hazardous Materials Sites

Based on the reported hazardous materials sites within the proposed inundation limits and pipeline areas of the proposed Moosa 50K reservoir the following mitigation measures should be conducted:

C: Betsworth 4 Bay (11580 Betsworth Road)

- Review County of San Diego regulatory agency files to gain further information regarding this facility.

- Perform a site visit to ascertain the potential for a release or other impact to the soil and groundwater of the site.

- If necessary, conduct soil and groundwater sampling to determine the areas and concentrations of a potential release.

- If necessary, implement an appropriate remedial action plan prior to construction of the dam and inundation of the area.

D: Valley Center Landfill (28700 Aerie Road)

- Request County of San Diego regulatory agency files and review them (if available) to find out the most recent ground water monitoring data and additional information regarding the former landfill.

- Perform excavation and removal of all landfill material and contaminated soils from the landfill area. Confirm the complete excavation of impacted material through confirmation sampling of the soil and groundwater. As an alternative to removing the

landfill, construct an impermeable dam or other barrier between the inundation area and the former landfill area. This dam or wall is intended to prevent the inundation of the landfill area and migration of leachate or other potentially hazardous materials from migrating into the water of the proposed reservoir.

E: Circle R Ranch Trading Post (8751 Old Castle Road)

- Request County of San Diego regulatory agency files and review them (if available) to gain further information regarding this facility and the reported release.
- Perform a site visit to ascertain the release location and the potential impact to the pipeline area of the site.
- If necessary, conduct soil and groundwater sampling in the area of the pipeline to determine if the release has impacted the soil that will be excavated as a part of the pipeline construction.
- If necessary, implement an appropriate remedial action plan prior to construction of the pipeline.

F: Other Adjacent Facilities (Janis Trucking, and Castle Creek Country Club)

- Review County of San Diego regulatory agency files to gain further information regarding these facilities and the reported release.
- If necessary, conduct monitoring of soils for contamination during dam construction activities on the adjacent inundation and pipeline areas.

3.7.2 Mitigation Measures for Impacts Identified during Review of Historical Land Uses

As identified in section *2.7.2 Mitigation Measures for Impacts Identified during Review of Reported Hazardous Waste Sites, Section A: Scattered Residences,* identify and remove all residences and associate propane tanks and septic tanks.

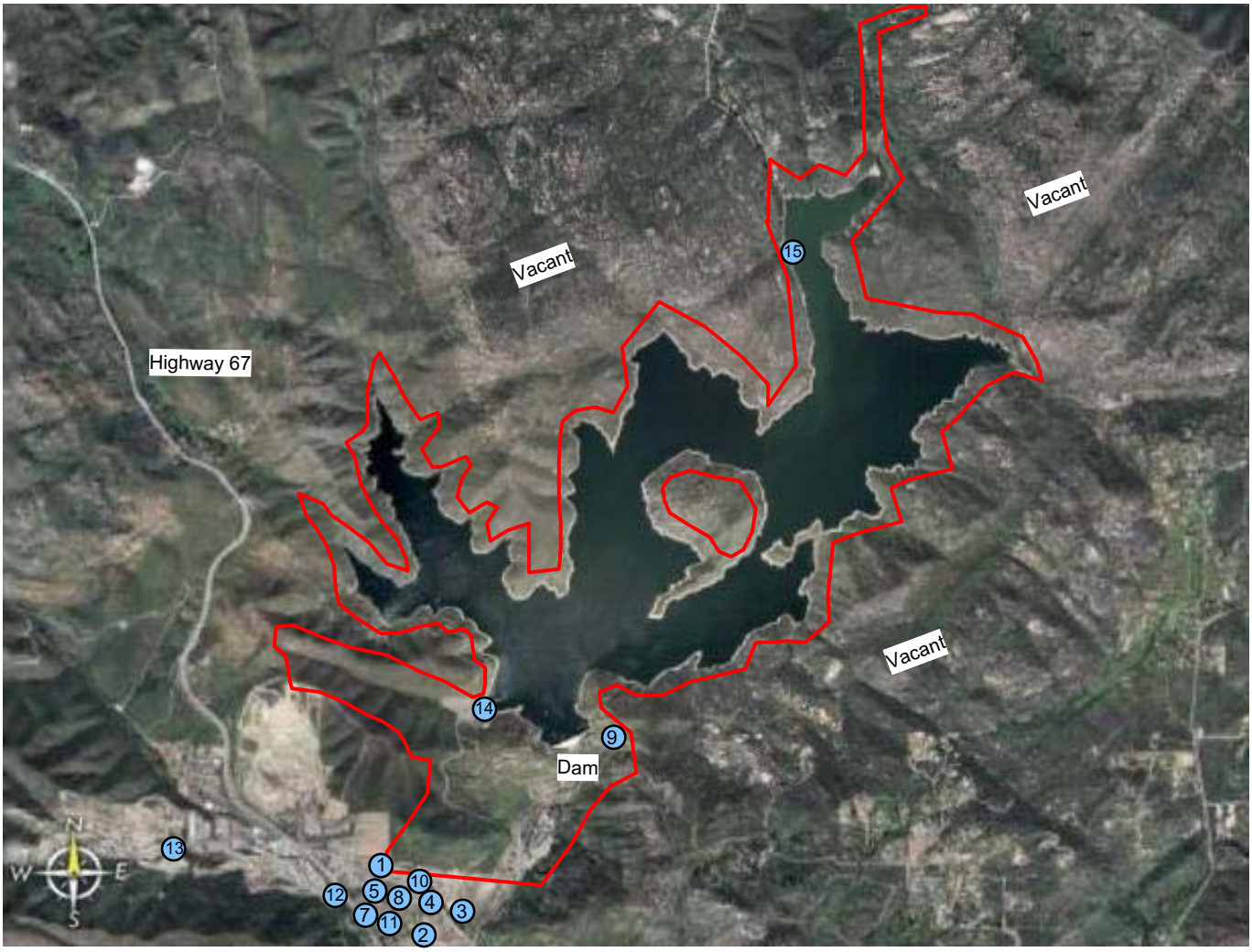
As identified in section *2.7.2 Mitigation Measures for Impacts Identified during Review of Reported Hazardous Waste Sites, Section B: Agricultural Sites,* review of County of San Diego DEH files, site visits, soil sampling (as necessary), and remediation activities (as necessary) should be conducted to mitigate the potential impacts of pesticide and herbicide contaminated soil.

3.8 Residual Impacts after Mitigation

Implementation of the above mitigation measures would be extensive and expensive to complete. The mitigation measures are necessary to mitigate all impacts to below a level of significance. If fully implemented no residual impacts would occur.

3.9 Cumulative Impacts

Implementation of the above measures would mitigate all impacts to below a level of significance; therefore, no cumulative impacts would occur.



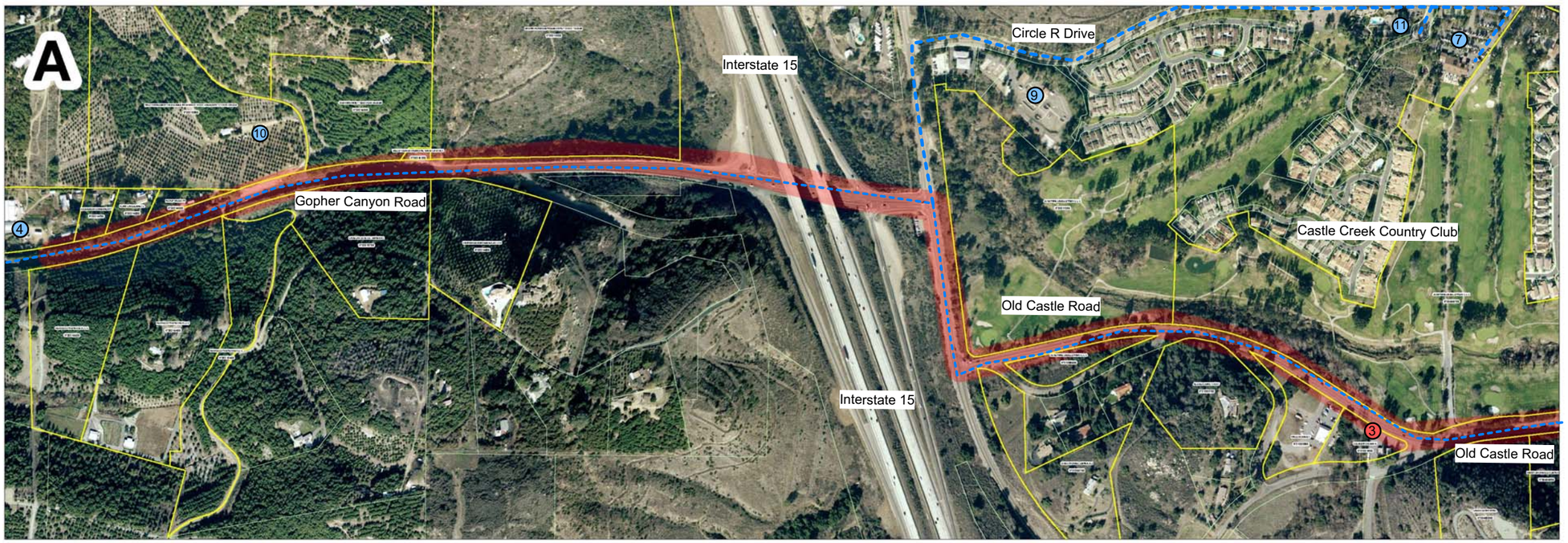
Approximate 766' Inundation Limit and Downstream Dam Construction Zone

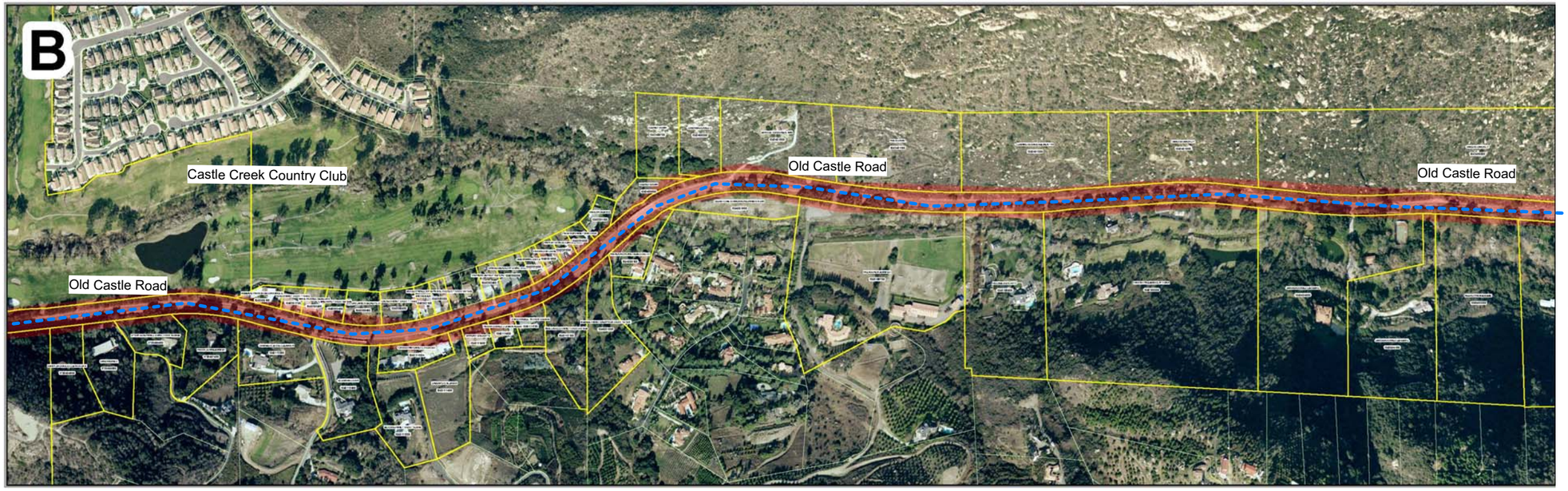
1. Hanson Lakeside Quarry / Earthwise Industrial (12535 Vigilante Road)
2. Cal-Mat Lakeside (12060 Highway 67)
3. Enniss Materials (12421 Vigilante Road)
4. Armor Products (12540 Vigilante Road)
5. Atlas Pumping, Inc. (12740 Vigilante Road)
6. Bob Turner Crane Service (12101 Highway 67)
7. Chuck Green and Associate, Inc. (12211 Highway 67)
8. Minshaw Brothers Land Co. (12578 Vigilante Road)
9. SD City Water- San Vicente Lake (13500 Moreno Ave.)
10. Clark Steel Fabricators (12610 Vigilante Rd.)
11. County Greenwaste Recycling (12243 Highway 67)
12. Interstate VW Used Parts (12300 Highway 67)
13. Erreca Associates (12570 Slaughterhouse Road)
14. Boat Launch Area and Restrooms
15. Former area labeled "Resort Area"

NORTH

Site and Adjacent Land Use Map

Figure 1





Moosa Survey Area

Parcels Intersecting Moosa Survey Area

Surrounding Parcels

Rincon Site Reconnaissance Access

3 Circle R Ranch (8751 Old Castle Road)

4 Janis Trucking (3850 Gopher Canyon Road)

7 Castle Creek Country Club (8797 Circle R Drive)

9 Moosa Waste Water Treatment (8711 Circle R Drive)

10 Wild Acres Ranch (1560 Wild Acres Road)

11 Castle Creek Inn and Spa (29850 Circle K Way)

Indicates a facility that may impact the soil and groundwater at the site

Indicates a listed facility that is not expected to impact the soil and groundwater at the site

NORTH

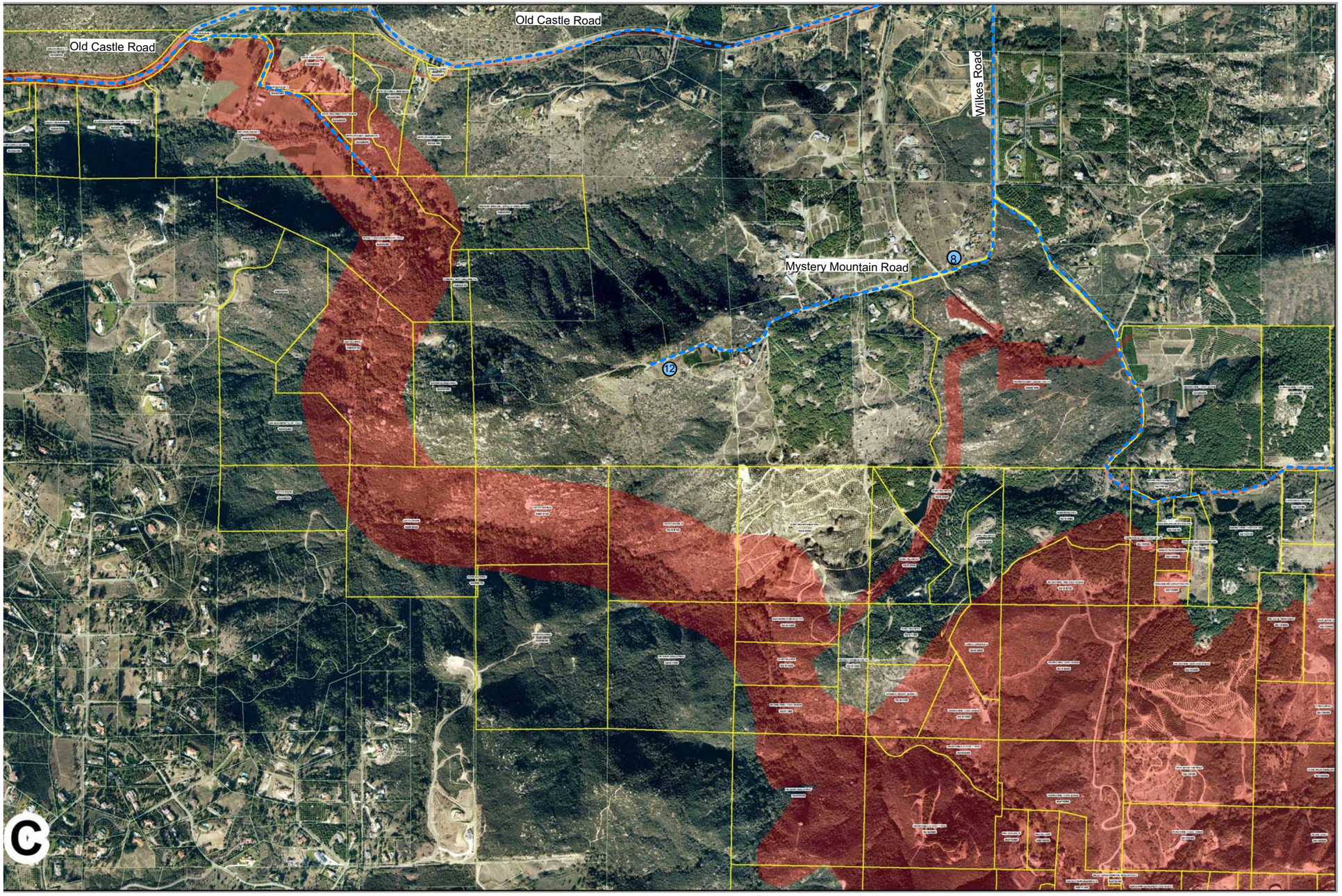
0 600 1,200

approximate scale in feet

Areas A and B
Moosa 100K Inundation Area

Moosa Reservior
Valley Center, California

Figure 2



Moosa Survey Area

Parcels Intersecting Moosa Survey Area

Surrounding Parcels

Rincon Site Reconnaissance Access

8 Walker Vice Nursery (11050 Mystery Mountain Road)

12 Raymond Holdgrafter (10845 Mystery Mountain Rd.)

Indicates a listed facility that is not expected to impact the soil and groundwater at the site

NORTH

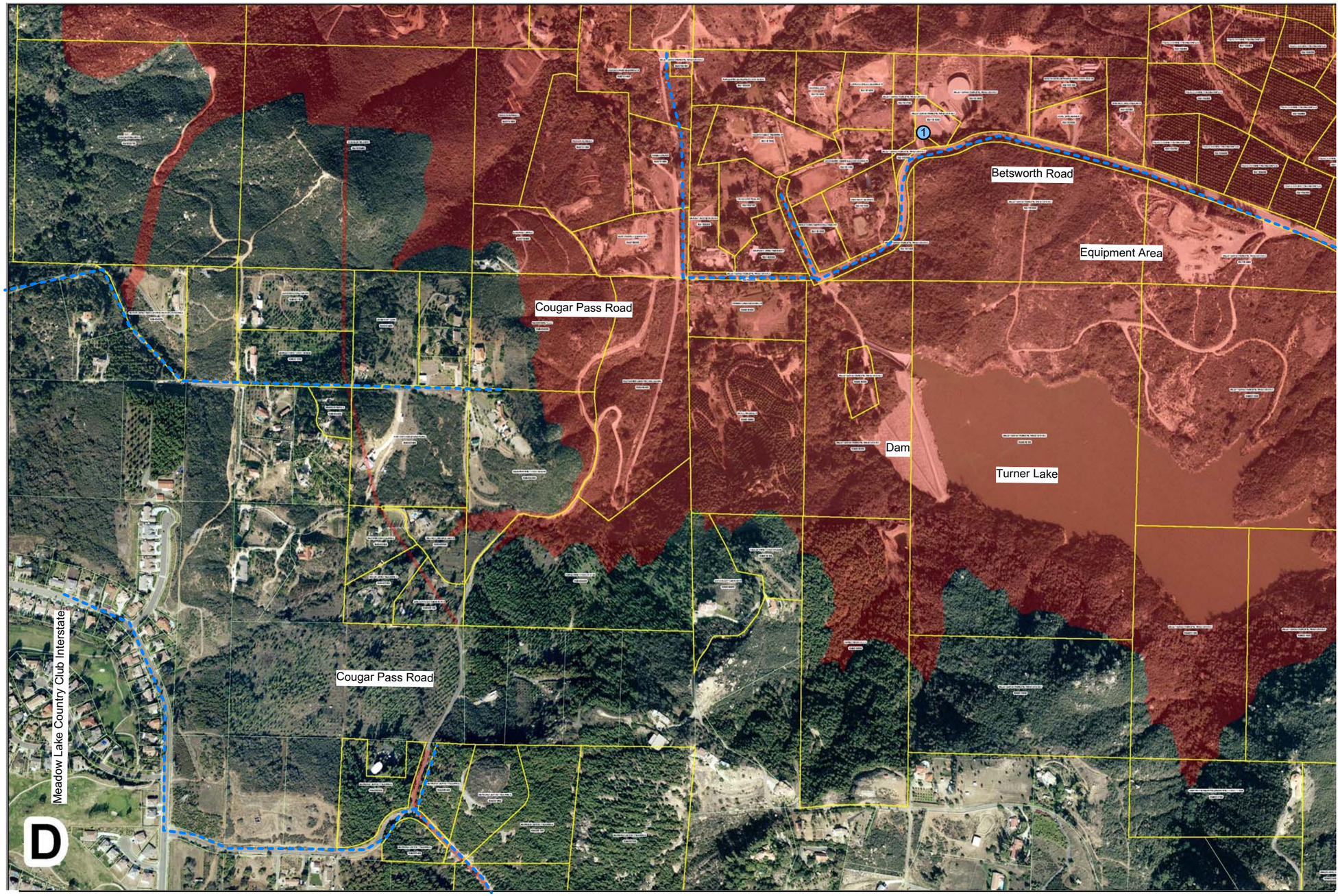
0 1,000 2,000

approximate scale in feet

Area C
Moosa 100K Inundation Area

Moosa Reservior
Valley Center, California

Figure 3



Moosa Survey Area

Parcels Intersecting Moosa Survey Area

Surrounding Parcels

Rincon Site Reconnaissance Access

1 Betsworth 4 Bay (11580 Betsworth Road)

Indicates a listed facility that is not expected to impact the soil and groundwater at the site

NORTH

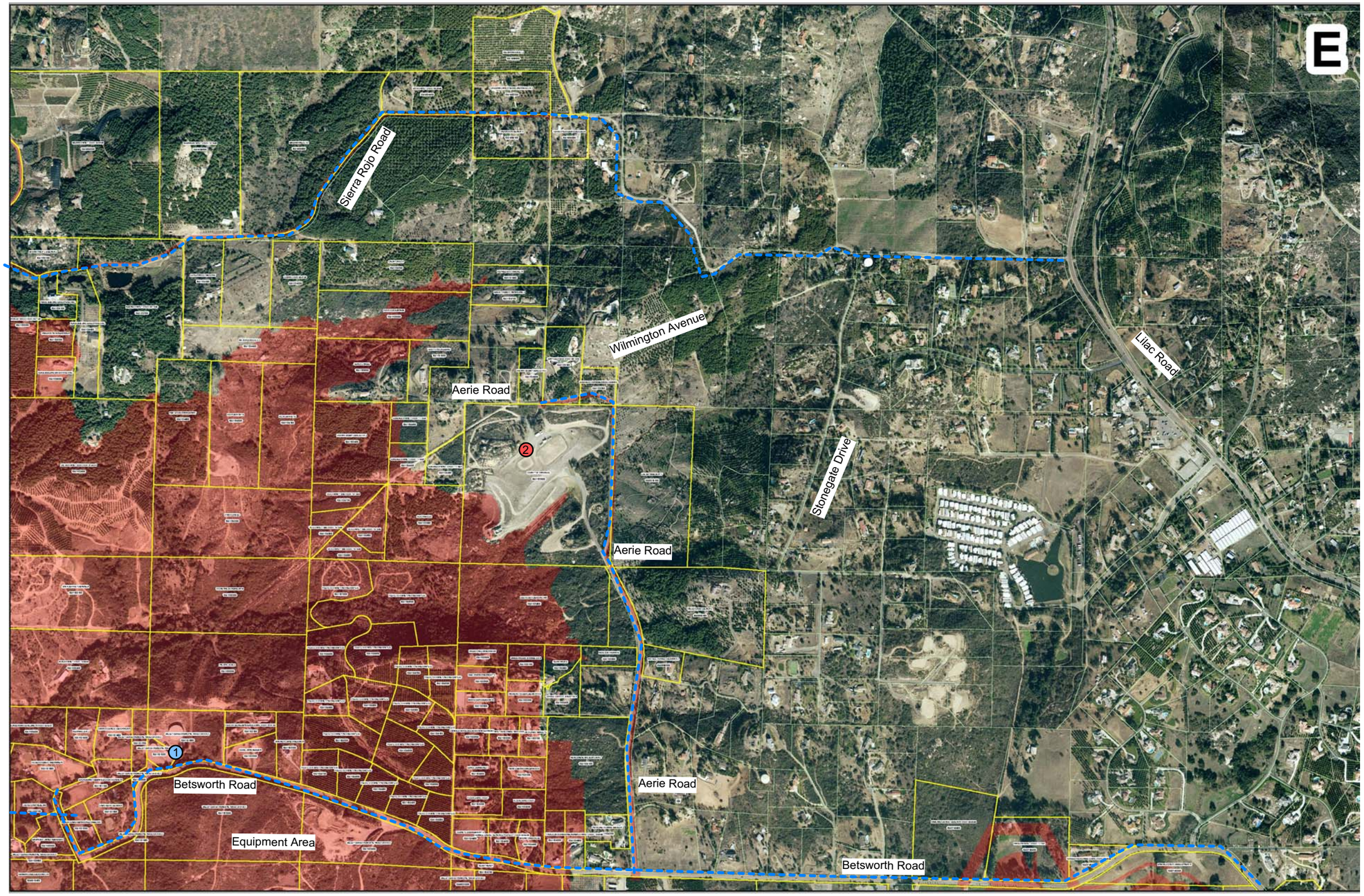
0 600 1,200

approximate scale in feet

Area D
Moosa 100K Inundation Area

Moosa Reservior
Valley Center, California

Figure 4



Moosa Survey Area

Parcels Intersecting Moosa Survey Area

Surrounding Parcels

Rincon Site Reconnaissance Access

1 Betsworth 4 Bay (11580 Betsworth Road)

2 Valley Center Solid Waste Landfill / Burnsite (28700 Aerie Road)

Indicates a facility that may impact the soil and groundwater at the site

Indicates a listed facility that is not expected to impact the soil and groundwater at the site

NORTH

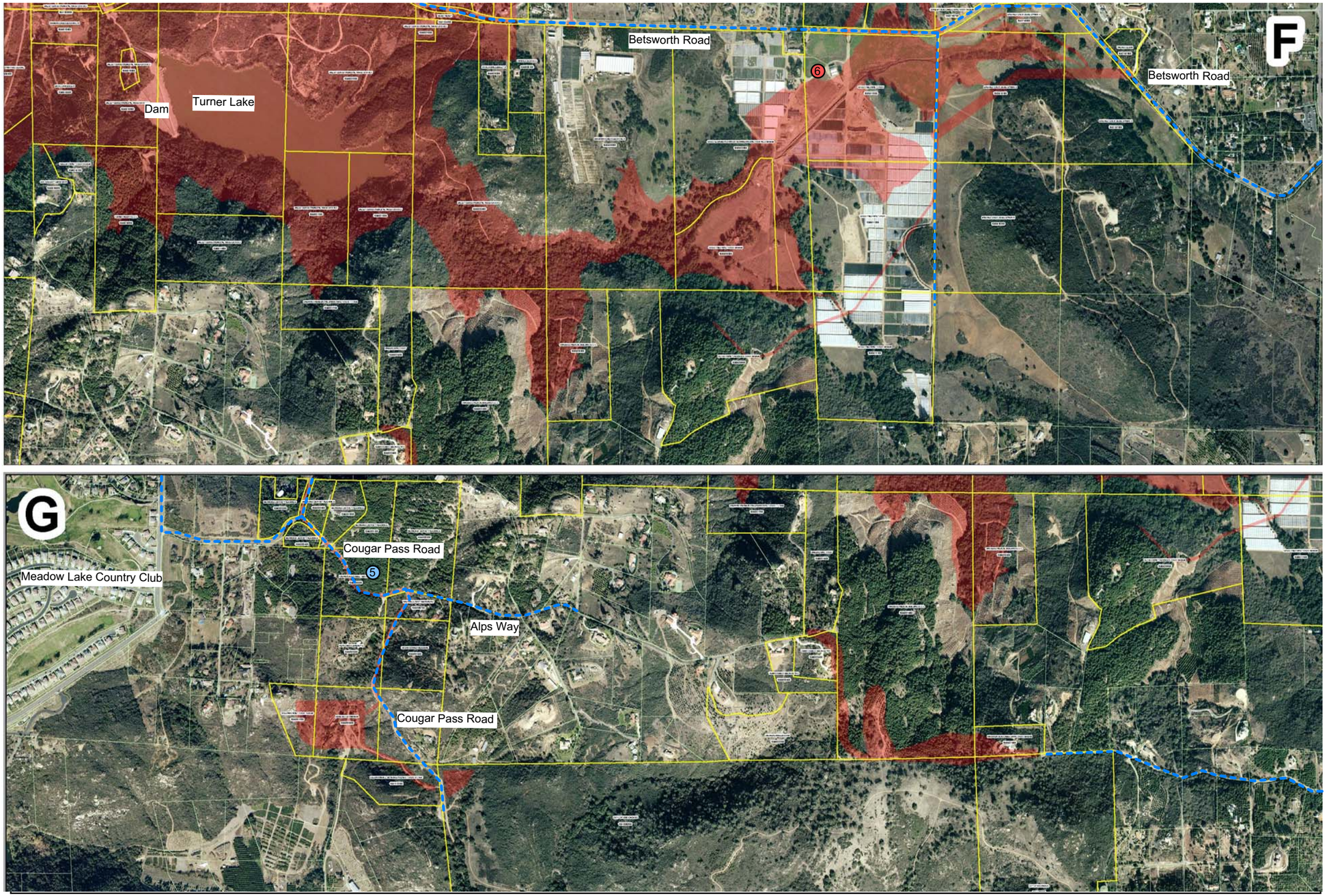
0 900 1,800

approximate scale in feet

Area E
Moosa 100K Inundation Area

Moosa Reservoir
Valley Center, California

Figure 5



Moosa Survey Area

Parcels Intersecting Moosa Survey Area

Surrounding Parcels

Rincon Site Reconnaissance Access

5 H/T Farms/McMillan Farm (27775 Cougar Pass Road)

6 Ernest J. Allen (12363 Betsworth Road)

Indicates a facility that may impact the soil and groundwater at the site

Indicates a listed facility that is not expected to impact the soil and groundwater at the site

NORTH

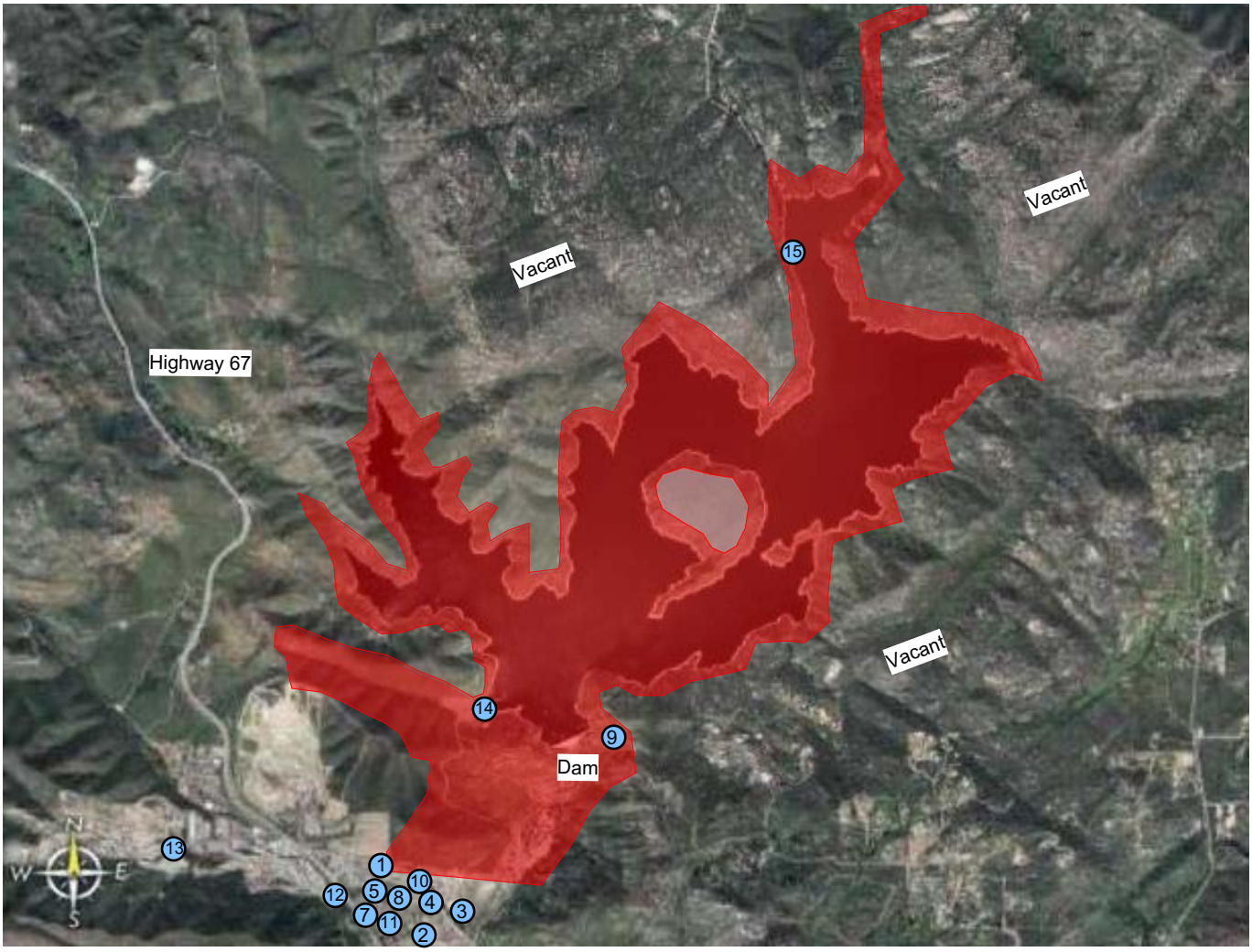
0 900 1,800

approximate scale in feet

Area F and G
Moosa 100K Inundation Area

Moosa Reservior
Valley Center, California

Figure 6



Approximate 766' Inundation Limit and Downstream Dam Construction Zone

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5. Atlas Pumping, Inc. (12740 Vigilante Road)
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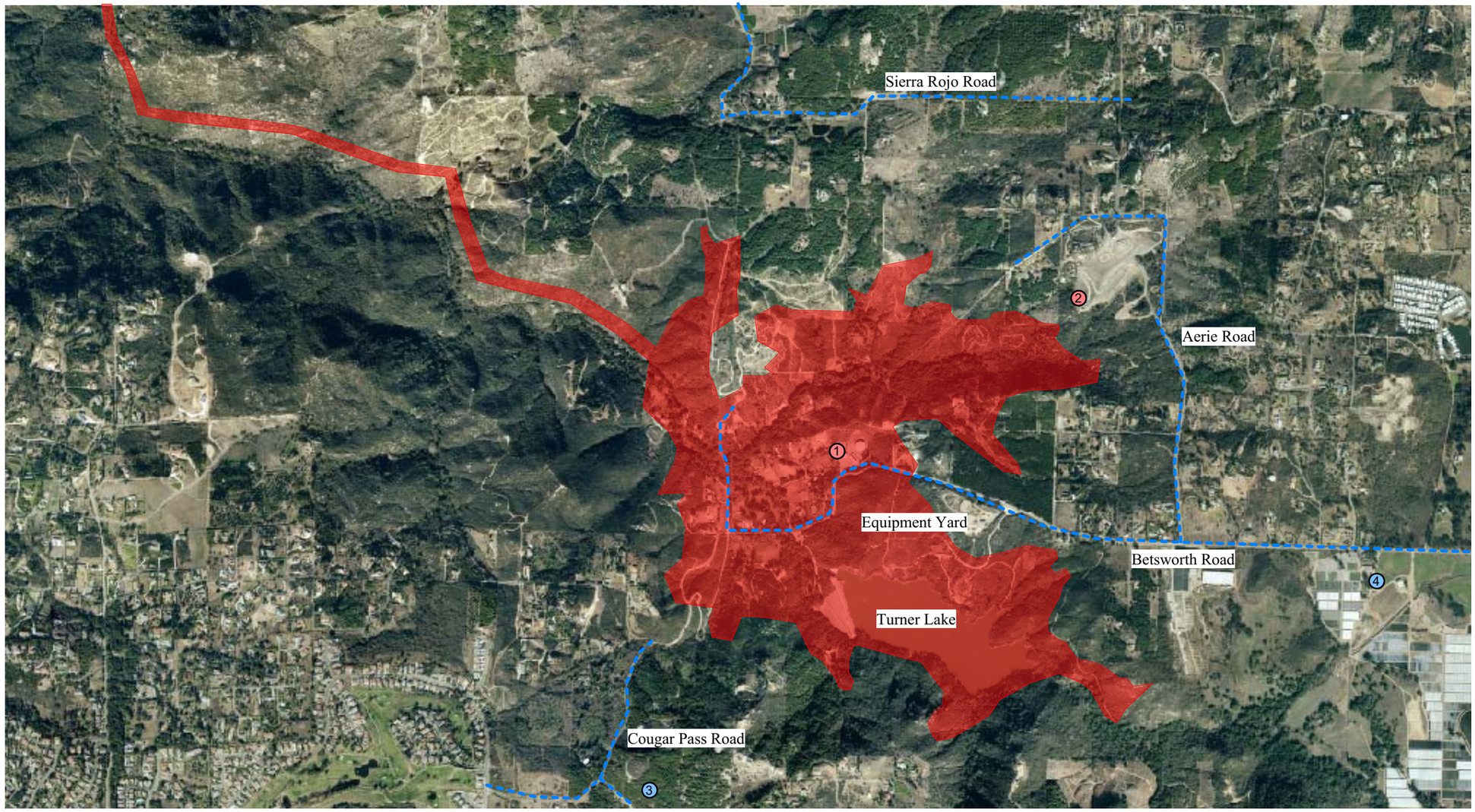
11. County Greenwaste Recycling (12243 Highway 67)
12. Interstate VW Used Parts (12300 Highway 67)
13. Erreca Associates (12570 Slaughterhouse Road)
14. Boat Launch Area and Restrooms
15. Former area labeled "Resort Area"

NORTH

Site and Adjacent Land Use Map

Figure 7



Moosa Survey Area

Rincon Site Reconnaissance Access

1 Betsworth 4 Bay (11580 Betsworth Road)

2 Valley Center Solid Waste Landfill / Burnsite (28700 Aerie Road)

3 H/T Farms/McMillan Farm (27775 Cougar Pass Road)

4 Ernest J. Allen (12363 Betsworth Road)

Indicates a listed facility that is not expected to impact the soil and groundwater at the site

Indicates a facility that may impact the soil and groundwater at the site

Sites Not Shown:
Circle R Ranch
(8751 Old Castle Road)
Janis Trucking
(3850 Gopher Canyon Rd.)
Castle Creek Country Club
(8797 Circle R Drive)

NORTH

Moosa 50K Inundation Area

Moosa Reservior
Valley Center, California

Figure 8