No aboveground/underground storage tanks, or clarifiers are present. No sumps, pits, ponds, lagoons, pools of liquids, drums or storage containers were observed. The structure is currently connected to the sanitary sewer. Since it was first constructed prior to 1936, it is possible a abandoned septic system is present on the property.

We do not suspect a abandoned septic system to be a environmental concern. It was only used for residential sewage disposal.

The pool and associated out building were constructed in the 1980's. The maintenance of the pool requires the storage and use of chlorine. This does not pose any threat to the subject property.

#### Agency Review:

Review of the existing agency publications documenting properties known to have caused environmental degradation has found no sites within a 1 mile radius of the subject property. The location of the identified site relative to the subject property is presented in the Appendix, map 3. The exact location, case type and case status is presented for reference.

0) name address

RP = Responsible Party

distance/direction listing/lead agency present status gradient/notes A complete copy of the ERS Rec-Check report is included in the Appendix for future reference. The sites not specifically identified in this report, pose no threat to the subject property. There are no active underground storage tank sites within 1/8 mile of the subject property.

The above ground storage tank on the reservoir property to the northwest is not listed on government documents. It is under 1,000 gallons in capacity and exempt from regulation. If the tank were to rupture, the fuel would flow away from the subject property.

Our findings indicate the property is not under investigation for contributing to the degradation of the underlying soils or ground water.

Our findings indicate the property is not listed on RCRIS (Federal) or HAZNET (CA) as generating hazardous waste.

#### Geology/Hydrology:

To make this section more understandable, definitions for commonly used geologic terms are included immediately following the text.

The property is located in the western San Fernando Valley at an elevation of 1130 feet above mean sea level (map 3a). The property is underlain by 200-400 feet of Recent and late Pleistocene age Alluvium (cross section).

The property is located in the San Fernando Basin. The depth to ground water is approximately 150 feet, with a regional flow direction toward the south (map 6).

The property is located near the intersection of 2 potentially active faults, the Northridge Hills (Devonshire) and the Chatsworth-Mission Hills system. It is approximately 3 miles west of the epicenter of the January, 1994 Northridge Earthquake, and 3 miles south of the Santa Susana Fault Zone (map 7).

The property is not located in a 100 or 500 year flood zone or a wetlands (Rec-Check, page 1).

The San Fernando Valley (map 5a) is a triangular shaped alluvial plain which is 20 miles long in an east-west direction. In the north-south direction, the Valley narrows from 10 miles, at the western end, to 3 miles at the eastern end. The alluvial plain is made up of complex surfaces of coalescing alluvial fans. The sediments that comprise the alluvial fans were derived from the mountains that rise from the margins of the Valley, and were deposited by the fluvial activity of the rivers and washes that drain from them.

The alluvial plain is gently sloping to the southeast from an elevation of 1,000 feet, near San Fernando, to an elevation of 600 feet, in the Burbank area. The alluvium ranges in thickness from 200 feet, in the northern and western areas, to 1,000 feet or more, in the eastern areas (map 5b).

Recent Alluvium is described as poorly sorted, unconsolidated, interbedded, sand, gravel, silt, and clay. The Recent geologic epoch is considered to represent the sediments that have accumulated during the previous 11,000 years. Late Pleistocene Alluvium is similar to Recent Alluvium except it may be semiconsolidated. The late Pleistocene geologic epoch represents the sediments deposited from 700,000 to 11,000 years ago (map 5c).

The San Fernando Basin (map 6) occupies all of the San Fernando Valley south of the City of San Fernando. Several minor basins lie toward the north and east of the City of San Fernando. The smaller basins are separated from the San Fernando Basin by a underlying bedrock rim that trends northeast paralleling the Verdugo Fault Zone, and an anticline that trends west from the City of San Fernando. No other faults or structures effect the movement of ground water in the San Fernando Basin, and it generally flows in response to the area topography.

There are two series of water bearing deposits in the San Fernando Basin, the Saugus formation and Recent Alluvium. The Saugus formation is a late Pleistocene series of folded alluvial deposits, and Recent Alluvium which has been described above. The underlying aquifers in the San Fernando Basin are classified as unconfined aquifers. A unconfined aquifer is defined as allowing ground water to rise and fall without layers of strata confining it.

The source of ground water in the basin is percolation of rainfall, run-off from the surrounding hills and mountains, and water imported by the Metropolitan Water District and added to the aquifer at spreading grounds.

The Verdugo Fault Zone is approximately 12 miles east of the property (map 7a). It trends northwest along the base of the Verdugo Mountains. This is a thrust fault related to the up-lift of the Verdugo Mountains. A thrust fault is defined as one side moving up or down relative to the other side. In this case, the Verdugo Mountains are being thrust up and over the sediments of the San Fernando Valley. The Verdugo fault is classified as active and potentially active.

The Benedict Canyon Fault is approximately 12 miles southeast of the property. It trends along the north and then through the Santa Monica Mountains. It is classified as a strike-slip fault. A strike slip fault is defined as one side moving relatively parallel to the other side. In this case the north side is moving west relative to the south side. The Benedict Canyon fault is considered inactive.

The fault responsible for the Northridge Earthquake is believed to be a eastern extension of the Oakridge Fault system (Chatsworth/Mission Hills). It is classified as a blind, thrust, fault that is dipping to the south. During the January, 1994 earthquake the north side moved up relative to the south side, but the surface was not ruptured. It is considered active and is capable of

producing a 6 or greater magnitude earthquake. However, many experts expect seismic activity to the west, as opposed to a second event in the Northridge area.

A 6 or greater magnitude regional earthquake will subject the subject property to high levels of seismic intensity. This is due the thickness of the underlying alluvium. Alluvium is known to amplify the seismic motion associated with the earthquake.

The subject property is not located in a Special Studies Zone (map 7b). Special Studies Zones identify property that is located within a hazardous distance of active faults, and restricts development/ redevelopment. Active faults are defined as faults displaying evidence of movement within the previous 11,000 years. Potentially active faults display evidence of movement within the last 700,000 years (legend to map 7a).

The site is considered to be in an area subject to low liquefaction potential (map 7c). This is due to the historic depth to the ground water table (map 6c). The historic depth to ground water in this area is approximately 130 feet. Low liquefaction potential is when the depth to ground water is greater than 50 feet, in areas underlain by unconsolidated alluvium.

The surface expression of liquefaction is referred to as sand volcanos. Liquefaction may be described as the resettling of the

underlying alluvium in the saturated (water soaked) zone, resulting in unstable sediments and a jet of water and sand being emitted on the surface. Damage to the foundation of structures may result if they overlie this geologic activity.

Many areas in Southern California are located in areas subject to high seismic intensity. This is due to the active geologic nature of the region. The geologic activity can be broadly related to the Pacific Plate moving past the North American Plate. Surface expression of the Pacific Plate moving past the North American Plate is the San Andreas Fault (12 miles to the northeast).

The San Andreas Fault is classified as a active strike-slip fault, and capable of producing a 8+ magnitude regional earthquake. A strike-slip fault is defined as one side moving relatively parallel to the other side. In this case, the west side is moving north relative to the east side.

No oil wells were found to have been drilled within 1/8 mile of the property (map 8).

Surface water drains is primarily absorbed by the land. What water does reach the street drains as sheetflow east onto Lurline. Its flows south on the surface and enters a storm drain at Devonshire. It flows east and enters a larger storm drain under Winnetka. It flows south under Winnetka, and enters the Los Angeles River at the intersection with Winnetka. It flows in the Los Angeles River and enters the San Pedro Bay, near Long Beach,

where it ultimately mixes with the Pacific Ocean.

#### CONCLUSIONS

The previous land uses/occupancies of the property have not caused environmental impact. There is no liability associated with hazardous waste.

The property has undergone episodes of development, but has not been the subject of wilful industrial abuse, mining, legal/illegal landfilling, or oil and gas exploration/production.

The property has not been impacted by land uses or occupancies of the adjacent/neighboring properties.

Asbestos is not suspected of being present in the friable construction materials observed. There is no possibility of polychlorinated biphenyls (PCB's) being present in the electrical equipment, there is no lead in the outermost painted surfaces or drinking water, and the risk for infiltration with Radon gas is low.

The small amount of chlorine used to maintain the pool has not caused environmental impact. There is a no future threat from the planned future use as a school and administration building.

The property has not been identified as causing or contributing to the degradation of the immediately underlying soils or ground water. The property will not become the object of a government mandated investigation/restoration of the underlying soils or ground water.

The property is underlain by 200-400 feet of Recent and late Pleistocene age Alluvium. The depth to ground water is 150 feet with a flow direction toward the south.

The property is near the junction of the Northridge Hills (Devonshire) and Chatsworth-Mission Hills fault systems, 3 miles west of the epicenter of the Northridge earthquake, 12 miles from the Verdugo, and 12 miles from the Benedict Canyon fault zones. The property is not located in a Special Studies or a Seismic Hazards Zone. The property will be subject to high levels of seismic intensity, and low liquefaction potential in the event of a magnitude 6 or greater regional earthquake.

#### RECOMMENDATIONS

No additional environmental assessment work be required on the subject property at this time.

#### SUGGESTIONS

We offer no suggestions at this time.

#### LIMITATIONS

This preliminary report has been prepared to impart information of the obvious environmental condition and hazardous waste liability of the subject property. The statements in this report are based upon observations of the apparent conditions of the premises, systematic investigation of public information, and the interviews with the primary parties, as stated in the Scope of Investigation. No representation, warranties, or guaranties are given with respect to concealed or latent problems outside the boundaries of the documented investigation.

#### CONFIDENTIALITY AGREEMENT

National Environmental, Inc. hereby agrees not to release this report, any portion of this report, or the results of the investigation to any party, except as required by law, without written or verbal consent from the Sierra Canyon High School Foundation, LLC.

### DEFINITIONS

Alluvium	-	A general term for all detrital deposits resulting from the operations of modern rivers. Including sediments deposited in river beds, flood plains, lakes, fans at the foot of mountain slopes, and estuaries.
Anticline	-	Inclined toward each other, as, the ridge tiles of the roof of a house.
Aquiclude	-	A formation which, although porous and capable of absorbing water slowly, will not transmit it fast enough to furnish an appreciable supply for a well or spring.
Aquifer	-	A geologic formation, group of formations, or part of a formation that transmits water in sufficient quantity to supply pumping wells or springs.
Basin	-	An extensive depressed area into which the adjacent land drains, and having no surface outlet.
Dome	-	A roughly symmetrical upfold, the beds dipping in all directions, more or less equally, from a point.
Echelon	-	Separate faults having parallel but steplike trends.
Formation	-	A geological mappable unit, the primary unit of formal mapping or distinction. Most formations possess certain distinctive or combinations of distinctive lithic features. Formations may be combined into groups or subdivided into members.
Fluvial	_	Produced by river/stream action.
Fault	-	A fracture or fracture zone along which there has been displacement of the sides relative to one another.
Hydrologic	-	Pertaining to the occurrence, circulation, distribution, and properties of the water of the earth and the earth's atmosphere.
Marine	-	Of, belonging to, or caused by the sea.
Syncline	-	A fold in rocks in which the strata (formations) dip inward from both sides toward the axis.
Uplift	-	Elevation of any extensive part of the earth's surface relative to some other parts.

#### PERSONNEL SUMMARIES

Mr. Alex T. Feucht – California (CA) Certified Engineering Geologist #2027, CA Registered Geologist #4433, CA Registered Environmental Assessor #4085. Mr. Feucht received his BS degree in geology from the University of Wisconsin at Madison, and his MS degree in geology from the University of Montana, Missoula. He spent 17 years working as a petroleum exploration geologist for Texaco, and has over 15 years experience as a environmental consultant.

Mr. David L. Hodgson – CA Registered Geologist #658. Mr. Hodgson received his BS degree in geology from Florida State University, Tallahassee. He has completed graduate level studies in engineering geology and hydrogeology at UCLA, and geochemistry and stratigraphy at USC. He spent 30 years with Southern California Edison working as a resource geologist, and has over 15 years experience as a environmental consultant. He is one of NEI's founders.

Barry Keller Ph.D. – CA Registered Hydrogeologist #370, CA Registered Geologist #4460. Dr. Keller received his Ph.D. in geophysics from the University of California Santa Barbara in 1984, his MS degree in geophysics from the University of Washington in 1978, and his BS degree in geology from the California Institute of Technology in 1969. Dr. Keller has over 20 years of experience applying geophysics and hydrogeology to all aspects of environmental protection. His work breifly includes petroleum and mineral exploration, US Military base clean-ups, development of environmental regulation for the World Bank in South America, hazardous waste management, fresh water delivery systems, and computer modeling. Dr. Keller has numerous publications in all of these fields.

Mr. Craig A. Kitchen - CA Registered Environmental Assessor #5086. Mr. Kitchen studied at California State University at Los Angeles and is an environmental scientist. He is 40 hour OSHA certified, and the director of safety and environmental affairs at a large manufacturing concern. He has over 15 years of experience in the storage, utilization, and disposal of hazardous materials and wastestreams. He is currently specialized in facility compliance audits, site investigations, and oversight of consulting services.

Mr. Robert J. Maikisch – CA Registered Environmental Assessor II #20190, CA REA I #2224. Mr. Maikisch received his BS degree in geology from Bradley University, Illinois. He has completed graduate studies in hydrogeology and stratigraphy at the Colorado School of Mines in Golden, He spent 6 years working for Noranda Exploration as a technician and geologist, and has US EPA level training in Radon gas detection and mitigation. He is one of NEI's founders, with over 15 years experience as a environmental consultant.

Mr. Gary M. Mann – CA Registered Geologist 6589, AZ Registered Geologist #32164. Mr. Mann received his MS degree in geology from the California State University at Hayward, and his BS degree in geology from the California State University at Long Beach. He spent 12 years as a geologist for the United States Geological Survey, involved in remote sensing and seismic reflection, and has written several publications. He is currently specialized in the application of ground penetrating radar for subsurface imaging. He has over 5 years experience in all aspects of environmental consulting.

# APPENDIX

## MAPS

## **PHOTOGRAPHS**

BUILDING PERMITS

CLOSURE REPORT

