

March 26, 2008  
Project No. 401294003

Mr. Jeffrey Kingston  
Chabot-Las Positas Community College District  
5020 Franklin Drive  
Pleasanton, California 94588

Subject: Supplemental Geotechnical Evaluation  
Information Technology Building  
Las Positas Community College  
Livermore, California

Dear Mr. Kingston:

Ninyo and Moore (N&M) previously prepared a geotechnical and geologic hazard report titled "Geotechnical Evaluation, Information Technology Building, Las Positas Community College, Livermore, California" dated March 30, 2007. A site plan is presented in Figure 1. Based on our discussions with you, we understand that the location of the proposed IT Building has changed since our referenced report was prepared. The previously proposed location of the Information Technology (IT) Building was parallel to the Campus Loop Road. We understand the building footprint has been rotated 90 degrees southeast to be perpendicular to the loop road (Figure 2). This report presents supplemental geotechnical recommendations for the development of the IT Building at Las Positas Community College in Livermore, California.

The purposes of this supplemental study were to (1) perform an additional boring within the new building footprint, and (2) to evaluate if the findings and conclusions contained in our March 30, 2007 geotechnical report are still applicable to the new relocated structure.

Our scope included advancing one boring to 50 feet in depth, laboratory testing on a soil sample to assess the expansion index, preparation of a geologic cross-section, engineering analysis, and presentation of our conclusions and recommendations in accordance with Division of the State Architect (DSA) requirements.

## **FIELD EXPLORATION AND LABORATORY TESTING**

Our supplemental exploration point, Boring B-3, was drilled on March 12, 2008, using truck-mounted drilling rig equipment with an 8-inch diameter hollow-stem auger. A representative from our firm sampled and logged the boring that was advanced to a depth of approximately 50 feet (Figure 2). Prior to commencing the subsurface exploration, we coordinated with Las Positas College facilities personnel concerning utility locations, and Underground Service Alert (USA) was notified for mark-out of existing utilities. Drive and bulk soil samples were obtained from the boring and transported to our in-house geotechnical laboratory for appropriate testing. The boring was backfilled with neat cement grout immediately after drilling. Laboratory testing of soil recovered from the boring included one expansion index test. The result of that laboratory test is presented in Figure 3.

## **SUBSURFACE CONDITIONS**

Our supplemental boring indicates that there is approximately 3 inches of asphalt concrete over 6.5 inches of aggregate base. Topsoil was encountered below the aggregate base to a depth of approximately 3 feet. As encountered, the topsoil generally consisted of dark brown, damp, stiff to very stiff, sandy clay. The topsoil is underlain by stiff to very stiff clays extending to a depth of approximately 26 feet. The clay is underlain by very dense clayey sands to about 35 feet. Underlying the clayey sand is hard clay to a depth of about 44.5 feet, followed by very dense clayey sand to the maximum depth explored of approximately 50 feet. A geologic cross-section prepared from the current and previous borings is shown on Figure 4. A more detailed description of the soils encountered in the current boring can be found in the attached boring log (Figure 5).

## **GROUNDWATER**

Groundwater was present in the sand layer encountered at a depth of approximately 46.5 feet at the time of drilling. Fluctuations in the level of groundwater may occur due to variations in rainfall, underground drainage patterns, and other factors not evident at the time our measurements were made. Perched groundwater was encountered by a previous investigator in Boring IT-2 at a depth of 6.5 feet (Figure 3).

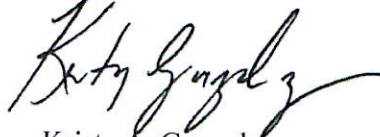
## CONCLUSION AND RECOMMENDATIONS

Based on the results of the additional soil boring and laboratory testing, it is our opinion that the recommendations contained in our geotechnical report dated March 30, 2007 are applicable to the relocated IT Building.

The soil conditions encountered at B-3 are similar to those encountered in the previous borings in the area of the IT Building. Our interpretation of the subsurface conditions in the area has not changed as a result of this supplemental boring, B-3. The expansion index of the near surface soils is indicative of a moderately expansive condition.

We appreciate the opportunity to be of continued service to Las Positas Community College for development of the IT Building.

Sincerely,  
**NINYO & MOORE**



Kristy A. Gonzalez  
Staff Engineer



Terence K. Wang, P.E., G.E.  
Principal Engineer

KAG/MRC/TKW/dhi

Attachment: 4 Figures  
Boring Log

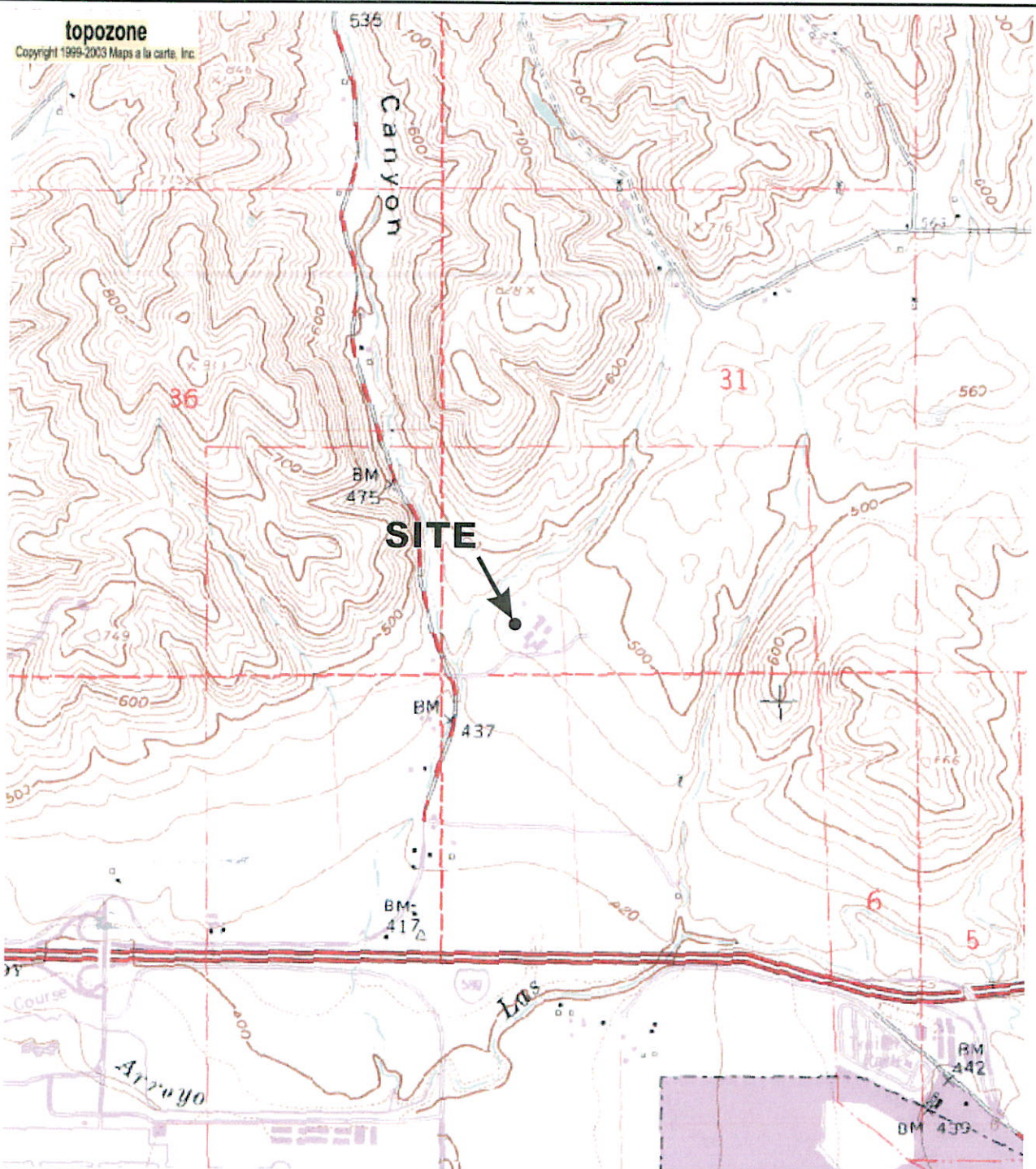
Distribution: (4) Addressee c/o Karen Powell



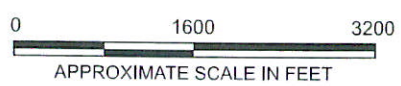
Mark R. Caruso, P.G., C.E.G.  
Principal Engineering Geologist



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REFERENCE: LIVERMORE QUADRANGLE, TOPO ZONE, 2007.



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

**Ninyo & Moore**

**SITE LOCATION MAP**

FIGURE

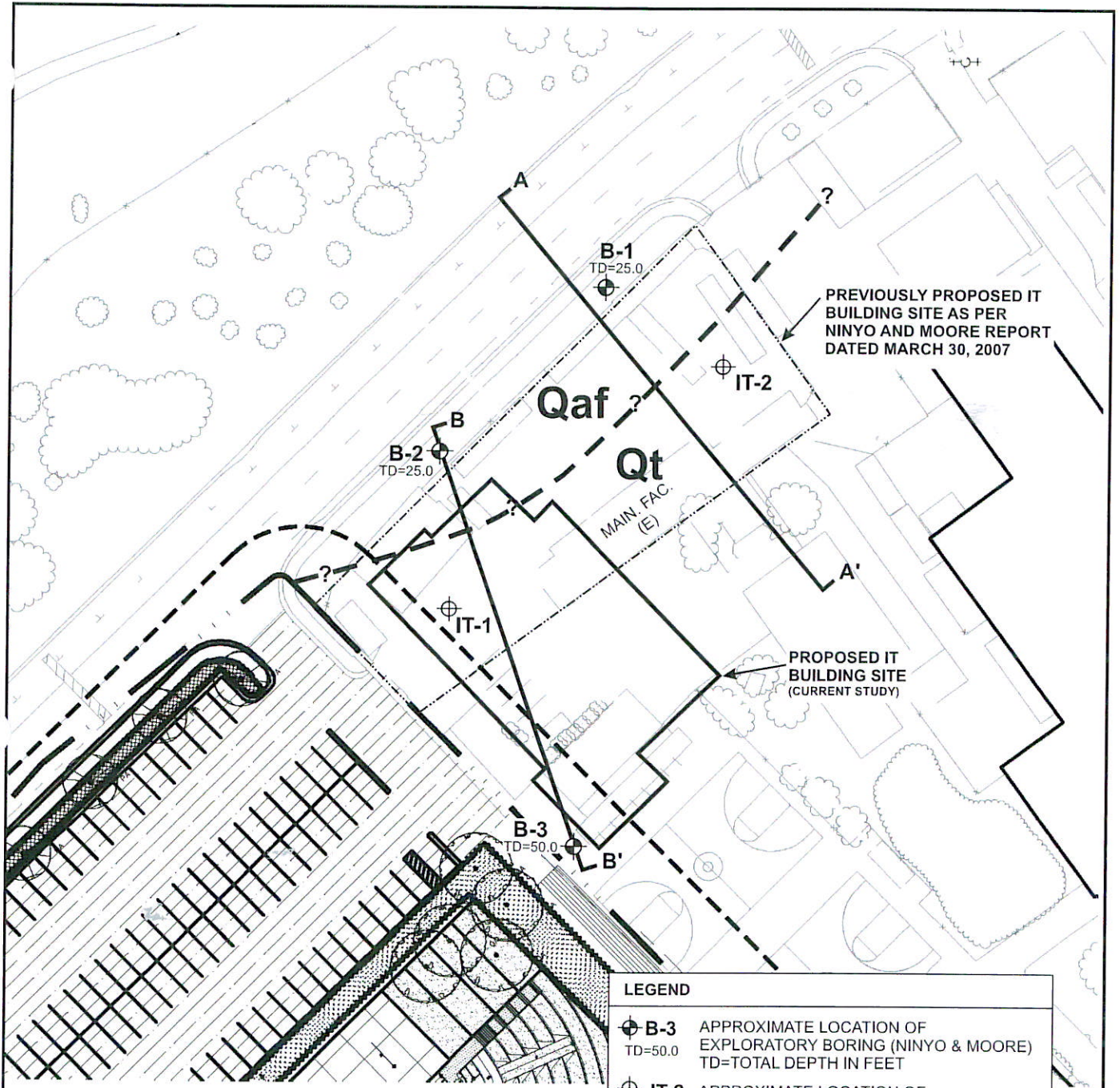
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INFORMATION TECHNOLOGY BUILDING  
LAS POSITAS COMMUNITY COLLEGE  
LIVERMORE, CALIFORNIA

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PREVIOUSLY PROPOSED IT BUILDING SITE AS PER NINYO AND MOORE REPORT DATED MARCH 30, 2007

PROPOSED IT BUILDING SITE (CURRENT STUDY)

**LEGEND**

- B-3** APPROXIMATE LOCATION OF EXPLORATORY BORING (NINYO & MOORE) TD=TOTAL DEPTH IN FEET
- IT-2** APPROXIMATE LOCATION OF EXPLORATORY BORING (CONSTRUCTION TESTING SERVICES, 2006)
- Qaf** FILL
- Qt** TERRACE DEPOSITS (ALLUVIUM)
- B B'** GEOLOGIC CROSS SECTION
- ?-** APPROXIMATE LOCATION OF GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN



APPROXIMATE SCALE



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.  
 REFERENCE: JOHN SERGIO FISHER & ASSOCIATES, INC., DATED 13 DEC. 2008, SITE PLAN, LAS POSITAS COLLEGE, COLLEGE CENTER FOR THE ARTS.

.94003 geotech fig 2 3-08



**SITE PLAN**

FIGURE

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