County of Los Angeles
CHIEF EXECUTIVE OFFICE
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 713, Los Angeles, California 90012
(213) 974-1101
http://ceo.lacounty.gov

WILLIAM T FUJIOKA
Chief Executive Officer

April 13, 2010

ADOPTED
BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES
#28 APRIL 13, 2010
Sachi A. Hamai
SACHI A. HAMAI
EXECUTIVE OFFICER

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

DEPARTMENT OF PUBLIC WORKS: HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY REPLACEMENT PROJECT ADOPT ADDENDUM TO MITIGATED NEGATIVE DECLARATION EXERCISE UNILATERAL OPTION FOR CONSTRUCTION OF PARKING STRUCTURE SPECS. 5110, 6779; CAPITAL PROJECT 69220 (SECOND DISTRICT) (4 VOTES)

SUBJECT

Approval of an Addendum to the Mitigated Negative Declaration, which addresses the addition of a parking structure to the Harbor-UCLA Medical Center as part of the Surgery/Emergency Replacement Project. Also, the recommended actions will allow for the construction of the parking structure following the finding on the environmental documentation.

IT IS RECOMMENDED THAT YOUR BOARD:

1. Consider the Addendum to the previously adopted Mitigated Negative Declaration for the Harbor-UCLA Medical Center Surgery/Emergency Replacement Project, which was adopted by your Board on April 11, 2006, find that the Addendum has been completed in compliance with the California Environmental Quality Act and reflects the independent judgment and analysis of your Board; find that your Board has reviewed and considered the information contained in the Addendum along with the Mitigated Negative Declaration prior to approving the project; and adopt the Addendum.

2. Approve and authorize the Director of Public Works to take all steps necessary to carry out the exercise of the unilateral option for the construction of the parking structure that was included in the design-build contract awarded by your Board on September 8, 2009, and in furtherance thereof, approve and authorize the Director of Public Works to issue a change order to implement the exercise of the option, for the construction by Hensel Phelps Construction Co., of a three-story, 544-stall parking structure in the stipulated amount of $9,717,000.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of the recommended actions will adopt the Addendum to the previously adopted Mitigated Negative Declaration (MND) and allow the Department of Public Works (Public Works) to proceed with the construction of the proposed parking structure at Harbor-UCLA Medical Center with no increase in the project budget.

Background

On April 11, 2006, your Board adopted the MND and the Mitigation Monitoring and Reporting Program (MMRP) for the Harbor-UCLA Medical Center Surgery/Emergency Replacement Project (S/E Replacement Project). The project described in the adopted MND did not include a parking structure.

On September 8, 2009, your Board authorized the design-build contract for the S/E Replacement Project at Harbor-UCLA Medical Center for a total amount of $170,857,000, which included a unilateral County option for the construction of a three-story, 544-stall parking structure in the amount of $9,717,000 (modified project). The California Environmental Quality Act (CEQA) allows the preparation of an Addendum to address changes in the original project which do not amount to substantial changes. The adoption of the Addendum will further allow the County to exercise the unilateral option to construct the proposed parking structure.

An Addendum has been prepared, and we are now recommending that the Addendum to the MND be adopted. In addition, we are recommending that your Board exercise the unilateral option for the construction of the parking structure, and in furtherance thereof, that your Board approve a change order to implement the exercise of the unilateral option. Upon approval of the recommended actions, Public Works will take all steps necessary to implement the exercise of the unilateral option for the construction of the parking structure, including issuing the change order authorizing Hensel Phelps Construction Co. (Hensel Phelps) to complete the design and construction of the parking structure within the stipulated amount of $9,717,000. Approval of these actions

will not impact the approved project budget and overall completion schedule. Based on the agreement with Hensel Phelps, the price to construct the parking structure is effective until April 26, 2010. After that date, the unilateral option in favor of the County at this price expires.

Implementation of Strategic Plan Goals

The Countywide Strategic Plan directs the provision of Operational Effectiveness (Goal 1), by promoting best practices for patient care and Children, Family, and Adult Well-Being (Goal 2), by investing in public health infrastructure. Completion of these recommended actions will provide increased convenience to staff and visitors, and will improve the parking conditions at the Harbor-UCLA Medical Center.

FISCAL IMPACT/FINANCING

Approval of the recommended actions will have no impact on the Board-approved project budget of $322.6 million (see attached Project Budget Summary).

The unilateral option for the construction of the parking structure in the amount of $9,717,000 was included in the contract awarded to Hensel Phelps for the not-to-exceed amount of $170,857,000, approved by your Board on September 8, 2009.

The project will be financed initially through the issuance of tax-exempt commercial paper and ultimately through the issuance of long-term bonds. Annual debt service is currently estimated at $14.9 million each year, commencing in Fiscal Year 2012-13. Payments will be eligible for partial reimbursement under the State's Senate Bill 1732 Program. We will return with the Treasurer and Tax Collector to present final financing recommendations prior to the issuance of bonds.

CONTRACTING PROCESS

The County's Request for Proposal (RFP) for the S/E Replacement project at Harbor-UCLA Medical Center required proposals to include Target Price Solutions intended to enhance the project's scope. As one of its Target Price Solutions, Hensel Phelps proposed design and construction of a parking structure. During negotiations, Public Works and Hensel Phelps reached agreement on a unilateral option that may be exercised by your Board for the construction of a three-story, 544-stall parking structure, for $9,717,000. Such unilateral option was included within the design-build contract awarded by your Board to Hensel Phelps on September 8, 2009. Upon your Board's approval of the recommended actions, Public Works will inform Hensel Phelps that the

County has exercised the unilateral option for the parking structure and will issue a change order to Hensel Phelps to implement the exercise of the unilateral option.

FACTS AND PROVISIONS/ LEGAL REQUIREMENTS

Pursuant to Public Contract Code Section 20137, the Board may approve a change to a construction contract in an amount that does not exceed 10 percent of the original contract price by a four-fifths vote of the Board.

ENVIRONMENTAL DOCUMENTATION

The MND for the S/E Replacement project, including the MMRP was approved by your Board on April 11, 2006 and your Board found that with the implementation of the MMRP, there is no substantial evidence that the S/E Replacement project will have a significant effect on the environment. It was determined that the preparation of an Addendum to the MND was appropriate for the modified project due to the fact that some changes and additions to the MND were required to fully describe the proposed parking structure as part of the project. Pursuant to Section 15162 of the California Environmental Quality Act Guidelines, the preparation of a subsequent Environmental Impact Report is not required because none of the conditions necessitating the preparation of a subsequent MND, such as substantial changes involving new or increased environmental effects, or the need for new or considerably different mitigation measures, has occurred. The analysis concludes that the project will have no significant adverse effect on the environment with the implementation of the previously adopted mitigation measures.

No additional mitigation measures are recommended for incorporation into the previously adopted MMRP due to the implementation of the proposed parking structure. The MMRP will ensure that the project complies with the conditions of the MND and environmental mitigation measures. The recommended measures to mitigate environmental impacts will be incorporated into the construction documents.

The project is not exempt from payment of a fee to the California Department of Fish and Game pursuant to Section 711.4 of the Fish and Game Code to defray the costs of fish and wildlife protection incurred by the California Department of Fish and Game. Upon your Board's approval of the project, Public Works will file a Notice of Determination with the Registrar-Recorder/County Clerk in accordance with Section 21152(a) of the California Public Resources Code.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

Approving the recommended actions will have minimal impact on current County services and hospital operations. Following your Board's approval, the construction of the parking structure will commence in April 2010, and complete by the end of 2010. The design-builder is required to coordinate its construction schedule to minimize disruption of the activities of the hospital that will remain fully functional during these construction activities. Extensive coordination and planning has been performed with the Department of Health Services and Public Works to identify and implement measures to mitigate potential construction conflicts and temporary loss of site parking during construction of the parking structure.

CONCLUSION

Please return an adopted copy of this letter to the Chief Executive Office, Capital Projects Division; Public Works, Project Management Division I; and Department of Health Services.

Respectfully submitted,

WILLIAM T FUJIOKA
Chief Executive Officer

WTF:GF:SK
DJT:SW:zu

Attachments

c: Executive Office, Board of Supervisors
County Counsel
Arts Commission
Department of Health Services
Department of Public Works
Office of Affirmative Action Compliance
Treasurer and Tax Collector

ATTACHMENT

DEPARTMENT OF PUBLIC WORKS: HARBOR-UCLA MEDICAL CENTER SURGERY/EMERGENCY REPLACEMENT PROJECT APPROVE ADDENDUM TO MITIGATED NEGATIVE DECLARATION ADOPT MITIGATION MONITORING AND REPORTING PROGRAM EXERCISE UNILATERAL OPTION FOR CONSTRUCTION OF PARKING STRUCTURE SPECS. 5110, 6779; CAPITAL PROJECT 69220

I. PROJECT SCHEDULE

Project Activity	Board-Approved Schedule Completion Date	Proposed Schedule Completion Date
Environmental Documents	04/11/06*	04/11/06*
Amendment to MND	N/A**	03/30/10
Make-Ready		
Jurisdictional Approvals	06/12/06*	06/12/06*
Construction Award	10/18/06*	10/18/06*
Construction Start	10/19/06*	10/19/06*
Substantial Completion	12/31/09	03/31/10
Surgery/Emergency Building		
Contract Award	09/08/09*	09/08/09*
Jurisdictional Approvals	12/26/11	12/26/11
Construction Start	11/24/09*	11/24/09*
Substantial Completion	07/24/13	07/24/13
Parking Structure Jurisdictional Approvals	N/A**	04/26/10
Parking Structure Construction Start	N/A**	04/26/10
Parking Structure Substantial Completion	N/A**	12/24/10
Backfill		
Jurisdictional Approvals	TBD	TBD
Construction Award	TBD	TBD
Construction Start	TBD	TBD
Substantial Completion	TBD	TBD

* Indicates actual date

** Not identified in the previously approved Board Letter.

II. PROJECT BUDGET SUMMARY

Project Activity	Approved Project Budget
Land Acquisition	$ 0
Construction	
Low Bid Construction Contract	2,321,654
Design-Build Contract	
S/E Building & Site	161,140,000
Option for Parking Structure	9,717,000
Job Order Contract	16,852,000
Purchase Order Contract	3,500,000
Southern California Edison Contract	285,000
Change Orders Total	18,320,346
Departmental Crafts	0
Youth Employment	0
Construction Consultants	0
Misc. Expense	
Design-Build Stipends	250,000
SidePlate License	107,000
Builder's Risk Insurance	2,000,000
Other	93,000
Telecomm Equip – Affixed to Building	2,100,000
Medical Equipment	32,762,000
Project Contingency	5,634,000
Civic Arts	0
Subtotal	$255,082,000
Programming/Development	$ 0
Plans and Specs	$ 9,553,650
Consultant Services	
Site Planning	$ 0
Hazardous Materials	490,000
Geotech/Soils Report and Soils Testing	1,006,000
Material Testing	3,960,000
Cost Estimating (Gkkworks)	560,845
Topographic Surveys	190,000
Construction Management (Gkkworks)	20,139,834
Peer Review (Gkkworks)	1,801,074
Design Management (Gkkworks)	1,012,981
Environmental	600,000
Move Management	267,000
Equipment Planning	975,000
Legal	1,971,000
Construction/Change Order	0
Other: Document Management	2,637,000
Other: Commissioning	823,266
Subtotal	$ 36,434,000

II. PROJECT BUDGET SUMMARY

Project Activity	Approved Project Budget
Miscellaneous Expenditures	$ 262,000
Jurisdictional Review/Plan Check/Permit	$ 3,970,000
County Services	
Code Compliance Inspection	$ 3,305,175
Quality Control Inspection	2,857,525
Design Review	150,000
Design Services	100,000
Contract Administration	554,015
Project Management	7,169,958
Project Management Support Services	509,000
ISD Job Order Contract Management	402,000
DPW Job Order Contract Management	673,000
ISD ITS Communications	500,000
Project Security	0
Project Technical Support	581,268
Office of Affirmative Action	346,409
County Counsel	0
Regional Planning	15,000
Other: DPW Materials & Testing	10,000
Other: DPW Land Development	50,000
Other: DPW Traffic & Lighting	45,000
Other: DPW Design Division	10,000
Other: DPW Construction Division	10,000
Other: DPW Flood Maintenance Division	10,000
Subtotal	$ 17,298,350
TOTAL	**$ 322,600,000**

Addendum to Final Mitigated Negative Declaration
Harbor-UCLA Medical Center
Surgery/Emergency Facility Replacement
Proposed Parking Structure
County of Los Angeles, California

Prepared for:

County of Los Angeles
Department of Public Works
826 W. 220th Street, Trailer A
Torrance, California 90502

Contact: Salvatore Pecora

Prepared by:

Sigma Engineering, Inc.
2101 Auto Center Drive, Suite 150
Oxnard, CA 93036

Contact: Bijan Saless, P.E., President

Sigma Engineering, Inc.

In Association with:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602
714.508.4100

Contact: Michael Houlihan, AICP, Project Manager

Michael Brandman Associates

March 30, 2010

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LIST OF EXHIBITS

SECTION 1: PURPOSE AND BACKGROUND

An Initial Study/Mitigated Negative Declaration (MND) was approved by the County of Los Angeles for the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Project on April 11, 2006. The Replacement Project encompasses 17 acres and includes the construction of a new building addition on the southwest side of the existing hospital to contain new expanded surgery and emergency facilities. The building addition consists of a two-story building, basement, mechanical penthouse, and elevator tower that total 190,300 square feet. The project also includes a new elevated helistop, surface parking areas, service yard, visitors' plaza, landscaping, and other site development features. The purpose of the Replacement Project is to optimize operational efficiency by improving workflow, but would result in only minimal increases in staff. In addition, the number of licensed beds at the hospital would not change. The Replacement Project also included a temporary helistop during the reconstruction of the permanent helistop. Construction of the Replacement Project results in the removal of surface parking spaces; however, the number of remaining spaces campus-wide would still exceed the County Parking Code requirement.

The County received bids for the Replacement Project through a design/build proposal process. A new parking structure on the Harbor-UCLA Medical Center campus was a proposed option by the successful bidder. The County decided to move forward with evaluating the potential environmental impacts associated with the implementation of the proposed parking structure. After a review of the environmental issues associated with the proposed parking structure, the County determined that the proposed parking structure may result in minor changes to Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Final MND. Therefore, a detailed review of the environmental issues was conducted for the proposed parking structure in this document. The results of the environmental evaluation support the preparation of an Addendum to the Final MND and are consistent with Section 15164 of the California Environmental Quality Act (CEQA) Guidelines.

This addendum addresses the change to the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Project since the County's approval of the Final MND. This change includes replacing surface parking with a new parking structure at the southeast corner of the Harbor-UCLA Medical Center Campus and within 100 feet of the Replacement Project area. The potential environmental impacts associated with the proposed parking structure are evaluated in this Addendum, and the change has been found not to be substantial.

SECTION 2: CEQA PROCESS

The County of Los Angeles Board of Supervisors has the ultimate approval authority over the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Project, and as the lead agency. The County has decided to prepare this Addendum. This Addendum has been prepared subsequent to the adoption of the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Final Mitigated Negative Declaration in accordance with Section 15164 of the California Environmental Quality Act (CEQA) Guidelines. Section 15164 states, "an addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred." Pursuant to Section 15162, a subsequent negative declaration is not required unless:

"(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or a Negative Declaration was adopted, shows any of the following:

a. The project will have one or more significant effects not discussed in the previous EIR of negative declaration;

b. Significant effects previously exami9ned will be substantially more severe than shown in the previous EIR;

c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

Based on the evaluations in this Addendum, the addition of the proposed parking structure will not result in substantial changes to the previously approved MND because there are no new significant environmental effects and no substantial increase in the severity of previously identified significant effects. In addition, the proposed parking structure is not considered a major revision to the previously approved MND because the parking structure provides an appurtenant facility to the Surgery/Emergency Facility Replacement Project, the type and level of impacts associated with the proposed parking structure are the same as those associated with the Replacement Project, and there are no new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Furthermore, there is no new information of substantial importance, that was not known and could not have been known with the exercise of reasonable diligence at the time the MND was approved. Therefore, the evaluation in this document supports the use of an Addendum for the addition of the new parking structure to the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Project.

SECTION 3: DESCRIPTION OF CHANGES TO FINAL MND

The proposed project (new parking structure) is located on the southeast corner of the Harbor-UCLA Medical Center campus. The campus encompasses approximately 72 acres of unincorporated land in southern Los Angeles County, between the cities of Torrance, Los Angeles, and Carson (see Exhibit 1). The campus is bound by Carson Street on the north, Vermont Avenue on the east, 220th Street on the south, and Normandie Avenue on the west. The parking structure is proposed at the northwest corner of Vermont Avenue and 220th Street (see Exhibit 2 and Exhibit 3).

On April 11, 2006, the County Board of Supervisors approved the Harbor-UCLA Medical Center Surgery/Emergency Facility Replacement Project and adopted the Final MND that was prepared for the Replacement Project. The Replacement Project included encompasses 17 acres and includes the construction of a new building addition on the southwest side of the existing hospital to contain new expanded surgery and emergency facilities. The building addition consists of a two-story building, basement, mechanical penthouse, and elevator tower that total 190,300 square feet. The project also includes new elevated helistop, surface parking areas, service yard, visitors' plaza, landscaping, and other site development features. The purpose of the Replacement Project is to optimize operational efficiency by improving workflow, but would result in only minimal increases in staff. In addition, the number of licensed beds at the hospital would not change. The Replacement Project also included a temporary helistop during the reconstruction of the permanent helistop. Construction of the Replacement Project results in the removal of surface parking spaces; however, the number of remaining spaces campus-wide would still exceed the County Parking Code requirement.

The location of the proposed parking structure was not included within the construction area of the Replacement Project. This area located in the southeastern portion of the Harbor UCLA Medical Center campus currently includes 219 existing surface parking stalls. The proposed 155,490 square foot parking structure would provide a total of 544 parking stalls with 216 compact stalls and 328 standard stalls. With the addition of parking stalls within the parking structure and the removal of the existing surface parking stalls, the net increase of parking stalls in the southeastern portion of the Harbor UCLA Medical Center Campus is 325 parking stalls. Access to the proposed parking structure would be provided from Carson Street and 220th Street. Exhibits 4 through 6 illustrate the site plan for the three levels of the parking structure. Existing mature trees and landscaping adjacent to the existing sidewalk will be supplemented by additional landscaping surrounding the proposed parking structure. The existing concrete-masonry unit (CMU) wall adjacent to the proposed parking structure and the rights-of-way of Vermont Avenue and 220th Street will be demolished and removed. The proposed parking structure will provide parking for hospital staff, patients, and visitors. On the third level of the parking structure, solar panels will be installed. The solar panels are planned to provide adequate electricity for the parking structure lighting. The proposed parking structure is currently estimated to be completed in approximately 8 months.

Source: Census 2000 Data, The CaSIL, MBA GIS 2010.

NORTH

5 2.5 0 5 Miles

Michael Brandman Associates

Exhibit 1
Regional Location Map

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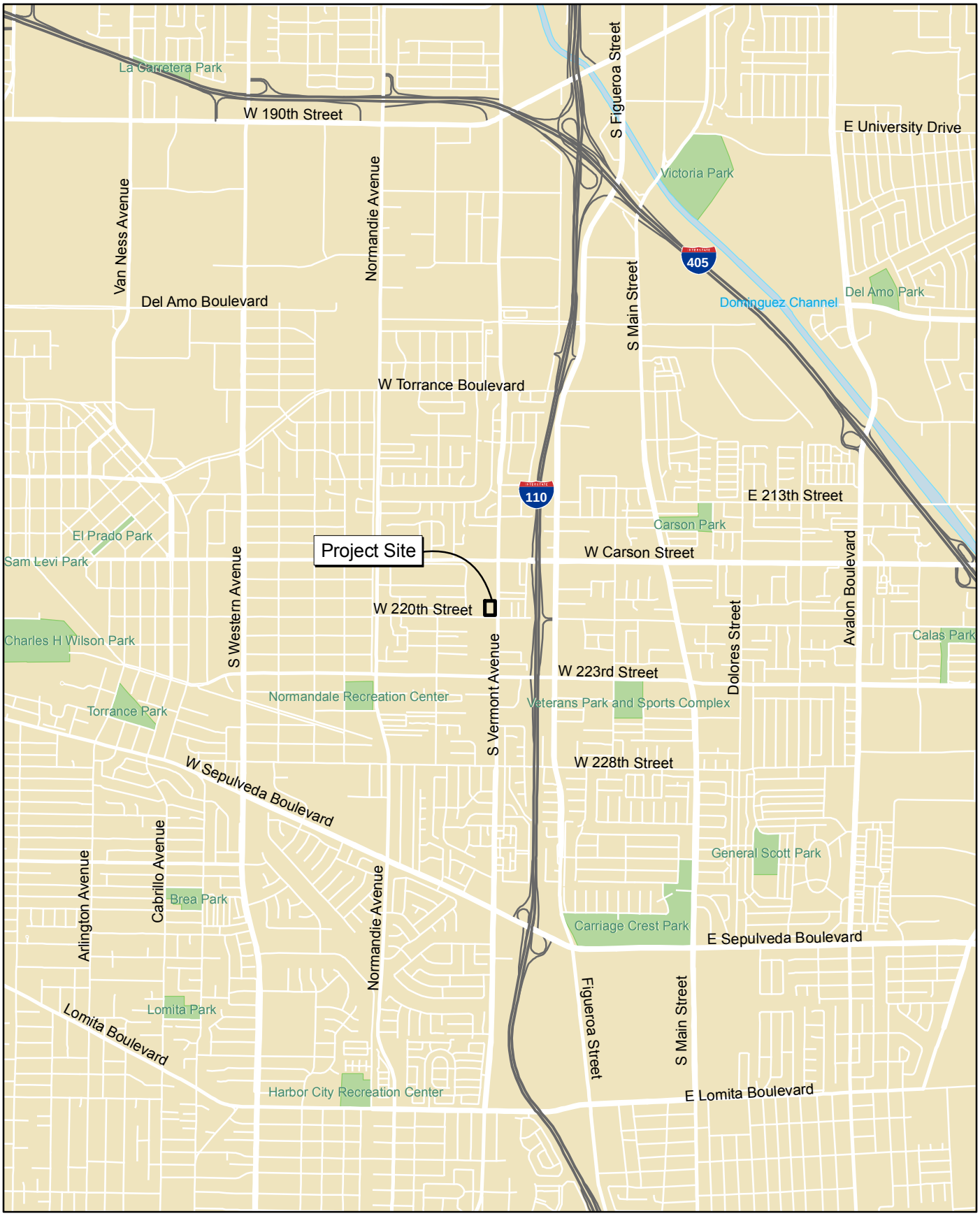
HARBOR-UCLA MEDICAL CENTER PARKING STRUCTURE
ADDENDUM TO FINAL MND FOR SURGERY/EMERGENCY FACILITY REPLACEMENT



Source: Census 2000 Data. The CaSIL. MBA GIS 2010.

NORTH

3,000 1,500 0 3,000 Feet

Michael Brandman Associates

Exhibit 2
Local Vicinity Map

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HARBOR-UCLA MEDICAL CENTER PARKING STRUCTURE
ADDENDUM TO FINAL MND FOR SURGERY/EMERGENCY FACILITY REPLACEMENT

Source: Los Angeles County NAIP, 2009.

Michael Brandman Associates

NORTH

300 150 0 300

Feet

Exhibit 3
Site Location

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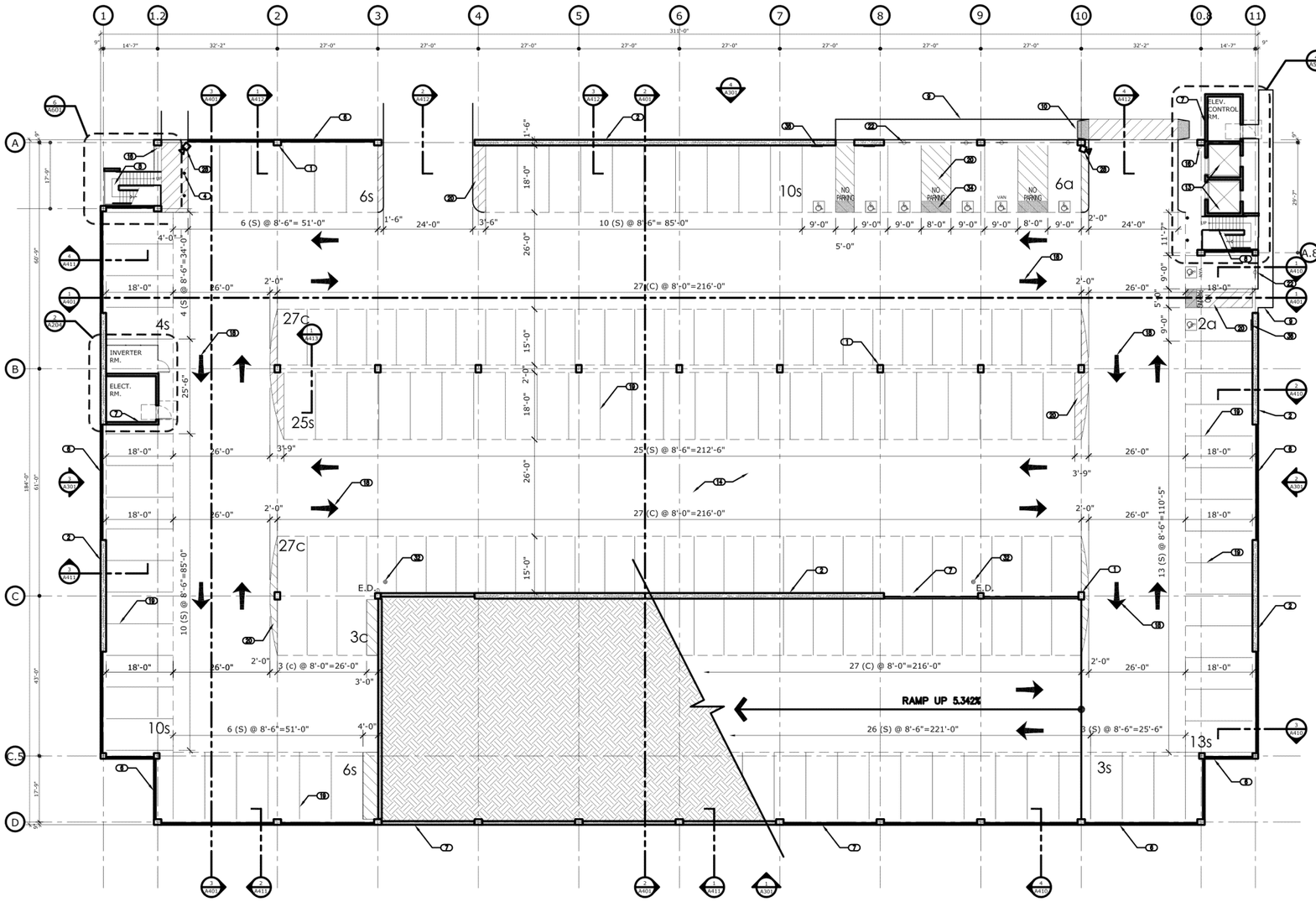
HARBOR-UCLA MEDICAL CENTER PARKING STRUCTURE
ADDENDUM TO FINAL MND FOR SURGERY/EMERGENCY FACILITY REPLACEMENT



KEY NOTES

1. PRECAST CONCRETE COLUMNS WITH 3/4" CHAMFER ON ALL CORNERS
2. CONCRETE SHAREWALL
3. PRECAST SPANDREL
4. STEEL BOLLARD
5. 2' HIGH CONCRETE SPANDREL W/ BARRIER CABLES
6. 6" CMU HEADLIGHT WALL W/ 2" CAP
7. C.M.U. WALL
8. PRECAST STAIRS
9. SIDE WALK REFER TO CIVIL DWG'S
10. CORNER CURB RAMP REFER TO CIVIL DWG'S
11. PRECAST CONCRETE WHEELSTOP @ ACCESSIBLE STALLS ONLY
12. LIGHT STANDARD REFER TO ELECTRICAL DWG'S
13. ELEVATORS CMU PAINTED
14. HEAVY SWEATED SWIRL FINISH
15. PHOTOVOTAIC PANEL
16. CODE BLUE
17. ELASTOMERIC COATING OVER ROOM BELOW
18. PAINTED PAVEMENT ARROW MARKING
19. STANDARD STALL STRIPING
20. WARNING STRIPING
21. ACCESSIBLE STALL STRIPING
22. ACCESSIBLE WARNING SIGN - MOUNTED ON BOLLARD-SEE DETAIL, BALLARD TO BE PAINTED YELLOW.
23. ACCESSIBLE SIGN
24. VAN ACCESSIBLE SIGN
25. ENTRANCE / EXIT SIGNAGE
26. HEIGHT LIMIT SIGN
27. ILLUMINATED EXIT SIGN
28. SECURITY CAMERA
29. FIRE EXTINGUISHER CABINET
30. FIRE STANDPIPE
31. AREA DRAIN
32. EMERGENCY DRAIN
33. CHAIN-LINK ENCLOSURE
34. TACTILE WARNING STRIP
35. 42" HIGH GUARDRAIL
36. SUFARCE MOUNTED ACCESSIBLE SIGN
37. HANGING MOUNTED ACCESSIBLE SIGN

TIERS	STALL BREAKDOWNS				BUILDING AREA		Gross Area	Sq. Ft.
	Accessible	Compact	Standard	TOTAL	Grade	Elevated		Per Stall
Lowest Level	8	84	103	**195**	54,960	1,688	56,648	282
2nd Level	2	81	118	**201**	0	56,036	56,036	279
3rd Level	2	54	92	**148**	0	42,807	42,807	289
TOTALS	**12**	**219**	**313**	**544**	**54,960**	**100,530**	**155,490**	**286**
Percentages %	**2.21%**	**40.26%**	**57.54%**	**100.00%**				

City Standards			
Stall Sizes	9'-0" x 18'-0"	8'-0" x 15'-0"	9'-0" x 18'-0"
Drive Aisle Width	24'-0" min.		
Accessible Landings	5'-0" at regular accessible stalls and 8'-0" at accessible van stalls		

Source: Parking Design Solutions, October 2009.

NORTH

Michael Brandman Associates

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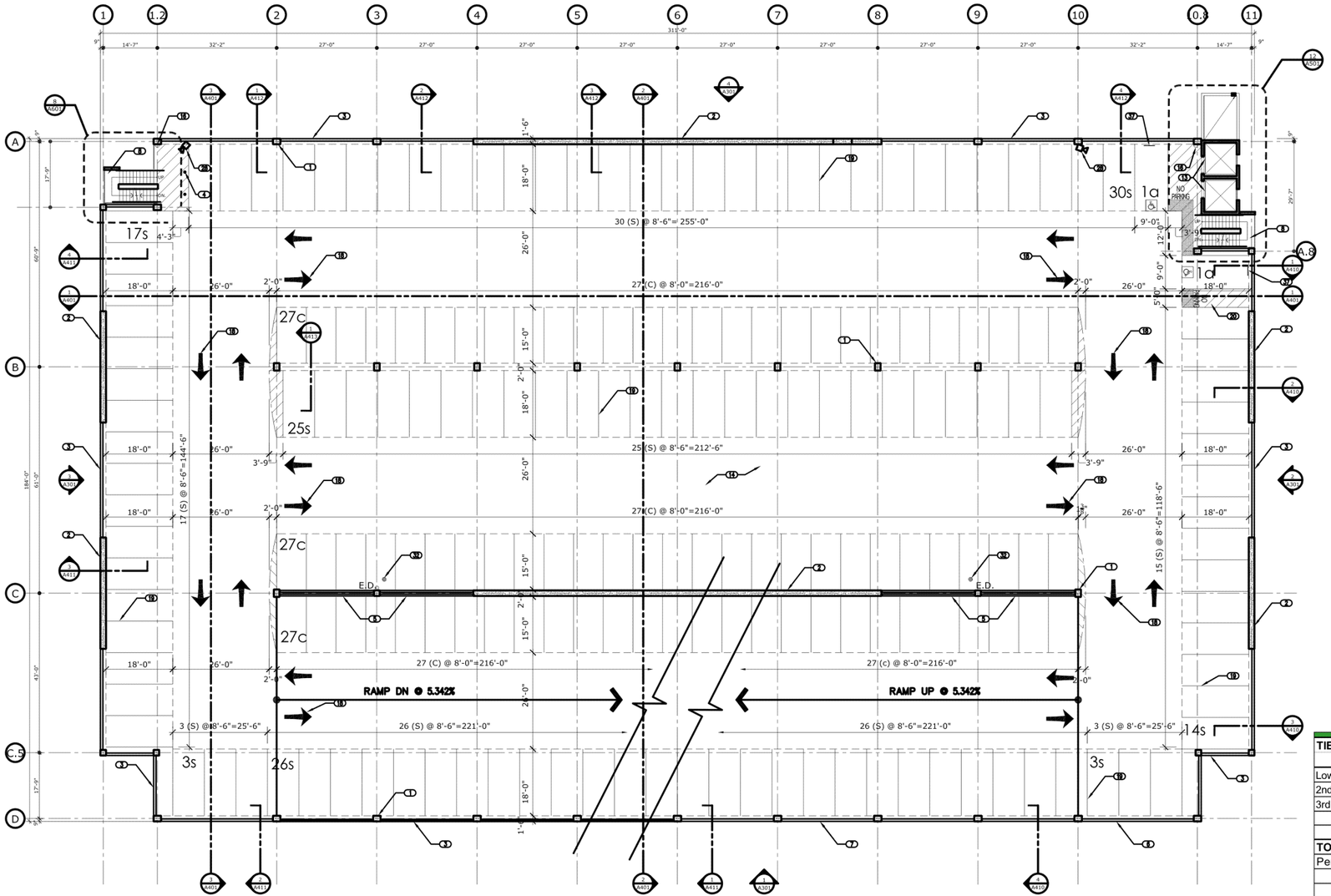
Exhibit 4
Site Plan - First Level

HARBOR-UCLA MEDICAL CENTER PARKING STRUCTURE
ADDENDUM TO FINAL MND FOR SURGERY/EMERGENCY FACILITY REPLACEMENT



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City Standards			
Stall Sizes	9'-0" x 18'-0"	8'-0" x 15'-0"	9'-0" x 18'-0"
Drive Aisle Width	24'-0" min.		
Accessible Landings	5'-0" at regular accessible stalls and 8'-0" at accessible van stalls		

Source: Parking Design Solutions, October 2009.

NORTH

Michael Brandman Associates

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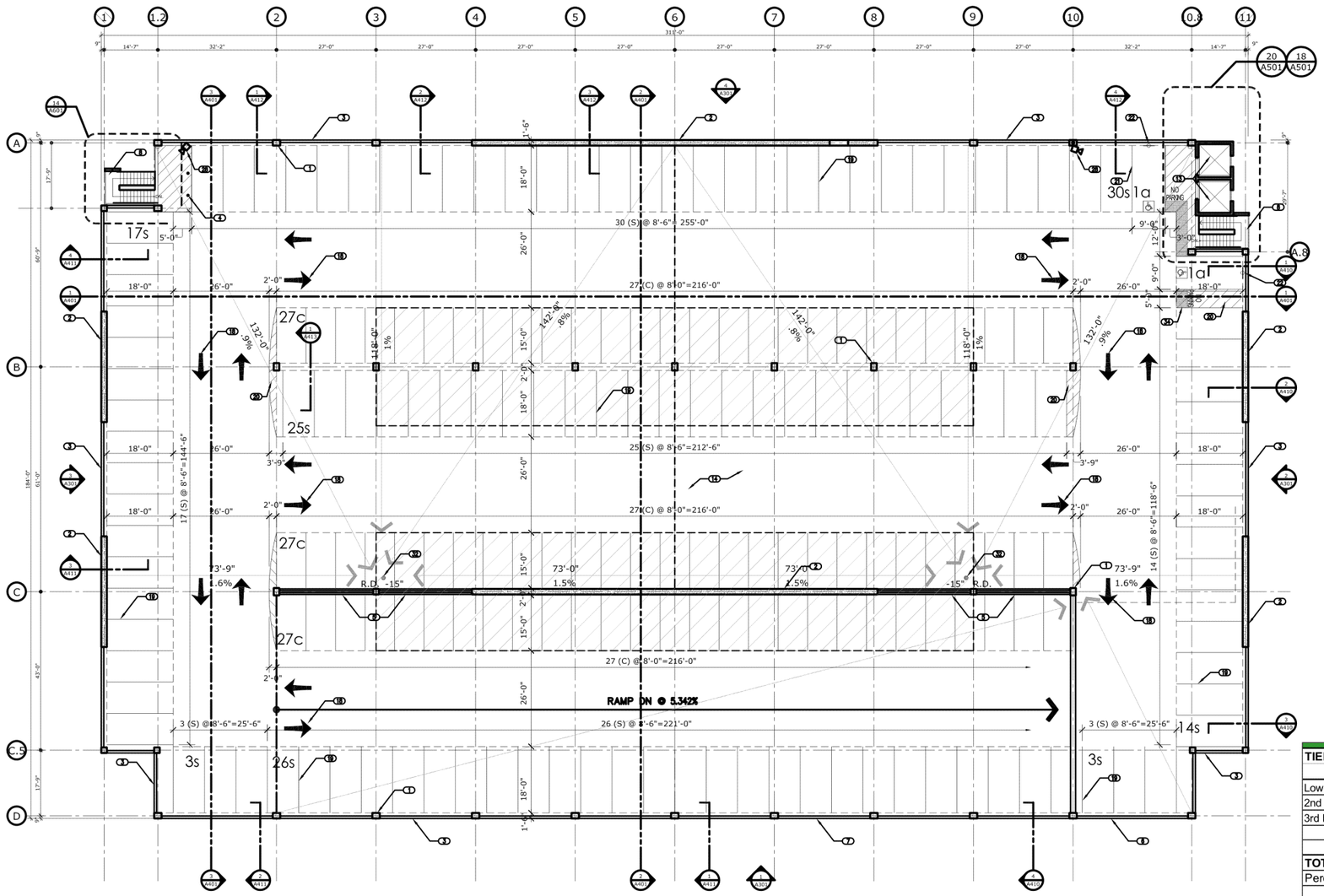
Exhibit 5
Site Plan - Second Level



KEY NOTES

1. PRECAST CONCRETE COLUMNS WITH 3/4" CHAMFER ON ALL CORNERS
2. CONCRETE SHAREWALL
3. PRECAST SPANDREL
4. STEEL BOLLARD
5. 2' HIGH CONCRETE SPANDREL W/ BARRIER CABLES
6. 6" CMU HEADLIGHT WALL W/ 2" CAP
7. C.M.U. WALL
8. PRECAST STAIRS
9. SIDE WALK REFER TO CIVIL DWG'S
10. CORNER CURB RAMP REFER TO CIVIL DWG'S
11. PRECAST CONCRETE WHEELSTOP @ ACCESSIBLE STALLS ONLY
12. LIGHT STANDARD REFER TO ELECTRICAL DWG'S
13. ELEVATORS CMU PAINTED
14. HEAVY SWEATED SWIRL FINISH
15. PHOTOVOTAIC PANEL
16. CODE BLUE
17. ELASTOMERIC COATING OVER ROOM BELOW
18. PAINTED PAVEMENT ARROW MARKING
19. STANDARD STALL STRIPING
20. WARNING STRIPING
21. ACCESSIBLE STALL STRIPING
22. ACCESSIBLE WARNING SIGN - MOUNTED ON BOLLARD-SEE DETAIL, BALLARD TO BE PAINTED YELLOW.
23. ACCESSIBLE SIGN
24. VAN ACCESSIBLE SIGN
25. ENTRANCE / EXIT SIGNAGE
26. HEIGHT LIMIT SIGN
27. ILLUMINATED EXIT SIGN
28. SECURITY CAMERA
29. FIRE EXTINGUISHER CABINET
30. FIRE STANDPIPE
31. AREA DRAIN
32. EMERGENCY DRAIN
33. CHAIN-LINK ENCLOSURE
34. TACTILE WARNING STRIP
35. 42" HIGH GUARDRAIL
36. SUFARCE MOUNTED ACCESSIBLE SIGN
37. HANGING MOUNTED ACCESSIBLE SIGN

TIERS	STALL BREAKDOWNS				BUILDING AREA		Gross Area	Sq. Ft.
	Accessible	Compact	Standard	TOTAL	Grade	Elevated		Per Stall
Lowest Level	8	84	103	**195**	54,960	1,688	56,648	282
2nd Level	2	81	118	**201**	0	56,036	56,036	279
3rd Level	2	54	92	**148**	0	42,807	42,807	289
TOTALS	**12**	**219**	**313**	**544**	**54,960**	**100,530**	**155,490**	**286**
Percentages %	**2.21%**	**40.26%**	**57.54%**	**100.00%**				

City Standards			
Stall Sizes	9'-0" x 18'-0"	8'-0" x 15'-0"	9'-0" x 18'-0"
Drive Aisle Width	24'-0" min.		
Accessible Landings	5'-0" at regular accessible stalls and 8'-0" at accessible van stalls		

Source: Parking Design Solutions, October 2009.

NORTH

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Exhibit 6
Site Plan - Third Level

SECTION 4: ENVIRONMENTAL CHECKLIST

Environmental Issues	New Significant Impact[a]	Substantial Change from Previous Analysis[b]	No Substantial Change from Previous Analysis[c]
1. Aesthetics	☐	☐	☒
2. Agriculture Resources	☐	☐	☒
3. Air Quality	☐	☐	☒
4. Biological Resources	☐	☐	☒
5. Cultural Resources	☐	☐	☒
6. Geology and Soils	☐	☐	☒
7. Greenhouse Gas Emissions	☐	☐	☒
9. Hazards and Hazardous Materials	☐	☐	☒
10. Hydrology and Water Quality	☐	☐	☒
11. Land Use and Planning	☐	☐	☒
12. Mineral Resources	☐	☐	☒
13. Noise	☐	☐	☒
14. Population and Housing	☐	☐	☒
15. Public Services	☐	☐	☒
16. Recreation	☐	☐	☒
17. Transportation / Traffic	☐	☐	☒
18. Utilities and Service Systems	☐	☐	☒
19. Mandatory Findings of Significance	☐	☐	☒

Notes:
[a] A new significant effect as identified in Sections 15162(1), 15162(2), and 15162(3)(a) of the CEQA Guidelines.
[b] A substantial change as identified in Sections 15162(3)(b), 15162(3)(c), and 15162(3)(d) of the CEQA Guidelines.
[c] There are no substantial changes from the previous analysis, and does not meet the requirements identified in Section 15162 of the CEQA Guidelines.

SECTION 5: ANALYSIS OF POTENTIAL ENVIRONMENTAL EFFECTS

1. Aesthetics

Would the project:

a) Have a substantial adverse effect on a scenic vista?

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

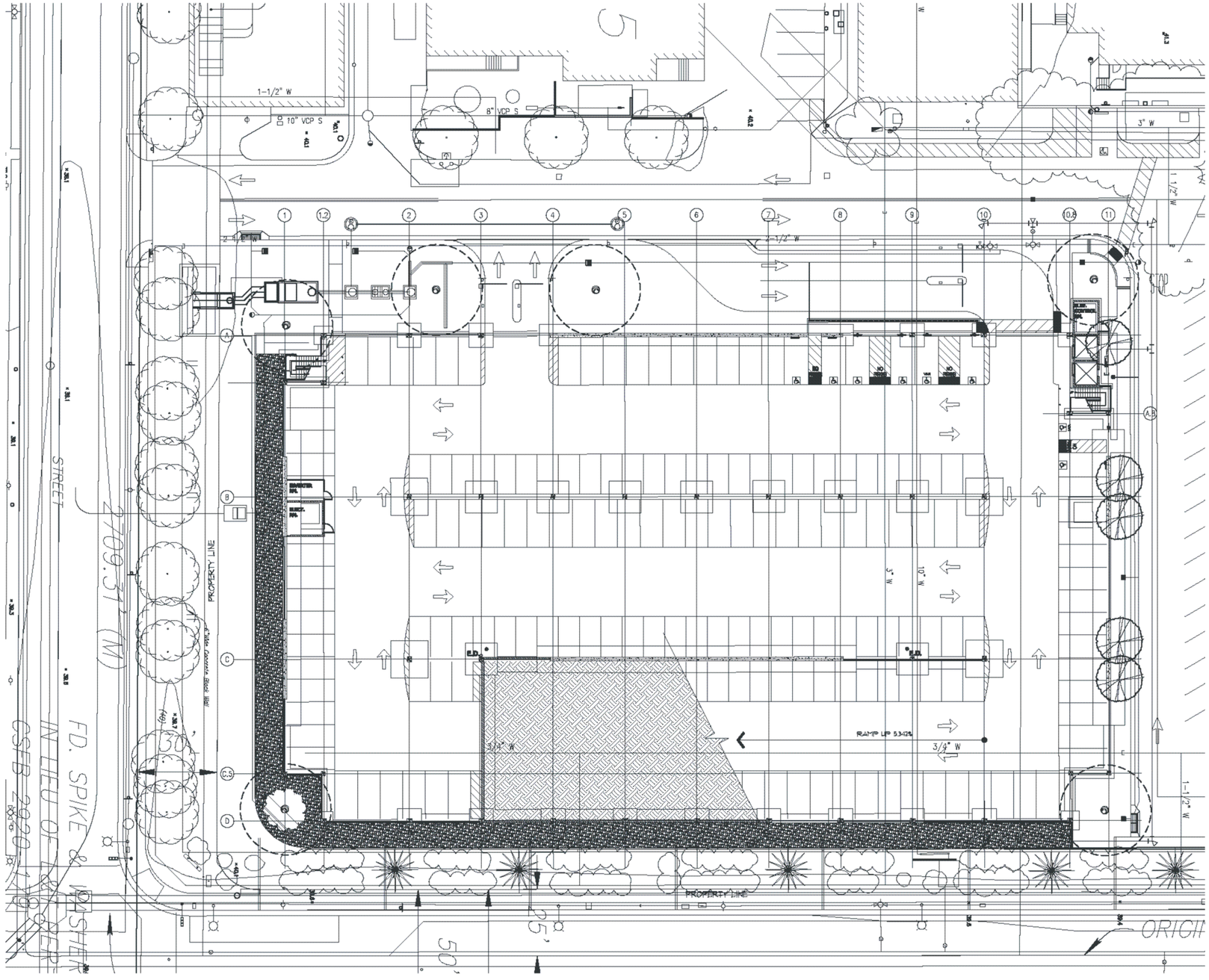
The Final MND identified "No Impact" for Items a) and b), "Less Than Significant Impact" for Item c), and "Less Than Significant With Mitigation Incorporated" for Item d). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in no impact or less than significant visual, aesthetic, and lighting impacts.

a) - d) No Substantial Change from Previous Analysis: The project site is located in a fully developed area where there are no scenic vistas, scenic resources, or a scenic highway. The proposed parking structure will be located on a portion of the project site that is currently developed with an asphalt-paved at-grade parking lot as shown in Exhibit 3. The existing screen of mature trees and landscaping along the right of way on Vermont Avenue and 220th Street will remain, and will be supplemented by additional landscaping surrounding the parking structure (see Exhibit 7).

For comparison, the existing main hospital tower is the tallest building at 133 feet in height above grade in the vicinity of the project area. The Replacement Project includes an elevator tower at 132 feet in height above grade that will be located on the existing hospital tower. In addition, the Replacement Project includes a Surgery/Emergency building that will be 34 feet in height above grade with the mechanical penthouse of the Surgery/Emergency building at 49 feet in height above grade. The proposed 3-level parking structure will be approximately 27 feet in height above grade with a proposed 20-foot by 10-foot elevator shaft that will be approximately 38 feet in height above grade. The elevator shaft is proposed to be located at the northwest corner of the parking structure. The top of the lighting fixture standards on the top level of the parking structure will also be approximately 38 feet in height above grade, and the tops of the solar panels will be approximately 35

feet in height above grade. The elevator shaft is located approximately 195 feet west of Vermont Avenue and 330 feet north of 220th Street. The solar panels are set back at least 40 feet from the edges of the parking structure and situated in the center of the third level, at a height consistent with the elevation of other building elements to visually integrate the panels into the structure.

The project area and the area surrounding the proposed location of the parking structure are shown in photographs 1 through 5 on Exhibits 8 through 10. These photographs show the existing visual character of the project and surrounding areas. The prominent feature near the site is the 133-foot high main hospital tower. The other surrounding structures range from one to two stories. The photographs also show the existing landscaping along Vermont Avenue and 220th Street as well as on the parking structure site.



TREE LEGEND

SYMBOL	QTY	SIZE	BOTANICAL NAME/ COMMON NAME	COMMENTS
	9	36" BOX	WASHINGTONIA ROBUSTA MEXICAN FAN PALM	EVERGREEN STANDARD LOW-BRANCHING
	6	EXISTING TO BE REMOVED IN 108" DIAMETER	ULMUS PARVIFOLIA CHINESE ELM	EVERGREEN

GROUNDCOVER

	2" DEEP	DECORATIVE RIVER ROCK 1-5" DIAMETER W/ WEED BARRIER UNDERLAYMENT

Source: Parking Design Solutions, October 2009.

NORTH

Michael Brandman Associates

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Exhibit 7
Landscape Plan

Photograph 1: Looking at Site from near southwest corner of 220th Street & Vermont Avenue.

Photograph 2: Looking toward Site from south side of 220th Street, west of the Vermont Avenue parking area.

Photograph 3: Looking at Site from east side of Vermont Avenue, north of the parking structure (from near northernmost residences along Vermont Avenue).

Photograph 4: Looking at Site from near northeast corner of 220th Street and Vermont Avenue (near mobile home units).

Photograph 5: Looking toward Site from the east side of Vermont Avenue, approximately 200 feet south of the 220th Street and Vermont Avenue intersection.

During construction of the proposed parking structure, aesthetic impacts would occur, most directly to the residences on the corner of 220th Street and Vermont Avenue. The apartment residences to the south, across 220th Street, have units with small windows facing north toward the project site. Views from these apartment units toward the project site are limited and not substantial. The trailer residents east of the site have views of the proposed parking structure site. These viewpoints are across Vermont Avenue that has a right-of-way width of approximately 100 feet. Vermont Avenue is classified as "major highways to be widened to 100 feet" by the Los Angeles County Department of Regional Planning (County of Los Angeles General Plan, Highway Plan, November 1980). Although the trailer residences have views of the project site, these views of the project site and surrounding area do not have any unique scenic resources.

While the construction activities associated with the proposed parking structure would temporarily contrast negatively with neighboring portions of the campus and community, standard campus construction practices, similar to those identified in the Final MND, would be implemented. These practices include partially screening construction activities with the installation of a five-to-six-foot high fence covered with a wind resistant fabric that would also act as a barrier to fugitive dust generated on the project site or screened by plywood. In addition, the construction activities of the parking structure will be set back from Vermont Avenue and 220th Street, and the existing trees along the property lines will be retained to partially screen the activities from the adjacent residences. With the implementation of the standard construction practices and the retention of the existing trees along the streets, temporary construction aesthetic impacts would not be significant.

The existing visual character and quality of the project site will be improved with the implementation of the proposed parking structure because it will be designed to complement the "campus" design features (i.e., building materials and styling features) that will be part of the Replacement Project. In addition, the proposed project will be adding additional landscaping adjacent to the parking structure to emphasize the campus-like quality that is part of the Replacement Project.

The proposed parking structure would not create a new source of substantial light or glare. There are six existing pole mounted light fixtures that are approximately 30 feet in height in the portion of the existing parking lot where the parking structure is proposed. The third level of the proposed parking structure will include four pole mounted light fixtures that will be 12 feet high above the deck of the third level. The pole mounted light fixtures on the third level will be set back approximately 40 feet from the edges of the proposed parking structure. The lighting plan for the first and second levels of the proposed parking structure will include 4-foot pendant-hung light emitting diode (LED) fixtures with recessed bulbs. Specialty lighting is proposed for the stairwells/exits and emergency phone within the parking structure.

Based on the Photometric Analysis located in Appendix A for the proposed parking structure, the project will result in lighting levels at the closest residential receptor, the apartments to the south

across 220th Street, from 0.0 to 0.2 foot-candles, while no foot candles will occur from the project at the residences located across Vermont Avenue. The lighting levels within 25 feet of the existing property line is a maximum of 0.3 foot-candles. These levels of lighting are less in foot-candles compared to the International Dark-Sky Association (IDA) and Illuminating Engineering Society of North America (IESNA) that have adopted a recommended standard of 0.5 foot-candles at a distance of 25 feet beyond a property line. Additionally, the lights on the third level are planned to be angled/pointed down to minimize lighting impacts to adjacent receptors. Since lighting levels associated with the proposed parking structure would be less than the IDA and IESNA recommended standards, the proposed parking structure would result in a less than significant lighting impact on adjacent uses.

Light/glare from vehicle headlights on the second and third levels of the parking structure will be screened by approximately 2 to 3 foot high walls integrated in the structure design. In addition, the entrance to the parking structure is situated in the same location as the current parking lot entrance, central to the campus and away from residences, in order to minimize light/glare from vehicles entering/exiting the structure. Glare from solar panels may occur from a minimal amount of metal located on the frame of the panels. The glare will be minimized by positioning the panels in the center of the proposed parking structure, a maximum of 12 feet above the third level of the structure, with the outside edges of the panels set back approximately 45 feet from the edges of the structure so that the panels will not be visible from the street-level elevations immediately adjacent to the proposed parking structure. Therefore, as proposed, less than significant light or glare impacts would result from the proposed parking structure.

In summary, the proposed parking structure will result in no impact or less than significant visual, aesthetic, and lighting impacts, and therefore, would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects compared to the aesthetics evaluation provided in the Final MND.

2. Agricultural Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The Final MND identified "No Impact" for Items a), b), and c). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in no impact on agricultural resources.

a) - c) No Substantial Change from Previous Analysis: The Final MND identified that the Harbor-UCLA Medical Center campus is fully urbanized, and there are no native topsoils that remain onsite for potential farming activities; thereby resulting in no impacts to farmlands. Based on a review of the Los Angeles County Draft General Plan prepared in 2008, the project vicinity as well as the project site does not include any agricultural resource areas (i.e., land that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance); nor is the project site zoned for agricultural uses. There would be no impacts to agricultural resources with the implementation of the proposed parking structure. Since the Final MND identified no impacts to agricultural resources, there would be no change to the "no impact" finding provided in the Final MND.

3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

d) Expose sensitive receptors to substantial pollutant concentrations?

e) Create objectionable odors affecting a substantial number of people?

The proposed project is in the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Basin is in nonattainment for ozone and particulate matter (PM_{10} and $PM_{2.5}$), which means that concentrations of those pollutants currently exceed the federal and/or State ambient air quality standards for these pollutants. Ambient air quality standards for criteria pollutants are set by the U.S. Environmental Protection Agency and the California Air Resources Board (ARB) to protect the health of sensitive individuals. Criteria pollutants include ozone, PM_{10}, $PM_{2.5}$, carbon monoxide (CO), nitrogen dioxide, lead, and sulfur dioxide. Ozone is formed through reactions of volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight.

As described in Section 1, the Replacement Project was approved in August 2006. A portion of the project commenced in October 2006, and the utility work began in December 2009. The proposed parking structure is planned to be constructed in 2010 at the same time that the Replacement Project is expected to be under construction. The air quality evaluation for the Replacement Project identified potential significant impacts related to oxides of nitrogen (NO_X) and reactive organic gases (ROG) emissions. Since the proposed parking structure would be under construction during the construction of the Replacement Project, a combined effect evaluation is required to determine the level of impact from the addition of the proposed parking structure.

Subsequent to the preparation of the Final MND, a number of factors have emerged that affect the estimate of construction and operational emissions for the proposed parking structure as well as for the Replacement Project. These are as follows:

1) A change in the timing for the primary grading and building construction activities of the Replacement Project from 2006 to 2010;

2) The use of the updated emissions model, URBEMIS2007 (the Final MND used URBEMIS2002);

3) The addition of the new parking structure that is the subject of this addendum;

4) Inclusion of PM2.5 emissions (they were not estimated in the Final MND); and

5) Inclusion of a localized significance threshold (LST) analysis, which is now required for projects within the South Coast Air Basin.

Therefore, the following analysis evaluates the potential impacts associated with the construction and operation of the proposed parking structure and the overlap of construction activities of the approved Replacement Project. In addressing the potential air quality impacts associated with the proposed parking structure, the individual CEQA Checklist Questions are addressed below.

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

The Final MND identified "Less Than Significant Impact" for Item a). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in a less than significant effect related to a conflict with or obstruct the implementation of the applicable air quality plan.

a) No Substantial Change from Previous Analysis: The Final MND concluded that the construction and operation of the facility Replacement Project would be consistent with the General Plan and, hence, consistent with the Air Quality Management Plan. Furthermore, with the inclusion of mitigation measures outlined in the Final MND, construction emissions would be reduced to less than significant levels. The addition of the parking structure would also be consistent with the General Plan because a parking structure is consistent with the "Public" designation provided in the County of Los Angeles General Plan for the Harbor-UCLA Medical Center Campus. The "Public" designation allows the development of a variety of public facilities, and the proposed parking structure is a public facility. Since the parking structure is consistent with the General Plan, it would be consistent with the Air Quality Management Plan. The combined construction emissions of the proposed parking structure and the approved Replacement Project would continue to remain at less than significant levels with the incorporation of the mitigation measures identified in the Final MND. As described below, due to modifications to the air quality analysis protocol, less air quality impacts associated with the combined construction emissions would occur compared to the impacts identified in the Final MND. Therefore, the applicable mitigation measures will be implemented for the proposed parking structure, and no new mitigation measures are required.

Finally, the operation of the proposed parking structure and the Replacement Project would result in less than significant long-term air quality pollutants.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

d) Expose sensitive receptors to substantial pollutant concentrations?

The Final MND identified "Less Than Significant With Mitigation" for Items b) and d). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects with the implementation of the previously adopted mitigation measures identified in the Final MND. The proposed parking structure will result in less than significant effects to a violation of any air quality standard or contribution to an existing or projected air quality violation as well as exposing sensitive receptors to substantial pollutant concentrations after the implementation of the mitigation measures provided in the Final MND. No new mitigation measures are required.

b) and d) No Substantial Change from Previous Analysis: The Final MND concluded, that after application of identified mitigation measures, the construction of the Replacement Project would not result in an exceedance of any SCAQMD emission significance threshold. The SCAQMD indicates that they consider a project to be mitigated to a level of insignificance if its emissions are mitigated below the following thresholds. As with the Replacement Project, the proposed parking structure will also result in a less than significant impact with mitigation for these impact areas.

Significance Thresholds

Two primary types of significance thresholds have been defined by the SCAQMD to address this impact question: regional emission significance thresholds and localized significance thresholds. The regional emission thresholds are designed to limit the impacts that emissions from a proposed project would have in affecting the ability of the Basin to attain air quality standards. Such emissions may affect the attainment of air quality standards many miles from the project location. Local significance thresholds were developed in response to the SCAQMD Governing Board's environmental justice initiatives (EJ initiative I-4) in recognition of the fact that criteria pollutants such as CO, NO_X, and PM_{10} and $PM_{2.5}$ in particular, can have local impacts as well as regional impacts. Regional and local significance thresholds are defined separately for short-term construction activities and long-term operations.

The following regional significance thresholds for construction or operational emissions have been established by the SCAQMD. Projects in the Basin with construction or operational-related emissions that exceed any of the emission thresholds shown in Table 1 should be considered to be significant:

Table 1: SCAQMD Regional Emission Significance Thresholds

Activity	Maximum Daily Emissions (pounds per day)					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$ [1]
Construction	75	100	550	150	150	55
Operation	55	55	550	150	150	55

Note:
1 $PM_{2.5}$ was not included in the Final MND and has been added to this Addendum
Source: SCAQMD.

The SCAQMD has also defined localized significance thresholds (LSTs) in recognition of the fact that air quality impacts from the construction and operation of a project may have local as well as regional impacts. The localized significance thresholds identify the maximum emissions of a pollutant during either construction or operation that would not result in the exceedance of the most restrictive ambient air quality standard. The LSTs are defined for CO, NO_X, PM_{10}, and $PM_{2.5}$ and depend on the size of the project and its location. The estimation of emissions in the assessment of

localized impacts pertains only to those emissions generated from onsite emission sources (e.g., heavy duty construction equipment and fugitive dust). The project site is located in an area identified by the SCAQMD as Source Receptor Area 3 (Southwest Coastal Los Angeles County). The construction and operational LSTs for the proposed project are shown in Table 2.

Table 2: SCAQMD LSTs for the Project Area

Activity	Maximum Daily Emissions [1] (pounds per day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Construction	1,063	134	30	7
Operation	1,063	134	4	3

Note:
[1] For Source Receptor Area 3, 2 acre daily construction grading area and a distance of 75 meters to the nearest sensitive receptor residence.
Source: SCAQMD.

Regional Emission Significance Threshold Analysis

Regional Construction impacts

The CARB URBEMIS2007 land use emission model was used to update the regional emissions from the construction of the proposed parking structure and the approved Replacement Project. In developing the estimated emissions associated with the proposed parking structure and approved Replacement Project, the same construction phases (e.g., demolition, grading, building construction, and paving), duration of construction phases, and construction equipment inventory used in the Final MND were assumed in this update in addition to the inclusion of the construction of the proposed parking structure.

Table 3 provides the unmitigated construction regional emissions as contained in the Final MND. Table 4 provides updated unmitigated construction regional emissions that account for the construction activities of the proposed parking structure at the same time as a portion of the Replacement Project. The updated construction regional emissions also included the use of the updated emissions model from SCAQMD (i.e., URBEMIS2007). The combined regional construction emissions of the proposed parking structure and the Replacement Project are currently estimated to occur at the same time beginning in April 2010 and extending for approximately 8 months.

Table 3: Year 2006 Final MND Replacement Project Construction Emissions (Without Mitigation)

Construction Activity in 2006	Maximum Daily Emissions[1] (pounds per day)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Site Demolition						
Replacement Project	32.1	38.7	4.5	0.1	2.8	NC
Parking Structure	0.0	0.0	0.0	0.0	0.0	NC
Total	32.1	38.7	4.5	0.1	2.8	
Grading						
Replacement Project	123.4	137.9	17.3	0.0	14.0	NC
Parking Structure	0.0	0.0	0.0	0.0	0.0	NC
Total	123.4	137.9	17.3	0.0	14.0	
Building Construction						
Replacement Project	196.6	203.5	26.7	0.0	9.3	NC
Parking Structure	0.0	0.0	0.0	0.0	0.0	NC
	196.6	203.5	26.7	0.0	9.3	
SCAQMD Regional Significance Threshold	550	100	75	150	150	55
Exceeds Threshold	No	Yes	No	No	No	NC

Notes:
[1] Emissions shown were derived from the values presented in the Final MND
NC = Not calculated since $PM^{2.5}$ emissions were not estimated in the Final MND
Source: see Appendix B for assumptions and calculations.

Table 4: Year 2010 Combined Parking Structure and Replacement Project Construction Emissions - (Without Mitigation)

Construction Activity in 2010	Maximum Daily Emissions (pounds per day)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Site Demolition						
Replacement Project	11.8	21.7	2.4	0.0	2.2	1.2
Parking Structure	14.3	23.4	3.0	0.0	2.0	1.4
Total	26.1	45.1	5.4	0.0	4.2	2.6
Grading						
Replacement Project	40.1	68.4	8.2	0.0	9.8	4.4
Parking Structure	7.1	13.7	1.8	0.0	2.3	1.0
Total	47.2	82.1	10.0	0.0	12.1	5.4
Building Construction						
Replacement Project	49.9	87.6	10.4	0.0	4.7	4.4
Parking Structure	19.1	45.9	4.2	0.0	1.8	1.6
Total	69.0	133.5	14.6	0.0	6.5	6.0
SCAQMD Regional Significance Threshold	550	100	75	150	150	55
Exceeds Threshold	No	Yes	No	No	No	No

Source: see Appendix B for assumptions and calculations.

As noted in Tables 3 and 4, the SCAQMD regional emission significance threshold for NO_X is exceeded in both the Final MND emission estimates and in the combined parking structure and Replacement Project emission estimates.

Regional Operational Impacts

The Final MND concluded that the daily emissions from the operation of the Replacement Project would not exceed any of the SCAQMD's regional emission significance thresholds. The major source of emissions would be from the vehicle trips associated with the replacement facility and emissions from natural gas usage for air and water heating requirements. The Traffic and Parking Assessment that is located in Appendix E in this Addendum and prepared for the proposed parking structure concluded that the addition of the parking structure is intended to increase the convenience of staff and visitors to the facility, and not increase the total beds or patient workloads. As a result, the proposed parking structure would not generate any new vehicle trips to the Harbor-UCLA Medical Campus. Therefore, the regional operational emissions shown in the Final MND for the approved Replacement Project would continue to be less than significant with the combined emissions of the proposed parking structure. The combined emissions would not exceed the SCAQMD's regional emission significance thresholds.

Localized Significance Threshold Analysis

Construction Impacts

Based on the emission estimates provided in Table 4, the highest daily emissions would occur during the building construction activity in the year 2010 when both the proposed parking structure and the Replacement Project are assumed to be under construction at the same time. Table 5 compares the localized construction emissions from the proposed parking structure and Replacement Project with the LSTs defined for the project and its location based on the updated construction schedule and URBEMIS model.

Table 5: Construction LST Analysis

Construction Activity	Maximum Daily Emissions (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Building Construction				
Replacement Project	84.8	9.8	4.6	4.2
Parking Structure	57.1	22.4	2.7	2.5
Total	141.9	32.2	7.3	6.8
SCAQMD LST	134	1,063	30	7
Exceeds LST?	Yes	No	No	No
Source: see Appendix B for assumptions and calculations.				

Table 5 indicates that the combined building construction emissions of the proposed parking structure and the Replacement Project would exceed the LST for NO_X. The building construction activity includes emissions during building construction, asphalt paving, and architectural coatings resulting in a potentially significant localized impact. This potential significant NO_X emissions impact is similar to the significant NO_X emissions impact identified for the Replacement Project in the Final MND. The Final MND utilized the URBEMIS 2002 model that found that emissions associated with the Replacement Project exceeded the SCAQMD's daily emissions threshold for NO_X. The above analysis uses the current SCAQMD methodology that also found that emissions associated with the construction of the proposed parking structure at the same time as the Replacement Project would exceed the current SCAQMD's daily emissions threshold for NO_X. As described below, the mitigation measures provided in the Final MND to reduce construction NO_X. Emissions to less than significant would also reduce the combined (parking structure and Replacement Project) emissions to less than significant.

Operational Impacts

The bulk of the air pollutants generated by the operation of the proposed parking structure and the Replacement Project involves emissions mainly from passenger vehicles traveling from their origin to the Harbor UCLA Medical Center campus. These "offsite" emissions are not considered in the localized significance impact analysis. However, some emissions would be generated onsite by vehicles traveling and idling while within the parking structure in seeking a parking space. Assuming as a worst-case that the entire parking structure is filled to capacity in a given hour (a total of 544 spaces) over a 12-hour business day, with a 50 percent turnover of parking spaces each hour, vehicles traveling within the structure at 5 miles per hour and over an average distance of 1,000 feet within the structure (movement after entering the structure to find a parking space and after leaving the parking space), and idling for 30 seconds, the total daily localized operational emissions are shown in Table 6.

Table 6: Estimated LST Operational Analysis

Activity	Maximum Daily Emissions (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Operations from the parking structure	1.6	12.9	0.4	0.4
SCAQMD LST	134	1,063	4	3
Exceeds LST?	No	No	No	No
Source: see Appendix B for assumptions and calculations.				

As noted from Table 8, the operational emissions associated with the proposed parking structure would not exceed any SCAQMD operational LST.

Mitigation

Site construction activities were found to exceed the SCAQMD's regional and localized significance threshold for NO_X during the construction of the proposed parking structure at the same time as the Replacement Project. The following mitigation measures that were included in the Final MND would also reduce the NO_X emissions associated with the construction of the parking structure to less than significant.

- Heavy equipment shall be tuned up and maintained in accordance with manufacturer's specifications. Equipment logs demonstrating proper maintenance shall be maintained at the site during construction activities.
- Heavy equipment used during demolition, site preparation, and grading shall not exceed an aggregate use of 46 hours per day. Heavy equipment use during building construction shall not exceed an aggregate of 80 hours per day. Equipment logs demonstrating daily use shall be maintained at the site during construction activities.
- Heavy equipment shall not be allowed to remain idling for more than a five-minute duration.
- Trucks shall not be allowed to remain idling for more than a two-minute duration.
- Electric power shall be used to the exclusion of gasoline or diesel generators and compressors whenever feasible.
- Construction activities shall minimize obstruction of through traffic lanes adjacent to the site and, if necessary, a flag-person shall be retained to maintain safety adjacent to existing roadways.

Adherence to the above mitigation measures would insure that the NO_X construction emission impacts associated with the construction of the proposed parking structure at the same time as the Replacement Project are reduced to less than significant.

In addition, the Final MND identified two mitigation measures to reduce ROG emissions; however, as shown in the above analysis, the ROG emission impacts associated with the construction and operation of both the proposed parking structure and the Replacement Project would be less than significant. Therefore, no additional mitigation measures are required for the proposed parking structure to reduce ROG emissions, which will ensure that ROG emission levels remain below the significance thresholds.

- All primers shall contain less than 0.85 pound per gallon (102 gram/liter) VOC.
- All top coats shall contain less than 0.07 pound per gallon (8 grams/liter) VOC.

c) *Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?*

The Final MND identified "Less Than Significant Impact" for Item c). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in a similar less than significant cumulative effects after the implementation of the mitigation measures identified for Item b). These mitigation measures are the same measures as provided in the Final MND. No new mitigation measures are required.

c) No Substantial Change from Previous Analysis: The Final MND identified that mitigation measures would reduce the project's emissions contribution and mitigate its cumulative impact to less than significant. The SCAQMD methodology which is provided in the SCAQMD 1993 CEQA Air Quality Handbook identifies that any project that can be mitigated to less than the daily emissions thresholds does not add significantly to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts incorporates a summary of projections. The following evaluations include a regional analysis and a Plan approach analysis in accordance with the SCAQMD 1993 CEQA Air Quality Handbook.

Regional Analysis

As noted in the Final MND, the South Coast Air Basin is in nonattainment for criteria pollutants. As with the Replacement Project, project specific mitigation measures to reduce construction NO_X emissions to less than significant are recommended in Item b). Since project specific mitigation measures would be implemented, the project's NO_X emissions would not contribute to a significant cumulative impact. Therefore, similar to the Replacement Project, there would be no additional NO_X mitigation measures beyond those identified in Item b) that would be required to reduce the project's contribution to cumulative impacts related to NO_X.

Plan Approach

The geographic scope for cumulative criteria pollution from air quality impacts is the South Coast Air Basin because that is the area in which the air pollutants generated by the sources within the basin circulate and are often trapped. The SCAQMD is required to prepare and maintain an AQMP and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SCAQMD does not have direct authority over land use decisions, it is recognized that changes in land use and circulation planning are necessary to maintain clean air. The SCAQMD evaluated the entire Basin when it developed the AQMP.

According to the analysis contained in response to Item a) above, the project is consistent with the most recent AQMP without mitigation, and therefore, consistent with the State Implementation Plan. The project would result in a less than significant cumulative impact on the AQMP and State Implementation Plan.

Summary

The proposed parking structure and the Replacement Project would contribute criteria pollutants to the area during short-term project construction. As detailed in response to Checklist Question b) above, these emissions would be reduced to less than significant with the application of identified mitigation. Because short- and long- term emissions associated with the proposed parking structure and Replacement Project would be below SCAQMD thresholds after the implementation of the project specific mitigation measures that were previously adopted with the Final MND, the combined contribution of these pollutants would not be cumulatively considerable and would represent a less than significant cumulative impact.

d) Expose sensitive receptors to substantial pollutant concentrations?

The Final MND identified "Less Than Significant With Mitigation" for Item d). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in a less than significant effects to sensitive receptors after the implementation of previously adopted mitigation measures.

d) No Substantial Change from Previous Analysis:

Localized Significance Threshold Analysis

The localized construction analysis uses thresholds that represent the maximum emissions for a project that would not cause or contribute to an exceedance of the most stringent applicable national or State ambient air quality standard. The thresholds are developed based on the ambient concentrations of that pollutant for each source receptor area and on the location of the sensitive receptors. If the project results in emissions under those thresholds, it follows that the project would not cause or contribute to an exceedance of the standard. If the standards are not exceeded at the sensitive receptor locations, it follows that the receptors would not be exposed to substantial pollutant concentrations.

As discussed in response to Item b) above, the local construction impacts associated with the Replacement Project and the proposed parking structure would exceed the SCAQMD's localized significance thresholds for NO_X. The mitigation measures identified in Item b) would reduce the NO_X emissions to less than significant. These mitigation measures are the same measures as provided in the Final MND. The operational impacts associated with the proposed parking structure and the

Replacement Project are less than the SCAQMD's localized significance thresholds; and therefore, less than significant emissions for the local area would occur.

Local Carbon Monoxide Emissions

A project would be considered to have a significant impact if its operational emissions exceed the following carbon monoxide standards.

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

The findings contained in the Final MND indicated that the Replacement Project would not result in a potential carbon monoxide "hotspot" at three adjacent intersections that were analyzed. The Traffic and Parking Assessment that was prepared for the proposed parking structure states that the addition of the parking structure would not add any new vehicle trips. Since no additional vehicle trips would be generated by the proposed parking structure, the combined operation of the proposed parking structure and the Replacement Project would not exceed the carbon monoxide air quality standards and would not result in a potential carbon monoxide "hotspot."

Toxic Air Contaminants

Projects of concern for toxic air contaminants (including diesel particulate matter) exposure are those projects which would be located near high traffic freeways, urban roads with more than 100,000 vehicles per day, gasoline stations, dry cleaners using perc, and a high concentration of heavy truck usage such as rail yards, ports, and distribution centers (ARB 2005). The proposed parking structure and Replacement Project are not near any uses that would emit significant quantities of toxic air contaminants. The impact would be less than significant.

Health Impacts

The Basin is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as the elderly, children, and the sick). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects. The regional analysis of the combined construction emissions of the proposed parking structure and the Replacement Project indicate that emissions would exceed the SCAQMD regional significance thresholds for NO_X, an ozone precursor. As identified in Item b) above, mitigation measures were recommended in the Final MND which would reduce NO_X emissions during construction activities to less than significant. Therefore, the implementation of the mitigation measures to reduce NO_X emissions during construction activities would result in emissions that are under the ambient air quality standards and would not contribute to significant health effects. No new mitigation measures are required.

e) Create objectionable odors affecting a substantial number of people?

The Final MND identified "Less Than Significant Impact" for Item e). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in a less than significant objectionable odor impact.

e) No Substantial Change from Previous Analysis: Individual responses to odors are highly variable and can cause a variety of effects such as physical harm, agitation, anger, and annoyance. Land uses typically considered to be associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The proposed parking structure does not contain features that would typically be associated with emitting objectionable odors because typical odors from parking structures occur from automobiles and trucks, and these are similar odors that are currently produced along the adjacent roadways. In addition, there is no increase in vehicular trips anticipated as a result of the proposed parking structure.

Construction activities associated with the proposed parking structure are similar in type to those analyzed in the Final MND and would include the operation of equipment that may generate odors from VOC and diesel emissions. Potential construction odors would result from on-site construction equipment's diesel exhaust emissions, roofing, or paving operations. However, these odors would be temporary, would dissipate rapidly from the source with increasing distance, and construction equipment idling measures previously adopted would also reduce odors. The future operation of the proposed parking structure and the proposed landscaping adjacent to the parking structure may involve minor, odor-generating activities such as periodic lawn mower exhaust and other factors. However, these types and concentrations of odors are typical of the existing hospital uses and the Replacement Project as well as local commercial uses. These potential odor impacts are considered to be less than significant.

4. Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Final MND identified "No Impact" for Items a) through f). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts to biological resources.

a) - f) No Substantial Change from Previous Analysis: As analyzed in the Final MND, the project site is located in a completely developed area with surface parking that is currently void of other distinctive land elements that have the potential to harbor sensitive plant or animal species because the proposed parking structure will be located on the site of an existing paved surface parking area. A decrease in the diversity of animal species, unique, or endangered species, or deterioration to existing wildlife will not occur. In addition, the project site is not located within a Habitat Conservation Plan area and will not conflict with local policies. Therefore, there would be no impacts to biological resources with the implementation of the proposed parking structure. The Final MND identified no impacts to biological resources, and there would be no substantial changes to the "no impact" finding provided in the Final MND.

5. Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

The Final MND identified "Less Than Significant With Mitigation Incorporated" for Items a) through c). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in Less Than Significant With Mitigation Incorporated to historical/archaeological and paleontological resources. No new mitigation measures are required.

a) - c) No Substantial Change from Previous Analysis: The Final MND identified that there are no known historical/archaeological or paleontological resources on or in the proximity of the project site. However, construction activities involve excavation that could disturb previously unidentified historical/archaeological resources or penetrate previously undisturbed deposits that could affect paleontological resources. Potential effects to these resources were found to be potentially significant. The Final MND incorporated one mitigation measure to reduce potential impacts to historical/archaeological resources and paleontological resources to less than significant.

The parking structure will require approximately 1.5 acres of the existing surface parking area to be removed and graded. This area was not assumed to be graded under the Replacement Project. Although the potential for historical/archaeological and paleontological resources to be impacted are low, there is the potential for unidentified resources to be affected similar to the construction activities associated with the Replacement Project. Implementation of the same mitigation measure as provided in the Final MND would reduce the potential historical/archaeological and paleontological resources impacts associated with the ground disturbing activities of the proposed parking structure to less than significant. The Final MND identified a less than significant impact with mitigation to historical/archaeological and paleontological resources, and there would be no substantial changes to the "less than significant impact with mitigation incorporated" finding provided in the Final MND. The required mitigation measure is listed below.

- Prior to construction, the County of Los Angeles Department of Public Works shall verify that the following measures to protect cultural (archaeological and paleontological) resources are included in the contractor specifications. If evidence of cultural resources is encountered during project grading, all grading, and related activity shall cease in the immediate area of the find and then a qualified archaeologist or paleontologist shall be retained to perform the following:
  - To assess the significance of the resource.

- To recover artifacts that are determined and significant shall be offered to a repository with a retrievable system and an educational and research interest in the materials (i.e., Los Angeles County Museum).

d) Disturb any human remains, including those interred outside of formal cemeteries?

The Final MND identified "Less Than Significant Impact" for Item d). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in a less than significant impact to human remains. No new mitigation measures are required.

d) No Substantial Change from Previous Analysis: The Final MND identified that there was no evidence that the Harbor-UCLA Medical Center Campus may be located on a human burial site. Accordingly, human remains are not likely to be present at the Replacement Project site during grading operations. However, in the unlikely event that burial remains are unearthed during construction, State law requires the Los Angeles County Coroner be contacted. Although the site of the proposed parking structure is not located within the proposed grading operations of the Replacement Project, there is still an unlikely potential for a human burial site to be present at the parking structure site. Even though the potential to impact a human burial site is less than significant, the following mitigation measure was previously adopted with the Final MND to ensure that State law is followed.

- If human remains of possible Native American origin are encountered during the project, along with the Native American Heritage Commission, the Los Angeles County coroner's office and a qualified archaeologist shall be contacted by the contractor for preservation and protection of the remains per the California Native Commission.

6. Geology and Soils

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

b) Result in substantial soil erosion or the loss of topsoil?

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Final MND identified "Less Than Significant Impact" for Items a)i), a)ii), a)iii), b), c), and d). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant impacts related to exposing people or structures to fault ruptures, strong seismic ground shaking, seismic-related ground failure, substantial soil erosion, unstable soils, and expansive soils. No new mitigation measures are required.

a)i), a)ii), a)iii), b), c), and d) No Substantial Change from Previous Analysis: The geology and soils of the proposed project site area were assessed in the Final MND. The findings in the Final MND were summarized from a geotechnical evaluation prepared by Law/Crandall, Inc. in 1993 for the Replacement Project. Since the Harbor-UCLA Medical Center Campus is located in a seismically active region and in the proximity of several of the many active and potentially active faults in Southern California, the Final MND identified the potential for geological impacts; however, this potential was determined to be less than significant with respect to the Replacement Project. These potential geotechnical impacts include fault rupture, strong seismic ground shaking, seismic-related ground failure, substantial soil erosion, unstable soils, and expansive soils. Although the site of the proposed parking structure is not located within the proposed grading area of the Replacement Project that was evaluated in the Final MND, ground failure, substantial soil erosion, unstable soils, and expansive soils are the same for the proposed parking structure as the Replacement Project based on a review of a site-specific geotechnical evaluation prepared by Mactec in October 2009 for the proposed parking structure (see Appendix C).

The "Report of Geotechnical Investigation-Proposed Parking Structure" prepared by Mactec in, October 2009 found that the potential for geologic hazards such as seismic-related ground failure (i.e.,

liquefaction), substantial soil erosion, unstable soils (i.e., lateral spreading and subsidence), and expansive soils is low. Therefore, these potential effects are considered less than significant. The geotechnical evaluation for the proposed parking structure found that the proposed parking structure could be subjected to strong seismic ground shaking. As analyzed in the Final MND, State Building Codes provide standard design measures to reduce potential seismic ground shaking impacts as well as the geologic hazards identified above to less than significant. As with the Replacement Project, the proposed parking structure will be required to incorporate standard design measures in accordance with State Building Codes. The standard design measures that are identified in the Final MND and bulleted below would also be appropriate for the proposed parking structure. The measure that references the geotechnical evaluation for the Replacement Project would be nominally altered to reference the geotechnical evaluation for the proposed parking structure.

- During construction, the contractor shall remove loose, disturbed material, uncertified fill, or otherwise unsuitable soils and replace them with properly compacted fill material as required by the approved construction documents.
- During final design, the County of Los Angeles shall incorporate into the project design the recommendations for construction outlined in the "Report of Geotechnical Investigation-Proposed Parking Structure" prepared by Mactec (formally Law/Crandall, Inc.) in October 2009.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

iv) Landslides?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Final MND identified "No Impact" for Items a)iv) and e). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no geotechnical impacts related to landslides and septic tanks.

a)iv), and e) No Substantial Change from Previous Analysis: The Final MND identified that the topography of the site proposed for the Replacement Project as well as the entire Harbor-UCLA Medical Center is relatively flat. The proposed parking structure is also located on a site that is relatively flat. Therefore, similar to the finding in the Final MND, the proposed parking structure would experience no impact from landslides.

The Final MND also identified that the Replacement Project will include structures that will be connected to the existing sanitary sewer system and would not include septic systems. The proposed parking structure will not require sanitary disposal. Therefore, similar to the finding in the Final MND, the proposed parking structure would not be affected by soils incapable of supporting the use of septic tanks because no sanitary sewer disposal system is proposed for the parking structure.

7. Greenhouse Gas Emissions

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

a) Less than significant. The Final MND did not contain an analysis of greenhouse gases or climate change since this type of analysis was not typically included prior to the implementation of Assembly Bill 32. This analysis assesses the potential of the parking structure to generate an impact related to greenhouse gas emissions.

In 2006, the California State Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing greenhouse gas emissions in California. Greenhouse gases, as defined under AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. According to AB 32, climate change poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of climate change include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, an increase in wildfires, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

As identified above, there are six types of pollutants that can contribute to greenhouse gases. As of 2006, there was approximately 484 million $MTCO_2e$ of greenhouse gas emissions that were generated per year within California.

Construction Impacts: Construction activities primarily generate one (carbon dioxide) of the six types of pollutants that contribute to greenhouse gases. Emissions of nitrous oxide and methane are also generated by construction vehicles; however, the amount that is generated is negligible. No other pollutants that contribute to greenhouse gases are generated by construction vehicles. The anticipated emissions of carbon dioxide from project construction equipment and worker vehicles are shown in Table 7. The emissions are from all phases of construction which is anticipated to be completed by the end of 2010.

Table 7: Greenhouse Gas Emissions - Parking Structure

Year, Component	Phase	Emissions (tons of CO_2) [a]	Emissions ($MTCO_2e$)
2010	Demolition	5	5
	Mass grading	4	4
	Building	171	155
	Asphalt paving	13	12
Total		**193**	**175**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide (CO_2) equivalent, converted from tons by multiplying by 0.9072 and the global warming potential of 1.
[a] Emissions of CO_2 are only presented in this table because the combined emissions of nitrous oxide and methane are expected to be less than one $MTCO_2e$.
Source: URBEMIS2007 output and assumptions, Appendix B.

Operational Impact: Operational or long-term emissions occur over the life of the project. Since the Traffic and Parking Assessment prepared for the proposed parking structure states that the addition of the parking structure would not add any new vehicle trips to those trips identified in the Final MND, no additional greenhouse gases are expected to be emitted with the addition of the parking structure from motor vehicles. Further, a project design feature that is proposed to be incorporated into the design of the parking structure includes the use of solar panels to generate sufficient electricity to power the lights in the parking structure. Thus, there would be no additional greenhouse gas emissions generated from the electricity that powers the lights in the parking structure. Finally, there may be a minor amount of emissions associated with the transport and treatment of water to be used for landscaping (if any). Additional maintenance activities for the proposed parking structure are negligible because the project area is currently maintained on a periodic basis.

Amortized greenhouse gas emissions refer to the emissions averaged over 30 years. The average annual construction emissions would be 6 $MTCO_2e$ per year (175 divided by 30). This methodology follows SCAQMD guidance in its latest draft thresholds (SCAQMD 2009). These emissions are under the SCAQMD's latest draft threshold of 3,000 $MTCO_2e$ per year for commercial projects such as the proposed parking structure.

Considering the above information, the construction and operation of the proposed parking structure would result in a less than significant impact because it is less than SCAQMD's draft threshold. The operation of the project would not be expected to generate any additional greenhouse gas emissions above negligible levels, either directly or indirectly, and would not have a significant impact on the environment. Furthermore, since the proposed parking structure's emissions of 175 $MTCO_2e$ is less than the 3,000 $MTCO_2e$ per year draft threshold and a small percentage of California's greenhouse

gas emissions, the proposed parking structure's contribution of greenhouse gas emissions to cumulative levels is less than cumulatively considerable.

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

b) Less than significant. The Final MND did not contain an analysis of greenhouse gases or climate change. This analysis assesses the potential impact of the parking structure to conflict with any applicable plan, policy, or regulation for reducing the emissions of greenhouse gases.

The South Coast Air Quality Management District does not have an applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases. The Scoping Plan (ARB 2008) is a document prepared pursuant to AB 32 that outlines measures the State needs to take to reduce its greenhouse gas emissions to 1990 levels by the year 2020. The items in the Scoping Plan include measures to increase energy efficiency, increase the use of renewable energy, increase green building, reduce waste, and conserve water.

On January 16, 2007, the County of Los Angeles adopted the Energy and Environmental Policy (Policy) as part of the County's efforts to help conserve natural resources and protect the environment. The goal of the Policy is to provide guidelines for the development, implementation, and enhancement of energy conservation and environmental programs. The Policy establishes an Energy and Environmental Team to coordinate the efforts of various County departments, establish a program to integrate sustainable technologies into its Capital Project Program, reduce energy consumption in County facilities by 20 percent by the year 2015, and commit to join the California Climate Action Registry to assist the County to establishing goals for the reduction of greenhouse gas emissions. The County achieved the latter goal by joining the California Climate Action Registry in 2007. The Policy includes four program areas to promote "green" design and operation of County facilities and reduce the County's "environmental footprint." The program areas include energy and water efficiency, environmental stewardship, public outreach and education, and sustainable design. Since adoption of the Policy, the County has taken steps to ensure compliance with the goals of the Policy and ultimately, AB 32. To meet the 20 percent reduction of energy consumption goal, the County has implemented energy efficient projects in County facilities, specifically, retrofitting or replacing building lighting systems and air conditioning equipment.

In 2008, the County adopted a Green Building Ordinance, which includes requirements for green building, drought-tolerant landscaping, and low impact development. The requirements apply to permit applications filed after January 1, 2009. The parking structure would be required to comply with the County's regulations of green building.

The implementation of the proposed parking structure would not conflict with the County's Energy and Environmental Policy and Green Building Ordinance or any other applicable plan, policy or

regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. As stated above, the operation of the proposed parking structure would not add any new vehicle trips to the Harbor-UCLA Medical Campus, would include the use of solar panels to generate sufficient electricity to power the lights in the parking structure, would include the use of drought tolerant landscaping and low-flow drip irrigation for landscaping, and negligibly increase periodic maintenance activities. As a result, the proposed parking structure would not generate any additional greenhouse gas emissions above negligible levels and would be less than significant.

8. Hazards and Hazardous Materials

Would the project:

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

The Final MND identified "Less Than Significant Impact" for Items a), b), and c) for the Replacement Project. As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in less than significant hazard impacts to the public or the environment, or impacts to existing or proposed schools related to hazards or hazardous materials.

a), b), and c) No Substantial Change from Previous Analysis: The Final MND identified that the Replacement Project would increase the amount of medical waste generated at the Harbor-UCLA Medical Center. However, the expected increase would not exceed the disposal capabilities of waste removal contractors, and therefore, would not create a significant hazard to public and environmental health. The Replacement Project will result in the removal of additional hazardous waste from the Harbor-UCLA Medical Center, but since the waste would be handled in accordance with the existing Medical Waste Management Plan, less than significant impacts related to potential hazards to the public or the environment through accidents would occur. Furthermore, the Final MND identified that since the hospital no longer uses an incinerator to burn waste, less than significant impacts to schools occurring within one-quarter mile of the medical center would not experience a significant impact.

The proposed parking structure would not increase the amount of medical waste or hazardous waste generated at the Harbor-UCLA Medical Center, and therefore, would not result in a change from the previous analysis in the Final MND.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The Final MND identified "No Impact" for Items d), e), f), g), and h) As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts related to hazards or hazardous materials sites compiled pursuant to Government Code Section 65962.5, public or private airports/airstrips, physically interfering with an adopted emergency response plan or emergency evacuation plan, and exposure of people or structures to wildland fires.

d), e), f), g), and h) No Substantial Change from Previous Analysis: The Final MND identified that the Harbor-UCLA Medical Center is not listed as a hazardous materials site pursuant to Government Code Section 65962.5. Since the proposed parking structure is located within the Medical Center, the implementation of the proposed parking structure would not cause a hazard impact related to hazardous materials sites compiled pursuant to Government Code Section 65962.5.

The Final MND identified that the Harbor-UCLA Medical Center is not within a public airport land use plan or within the vicinity of a private airstrip. Therefore, as with the Replacement Project, the proposed parking structure would result in no hazard impacts related to public or private airports/airstrips.

The Final MND also identified that the implementation of the Replacement Project would have no impact on any city or county wide emergency evacuation plans, Similar to the Replacement Project, the proposed parking structure would not impact emergency evacuation plans because the proposed parking structure is located on the Medical Campus and would not affect the existing hospital's Emergency Preparedness Manual.

The Final MND stated that the Harbor-UCLA Medical Center is located in a densely developed area that is not adjacent to or intermixed with wildlands. Since there are no wildlands in the vicinity of the Medical Center, the proposed parking structure would not result in a hazard impact related to wildland fires.

9. Hydrology and Water Quality

Would the project:

a) Violate any water quality standards or waste discharge requirements?

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?

f) Otherwise substantially degrade water quality?

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

j) Inundation by seiche, tsunami, or mudflow?

The Final MND identified "No Impact" for Items a), b), f), g), h), i), and j). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no hydrology and water quality impacts related to violation of any water quality standards, interfering substantially with groundwater

recharge, substantially degrade water quality, expose housing or other structures to 100-year flood hazard areas, and inundation by seiche, tsunami, or mudflow.

a), b), f), g), h), i), and j) No Substantial Change from Previous Analysis: The Final MND identified that the Replacement Project would not violate any water quality standards. The proposed parking structure will not change the Final MND conclusions regarding water quality standards and waste discharge requirements because Low Impact Development (LID) measures are part of the project design, and the quality of the surface water would be similar to the quality of water runoff from the existing surface parking lot. For example, no restroom facilities that would use additional water at the parking structure site are planned, drought tolerant landscaping is specified, along with a weather controlled subsurface irrigation system to minimize water use, and a storm water interceptor/dry well system is planned for storm water and pollutant control. The storm water interceptor will be connected to the parking structure drainage system via pipes laid in a gravel infiltration zone around the parking structure, and will tie into a proposed dry well/pump system at the parking structure site. The dry well system will collect "first flush" runoff from the proposed parking structure, and then peak/excess flows will be pumped into the storm drain system that drains to 220th Street. Portions of the surface runoff from the parking structure access road will also drain to this interceptor, and the remaining runoff will continue to sheet flow to the existing storm drain system draining toward 220th Street. Therefore, the proposed parking structure would result in no impacts to water quality standards and waste discharge requirements.

The MND identified that the Replacement Project would not require new wells to be drilled and would not affect groundwater during excavations because groundwater levels are approximately 25 feet below the ground surface. Similar to the Replacement Project, the proposed parking structure would not impact groundwater because it would not require new wells to be drilled and would not include excavations that would extend into the existing groundwater. In addition, the amount of impervious surface at the proposed parking structure site will actually decrease (i.e., from 84 percent impervious before construction to 76 percent impervious after construction). This decrease in impervious surface will come from increased landscaping and the gravel infiltration zone surrounding the perimeter of the structure that will allow rainwater to infiltrate and recharge groundwater. Therefore, less surface water runoff will be anticipated, and the impacts were evaluated in the Final MND.

The Final MND identified that the Replacement Project would not substantially degrade water quality. Similar to the Replacement Project, the proposed parking structure would also not substantially degrade water quality because operation of the parking structure would be similar to the operation and use of the existing surface parking lot and would not result in the release of pollutants causing a substantial degradation of water quality. In addition, temporary drainage and surface runoff related to short-term construction activities will be controlled under the Construction stormwater pollution protection plan. Long-term drainage and surface runoff will be controlled under Standard

Urban Storm Water Management Plan (SUSMP) requirements, including the storm water interceptor, sand and oil interceptor, and dry well. To ensure that the required standard measures are implemented, the Final MND included two mitigation measures for the Notice of Intent and a stormwater pollution protection program as identified in the Final MND. Although the proposed parking structure would not result in the degradation of water quality, the same two mitigation measures provided in the Final MND are applicable to the proposed parking structure, and with their implementation, there would not be a significant impact.

The Final MND for the Replacement Project identified that the Harbor-UCLA Medical Center is located outside of the Federal Emergency Management Agency 100-year flood maps. Since the Medical Center is located outside of the 100-year flood zone, the proposed parking structure would not be impacted by 100-year floods or expose people or structures to significant flood impacts.

The Final MND for the Replacement Project identified no impacts due to inundation by seiche and tsunami because the site is located 42 feet above mean sea level and is located approximately 5 miles from the coastline or a large inland body of water. No impacts from mudflows would occur because the site is relatively flat. Similar to the findings for the Replacement Project, the proposed parking structure would also result in no impacts due to inundation by seiche and tsunami.

As stated above, although the proposed parking structure would not result in the degradation of water quality, the same two mitigation measures provided in the Final MND are applicable to the proposed parking structure.

- The Contractor shall file a Notice of Intent (NOI) to be covered by the California General Permit for New Development under the NPDES Stormwater Discharge Program. The NOI shall be accompanied by an SWPPP and appropriate fees and shall be filed with the State Water Resources Control Board at least 90 days prior to the onset of the site grading.
- The County shall prepare for approval prior to construction activities, a SWPPP described in above which shall include the siting and maintenance of temporary sediment collection basins, the use of filter fences, filter dikes, and other construction site best management practices (BMPs) near stormwater system outlets.

No new mitigation measures are required.

c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The Final MND identified "Less Than Significant Impact" for Items c), d), and e). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant impacts to drainage patterns on the project site and the capacity of the existing stormwater drainage system.

c), d), and e) No Substantial Change from Previous Analysis: The Final MND identified that the amount of impervious surfaces would not increase with the proposed Replacement Project because the site was largely covered by impervious surfaces. The proposed parking structure is located on approximately 1.5 acres and within an area of the Harbor-UCLA Medical Center that was not included within the construction area for the Replacement Project. With the proposed parking structure, the amount of impervious surface in the area of the parking structure will decrease (i.e., from 84 percent impervious before construction to 76 percent impervious after construction). This decrease in impervious surface occurs due to an increase in the landscaping and the gravel infiltration zone surrounding the perimeter of the parking structure. Since there will be a decrease in impervious surfaces, the proposed parking structure would result in a less than significant impact on the existing drainage patterns and the existing drainage system.

10. Land Use and Planning

Would the project:

a) Physically divide an established community?

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?

The Final MND identified "No Impact" for Items a), b), and c). As described below, the implementation of the proposed parking structure will not result in new significant environmental

effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts related to dividing an established community, conflicting with any applicable land use plans, and conflicting with any applicable habitat conservation plan.

a), b), and c) No Substantial Change from Previous Analysis: The Final MND identified that there were no established communities on the Replacement Project site, and the site's zoning classification of C-3 allowed hospital facilities. In addition, the Final MND identified that the Harbor-UCLA Medical Center is not in or adjacent to any habitat conservation plan. The proposed parking structure is a permitted use according to Title 22 - Land Use and Zoning of the Los Angeles County Code. The proposed height of the parking structure would be 3-stories high, which is allowed under the County Code. Therefore, the proposed parking structure raises no new land use issues and results in no land use impacts of greater severity than as previous identified in the Final MND. Since the Final MND identified no impacts to land use and planning, there would be no change to the "no impact" finding provided in the Final MND.

11. Mineral Resources

Would the project:

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

b) *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

The Final MND identified "No Impact" for Items a) and b). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects in regard to mineral commodities. Similar to the Replacement Project, the proposed parking structure will result in no impacts related to the availability of a known mineral resource or a locally-important mineral resource recovery site.

a) and b) No Substantial Change from Previous Analysis: The Final MND identified that the Harbor-UCLA Medical Center site has not historically been mined for mineral resources and does not contain known significant mineral resources. Based on a review of the Los Angeles County Draft General Plan prepared in 2008, the site is not known to contain significant mineral resources or considered a locally-important mineral resource recovery site. Therefore, implementation of the proposed parking structure on the Medical Center would result in no impact. Since the Final MND identified no impacts to mineral resources, there would be no change to the "no impact" finding provided in the Final MND.

12. Noise

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

The Final MND identified "Less Than Significant Impact" for Items a), b), c), and d). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant effects related to exposing people to noise levels in excess of established noise standards, excessive groundborne vibration or noise levels, substantial permanent increases in ambient noise levels, and substantial temporary or periodic increases in ambient noise levels.

a), b), c) and d) No Substantial Change from Previous Analysis: The Final MND identified that long-term noise impacts associated with mobile sources would increase with the Replacement Project; however, this increase would be nominal and less than significant because the Replacement Project would generate only 246 new vehicle trips per day on roadways that experience a range of 20,000 to 45,000 average trips per day. The long-term increase in noise would be no greater than 0.3 dBA at 50 feet from the surrounding roadways. The Replacement Project also included modifications to the existing helistop as well as the construction and operation of a temporary helistop. The Final MND identified that less than significant noise impacts would occur from the construction and operation of the permanent and temporary helistops. In addition, the Final MND stated that construction activities associated with the Replacement Project would increase short-term noise levels; however, the increase would be less than significant on nearby sensitive uses due to the distance of these uses to the construction activities and the partial blocking from existing structures that would attenuate construction noise. The Final MND also identified that the construction activities associated with the Replacement Project would not result in excessive groundborne vibrations because construction activities would not include pile drivers or blasting which typically cause excessive groundborne vibrations.

The proposed parking structure site is located in an unincorporated portion of the County of Los Angeles, California. No increase in vehicle trips per day in addition to those identified in the Final MND for the Replacement Project is anticipated from the implementation of the proposed parking structure. The project site is bound by the Harbor-UCLA Medical Center to the north and west, Vermont Avenue to the east, and 220th to the south. A mobile home park and multi-family residences exists across Vermont Avenue from the project site, and multi-family residences exist across 220th Street. The nearest sensitive receptors to the proposed structure are the multi-family residential uses located approximately 65 feet south of the proposed parking structure site (i.e., on the south side of 220th Street at the Vermonter Apartments).

Sound levels are presented in logarithmic decibels (dB). The dB is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear and are adjusted to reflect only those frequencies that are audible to the human ear. The equivalent sound level (L_{eq}) represents a steady-state sound level containing the same total energy as a time varying signal over a given sample period. The peak traffic hour L_{eq} is the noise metric used by Caltrans for all traffic noise impact analysis. The Day-Night Average Level (L_{dn}) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. Community Noise Equivalent Level (CNEL) is similar to the L_{dn}, except that it has another addition of 4.77 dB to sound levels during the evening hours between 7 p.m. and 10 p.m.

To determine the existing noise at and adjacent to the proposed parking structure site, field monitoring was conducted on Thursday, January 14, 2010 from 8:42 a.m. to 9:15 a.m. Noise measurements were taken at three locations for 12 to 13 minutes to characterize ambient noise levels in the project study area. Results of the field monitoring indicate that noise within the proposed parking structure area is generally characterized by vehicular traffic on Interstate 110, Vermont Avenue, and 220th Street. In addition, the proposed parking structure site is impacted from helicopter over flights that seem to primarily follow Interstate 110. The results of the short-term noise level measurements are presented in Table 8 and the noise monitoring printouts are provided in Attachment D. The existing noise level measurements ranged from 58.1 to 65.9 dBA L_{eq}, with the highest noise measurement at Site 1.

Table 8: Existing Noise Level Measurements Results

Site No.	Site Description	Primary Noise Sources	Start Time and Measurement (Minutes)	Noise Levels (dBA L_{eq}/L_{max})
1	Located at Star Lite Trailer Park, approximately 105 feet north of the 220th Street centerline and approximately 55 feet east of the Vermont Avenue centerline.	Traffic noise from Interstate 110 and Vermont Avenue and a helicopter overflight.	8:42 a.m. (13:00)	65.9/82.2
2	Located at the Vermonter Apartments, approximately 30 feet south of the 220th Street centerline and across the street from the driveway to the proposed structure.	Traffic noise from 220th Street and equipment noise from the Harbor-UCLA Medical Center facilities plant.	8:59 a.m. (12:00)	62.0/71.8
3	Located at the northwest corner of the proposed structure.	Parking lot noise and noise from construction activities occurring approximately 150 feet northwest of the proposed structure and a helicopter overflight.	9:15 a.m. (12:00)	58.1/72.3
Source: Larson-Davis Model 824 Type 1 precision sound level meter programmed in "slow" mode.				

Project Noise Levels

The County General Plan and Municipal Code contain noise standards for evaluating the compatibility of proposed new development with the existing or anticipated noise environment. For transportation noise sources, the County has established exterior and interior noise standards of 65 dBA CNEL and 45 dBA CNEL, respectively, for the nearby residential uses. For stationary (non-transportation) noise sources, the County has established noise level standards for both daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) hours. Specifically, residential land uses shall not be exposed to stationary noise levels exceeding 50 dB L_{eq} during the daytime hours and 45 dB L_{eq} during the nighttime hours. If the ambient noise exceeds the above level, then the ambient noise level becomes the noise standard as described in Section 12.08.390 of the Los Angeles County Code of Ordinances.

According to Section 12.08.440 of the Los Angeles County Code of Ordinances, construction equipment creating noise is restricted to operate between the weekday hours of 7:00 p.m. and 7:00 a.m. or at any time on Sundays or holidays. In addition, construction operations from mobile equipment (equipment that moves such as graders, dozers, etc.) cannot exceed noise level standards of 80 dBA L_{max}, and construction operations from stationary equipment (equipment that is stationary such as generators, pumps, etc.) cannot exceed 65 dBA L_{max}.

Short-Term Construction Impacts. Short-term noise impacts could occur during construction activities either from (1) the noise impacts created from the transport of workers and movement of construction materials to and from the project site, or from (2) the noise generated on-site during ground clearing/excavation, grading, and erection and installation of building components. Table 9 shows noise generated by typical construction equipment.

Table 9: Construction Noise Emissions and Usage Factors

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec 721.560 L_{max} @ 50 ft (dBA, slow)	Actual Measured L_{max} @ 50 ft (dBA, slow)	No. of Actual Data Samples (Count)
Backhoe	No	40	80	78	372
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Dozer	No	40	85	82	55
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Grader	No	40	85	—	0
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Scraper	No	40	85	84	12
Tractor	No	40	84	—	0
Vacuum Street Sweeper	No	10	80	82	19
Warning Horn	No	5	85	83	12

Notes:
Impact devices are equipment that produce noise due to the impact with the ground surface such as pile drivers and jackhammers. Impact devices have an additional 5 dB penalty for noise. Acoustical use factor is the percentage of time each piece of equipment is operational during a typical day. Spec 721.560 is the equipment noise level utilized by the RCNM program. The Actual Measured is provided by the U.S. Department of Transportation and is the average noise level measured of each piece of equipment during the Central Artery/Tunnel project in Boston, Massachusetts primarily during the 1990s.
Source: U.S. Department of Transportation, 2006.

Impacts from construction noise have been calculated according to the equipment noise levels listed above in Table 9 and through the use of the Roadway Construction Noise Model (RCNM).

The nearest sensitive receptors are the multi-family residential uses located approximately 65 feet south of the proposed parking structure site. The greatest noise impacts to nearby multi-family homes would be anticipated to occur during site clearing and grading, which is anticipated to occur over approximately four months for the Replacement Project and proposed parking structure, since the grading equipment produces the highest noise levels. Construction noise has been modeled based on the simultaneous operation of one grader, one dozer, one water truck, and one of either a tractor, loader or backhoe during site clearing and grading within the area of the proposed parking structure as well as the use of a generator during construction. The equipment was placed 50 feet apart starting at the edge of the proposed parking area to be graded in order to create the worst-case noise levels at the nearest offsite sensitive receptors.

The results of the RCNM model show that the site clearing and grading activities would create noise levels as high as 77.9 dBA L_{eq} and 79.4 dBA L_{max} at the nearest sensitive receptors and operation of a generator would create a noise level as high as 75.3 dBA L_{eq} and 78.4 dBA L_{max}. The RCNM printouts are provided in Attachment D. The calculated site clearing and grading noise would be within the County's maximum construction noise threshold of 80 dBA L_{max} for mobile equipment. As a construction feature, the contractor will be locating stationary equipment such as pumps and generators a minimum of 300 feet away from any offsite residential uses. This construction feature will ensure that stationary equipment noise would not exceed the County's maximum construction noise threshold of 65 dBA $L_{max.}$ Based on the RCNM model, the above mentioned construction feature would reduce the noise from stationary equipment to within the County's construction noise threshold of 65 dBA L_{max}. According to the construction contractor (Henzel Phelps) for the Replacement Project and the proposed parking structure, no stationary equipment such as pumps and generators would be used during the construction of the proposed parking structure.

Operational Noise. Traffic noise impacts onto the nearby existing sensitive receptors, and the exterior and interior noise levels at the nearby existing residential units were evaluated below based on the County of Los Angeles noise standards.

Offsite Vehicular Noise Impacts. The traffic impacts associated with the proposed parking structure have been analyzed, in "Traffic & Parking Assessment for the Harbor-UCLA Medical Center Parking Structure Project" (Traffic Memorandum), prepared by Fehr & Peers, January 15, 2010 (see Appendix E). The Traffic Memorandum states that the proposed structure would be primarily utilized by hospital employees, who currently use the existing surface parking lot at the same location as the proposed structure. The additional parking spaces would be used as overflow parking for visitors when the parking on the northern portion of campus is full. The Traffic Memorandum found that the proposed structure would not create any changes to the typical traffic patterns around the site.

Therefore, no offsite vehicular noise impacts in addition to the noise impacts evaluated in the Final MND are anticipated from long-term operations of the proposed parking structure.

Offsite Stationary Noise Impacts. Stationary noise impacts associated with the long-term operations of the proposed parking structure have been analyzed separately from the offsite vehicular noise impacts, since on-site noise sources may be directly regulated by local jurisdictions and are typically defined by stationary source noise regulations. The proposed parking structure may result in potential stationary noise impacts to the nearby residences from vehicles operating in the proposed structure.

For a stationary noise impact to be considered significant, the operations noise levels would have to exceed the County's noise standards of: 50 dBA L_{eq} during the daytime and 45 dB L_{eq} during the nighttime; or if the ambient noise exceeds the above noise levels, then the ambient noise level becomes the noise standard.

Currently, the site of the proposed parking structure is utilized as a surface parking area and creates the same types and level of noises as would occur during the long-term operations of the proposed parking structure. According to the noise measurements shown above in Table 8, the noise level on the proposed parking structure site is 58.1 dBA L_{eq}, while the ambient noise levels at the nearby residential units ranges from 62.0 to 65.9 dBA L_{eq}. The noise level created by the existing surface parking use is below the County stationary noise standard since the proposed parking structure site noise level is lower than the ambient noise levels at the nearby residential units.

Since the operation of the proposed structure would create a similar level of noise as the current use, which was found to be below the County's standards, a less than significant stationary noise impact would occur from the operations of the proposed parking structure.

Groundborne Vibrations

Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of groundborne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Construction activities can produce vibration that may be felt by adjacent uses.

The Los Angeles County Municipal Code contains vibration standards for operating any device that creates vibration which is above the vibration perception threshold of any individual at any nearby property. The County defines the perception threshold as a motion velocity of 0.01 inches per second over the range of 1 to 100 Hertz.

The short-term and long-term groundborne vibration impacts associated with construction and operation of the proposed parking structure are discussed separately below.

Short-Term Construction Impacts. The construction of the proposed parking structure would not require the use of equipment such as jackhammers and pile drivers, which are known to generate substantial construction vibration levels. The primary source of vibration during construction would be from a large bulldozer. The ground vibration levels associated with various construction equipment are depicted in Table 10.

Table 10: Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level (VdB) at 25 feet
Pile driver (impact)	1.518 (upper range) 0.644 (typical)	112 104
Pile driver (sonic)	0.734 upper range 0.170 typical	105 93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 in soil 0.017 in rock	66 75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58
Source: Federal Transit Administration, 2006.		

Based on the data provided in Table 10, a large bulldozer would produce a vibration level of 0.089 inch per second peak particle velocity **(**PPV) at 25 feet. The nearest sensitive receptors to the proposed parking structure are the multi-family residential uses located approximately 65 feet south of the project site. Based on a distance of 65 feet and typical ground attenuation rates, the vibration levels caused by a large bulldozer at the nearest residential units would be approximately 0.03 inches per second PPV. This would exceed the County of Los Angeles' 0.01 inch per second PPV vibration threshold. However, as a construction feature, the contractor will not be using any equipment that exceeds 150 horsepower within 150 feet of any offsite residential unit. This construction feature would ensure construction-related vibration levels would not exceed 0.01 inches per second PPV.

Long-Term Operational Impacts. The proposed parking structure would result in the development of a 544 space parking structure. No potentially significant sources of vibration have been identified with the long-term operations of the proposed structure. Therefore, the vibration impacts caused by the ongoing operations of the proposed parking structure would be less than significant.

Permanent Noise Increases

As discussed under Project Noise Levels above, the proposed parking structure would not create any changes to the traffic patterns around the site, and no offsite vehicular noise impacts are anticipated from the long-term operations of the proposed structure. Also, the operation of the proposed structure would create a similar level of noise as the current use as surface parking, which was found to be below the County's stationary noise standards. A less than significant stationary noise impact would occur from the operations of the proposed parking structure. Therefore, the operations of the proposed structure would result in a less than significant substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed parking structure.

Temporary Noise Increases

As discussed under Project Noise Levels above, the greatest noise impacts to the nearby residential homes would occur during the clearing and grading of the proposed parking structure site, since the grading equipment produces the highest noise levels. The site clearing and grading activities would create noise levels as high as 77.9 dBA L_{eq} and 79.4 dBA L_{max} at the nearest sensitive receptors and operation of a generator would create a noise level as high as 75.3 dBA L_{eq} and 78.4 dBA L_{max}. The calculated site clearing and grading noise would be within the County's maximum construction noise threshold of 80 dBA L_{max} for mobile equipment. However, the calculated generator noise could exceed the County's maximum construction noise threshold of 65 dBA L_{max} for stationary equipment; however, as a construction feature, the contractor will be locating stationary equipment such as pumps and generators a minimum of 300 feet away from any offsite residential uses. As noted above, the construction contractor for the Replacement Project and the proposed parking structure has stated that no stationary equipment such as pumps and generators would be used during the construction of the proposed parking structure. To further reduce the less than significant construction noise impacts, County staff should require that the following project commitments be followed to the extent feasible.

- All construction equipment will be properly maintained and tuned to minimize noise emissions,
- All equipment shall be fitted with properly operating mufflers and air intake silencers no less effective than those originally installed,
- All stationary noise sources (e.g., generators and compressors) shall be located as far from the adjacent residential receptor and sensitive hospital uses as is feasible,
- Normal construction working hours will be restricted to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and Saturdays. Construction activities are prohibited on Sundays and legal holidays. Work before or after the restricted weekday and Saturday hours must be approved by the County of Los Angeles Department of Public Works. These days and hours will also apply to any servicing of equipment and to the delivery of materials to or from the site, and
- Construction will be subject to any and all provisions set forth by the County of Los Angeles Planning Department.

With the above mentioned construction feature for stationary equipment and the above commitments, construction activities would result in less than significant noise impacts. Therefore, short-term ambient noise levels associated with the proposed parking structure would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The Final MND identified "No Impact" for Items e and f). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no noise impacts related to public airports or private airstrips.

e) and f) No Substantial Change from Previous Analysis: The Final MND identified that the Harbor-UCLA Medical Center is not located within an airport land use plan and no public airports or private airstrips are located in the vicinity of the Medical Center. Therefore, the construction and operation of the proposed parking structure on the Medical Center Campus would result in no noise impacts from public airports or private airstrips.

13. Population and Housing

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Final MND identified "No Impact" for Items a), b), and c). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no noise impacts related to the inducement of substantial population growth or displacement of existing people or housing.

a), b) and c) No Substantial Change from Previous Analysis: The Final MND identified that the Replacement Project would not generate a substantial amount of job opportunities or induce growth because the purpose of the improvements is to optimize operational efficiency. In addition, the Final MND identified that the Replacement Project would not affect existing housing or displace people.

The construction and operation of the proposed parking structure would not generate job opportunities or induce growth. In addition, the proposed parking structure would not affect existing housing or displace any people. Since the Final MND identified no impacts to population and housing, there would be no change to the "no impact" finding provided in the Final MND.

14. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

The Final MND identified "Less Than Significant With Mitigation" for Item a). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant impacts to fire protection services after the implementation of a mitigation measure. No new mitigation measures are required.

a) No Substantial Change from Previous Analysis: The Final MND identified that the implementation of the Replacement Project would result in an increase in manpower and fire equipment to provide adequate services to the Medical Center. The proposed structures associated with the Replacement Project will be constructed in accordance with applicable County fire codes; however, the a mitigation measure to coordinate with the Los Angeles County Fire Department is included in the Final MND to reduce potential impacts to fire protection services.

The construction and operation of the proposed parking structure could also contribute to an increase in manpower and fire equipment. The parking structure will also be constructed in accordance with applicable County fire codes, but the mitigation measure identified below, which is the same measure as provided in the Final MND, would be applicable for the proposed parking structure and would ensure that impacts are reduced to less than significant.

- Prior to the approval of plans and specifications, the Los Angeles County Fire Department shall determine if additional manpower and equipment is required to provide adequate fire services to the Harbor-UCLA Medical Center campus.

b) Police protection?

The Final MND identified "Less Than Significant Impact" for Item b). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant impacts to police protection services.

b) No Substantial Change from Previous Analysis: The Final MND identified that the Los Angeles County Office of Public Safety maintains a police station on the Harbor-UCLA Medical Center campus and provides 24-hour patrolling of the Medical Center. The Final MND found that the implementation of the Replacement Project would result in a less than significant impact on existing police protection services.

Similar to the Replacement Project, the proposed parking structure would result in a less than significant impact on existing police protection services because the parking structure would not substantially increase the need for additional officers that are currently patrolling the Medical Center campus since the number of visitors and staff coming to the campus as a result of the construction of the proposed parking structure is not anticipated to increase.

c) Schools?
d) Parks?
e) Other pubic facilities?

The Final MND identified "No Impact" for Items c), d), and e). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts to schools, parks, and other public facilities.

c), d), and e) No Substantial Change from Previous Analysis: The Final MND identified that the Replacement Project would not generate a substantial number of new employees that would affect existing school facilities. In addition, the Final MND stated that there are no parks in the vicinity of the Medical Center and other public facilities would not be affected by the implementation of the Replacement Project.

The implementation of the proposed parking structure would result in a similar "no impact" finding as the Replacement Project because no new employees or visitors to the campus would be generated to affect existing schools, there are no parks in the project vicinity, and the proposed parking structure would not impact other public facilities.

15. Recreation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The Final MND identified "No Impact" for Items a), and b). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts to existing parks and recreational facilities.

a) and b) No Substantial Change from Previous Analysis: The Final MND stated that the Replacement Project would not affect parks and recreational facilities because there are no such facilities on the Medical Center campus, and the Replacement Project would minimally increase employment opportunities and thus potential use of surrounding recreational facilities. Similar to the Replacement Project, the proposed parking structure would not affect parks and recreational facilities because there are no parks onsite, and the parking structure would not increase employment opportunities.

16. Transportation/Traffic

Would the project:

a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

f) Result in inadequate parking capacity?

The Final MND identified "Less Than Significant Impact" for Items a), b), c), d) and f). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant impacts to surrounding intersections and roadways, air traffic patterns, parking, and would result in less than significant traffic hazards.

a), b), c), d), and f) No Substantial Change from Previous Analysis: A traffic and parking evaluation was prepared for the proposed parking structure by Fehr & Peers in January 2010. The evaluation is provided in a memorandum in Appendix E of this Addendum.

The proposed parking structure project consists of the construction of a 544-space parking structure in the southeastern area of the Harbor-UCLA Medical Center campus. The site of the proposed structure is currently occupied by approximately 219 surface parking spaces, and the proposed project would result in a net increase of approximately 325 parking spaces. Access to the structure would be provided by the existing driveway on 220th Street serving the surface parking lot, which is located approximately 240 feet west of Vermont Avenue. Access would also be provided to/from the north through internal campus roadways to Carson Street.

Parking in the southeastern area of campus is currently utilized by doctors and staff. The parking structure would continue to service hospital employees and would also provide additional parking for visitors. Visitors traveling to the campus would likely continue to use the main hospital entrance on Carson Street and park in visitor parking provided in the northern portion of the campus closest to the hospital campus. If parking is unavailable in the northern portion of campus, directional signage would guide visitors to the proposed southeastern parking structure. Thus, no changes in the overall circulation patterns around the site are anticipated as a result of this project.

The traffic study that was prepared for the Replacement Project analyzed weekday morning and afternoon peak hour conditions at seven intersections near the Harbor-UCLA Medical Center campus. The analysis utilized baseline traffic count data collected in 2005 and estimated future traffic from both ambient growth and known cumulative development projects within one mile. The 2005 baseline traffic count data and 2010 forecasts were reviewed to ensure consistency with current traffic conditions in the study area. The recent traffic counts were provided by Los Angeles County Traffic and Lighting Department for several intersections. In general, the most recent traffic counts were lower than the 2005 volumes reported in the traffic study for the Replacement Project. At locations

where traffic volumes were higher, the increases were minor and would not change the operational results reported in the 2005 study.

A cumulative analysis was also conducted by reviewing the cumulative projects included in the 2005 study and comparing them to the current cumulative projects within the study area. As shown in Table 11 there were 10 cumulative projects identified in the 2005 study and 7 of the 10 projects are either under construction or have been constructed. The three remaining cumulative projects include relatively small developments such as an automobile repair, smog check, and three condominium units. There are five additional cumulative projects within the study area, and of these five cumulative projects, there are three that either under construction or have been constructed. The two cumulative projects that have not been constructed include 225 condominium units that are located south of 224th Street and an automobile repair shop west of the Harbor-UCLA Medical campus. Based on the location of the projects and the intensity of uses, the development of these cumulative projects is not expected to affect the future traffic operations projected in the 2005 study.

Table 11: Cumulative Projects

Index	Project	Status
10 Projects from 2005 Study		
1	Self Storage 735-809 W. Carson Street	Completed
2	Commercial - Auto Repair 22505 Norma die Avenue	Not Completed
3	Commercial - Smog Check 20614 Normandy Avenue	Not Completed
4	SB 1953 Seismic Retrofit - Harbor UCLA Med Center - UCI Beds 1000 W. Carson Street	Under Construction
5	Housing - 2 single family homes Normandy Avenue & Torrance Boulevard	Under Construction
6	Industrial Redevelopment project - Warehouse/office building 220th Street & Abalone Street	Completed
7	Detached condos - 8 units 21840-846 Orrick Avenue	Completed
8	Condos - 3 units 22028 Grace Avenue	Not Completed
9	Condos - 8 units 630 E. 220th Street	Completed
10	Condos - 8 units 221310-4 Figueroa Street	Completed

Table 11 (cont.): Cumulative Projects

Index	Project	Status
Updated Cumulative Projects		
11	Condos - 14 units 1028 W. 223rd Street	Completed
12	Condos - 16 units 1010-1014 W. 223rd Street	Completed
13	Condos - 225 units 22433 S. Vermont Avenue	Not Completed
14	Automotive Repair Shop Renovation 420 E. Carson Street	Not Completed
15	Commercial Retail Center - 8,700 square feet 220th & Main, Southwest Corner	Under Construction

The addition of the proposed 544-space parking structure is intended to increase the convenience of staff and visitors to the Harbor-UCLA Medical Center campus, but not increase the total beds or patient workloads. Therefore, vehicle trips would not increase to the campus due to the addition of the proposed parking structure.

The proposed parking structure would provide 325 additional spaces for staff and visitors in the southeastern portion of the campus. Vehicles would access the parking structure at the existing driveway on 220th Street, and additional access would be provided to/from the north through internal campus roadway to Carson Street. 220th Street is a two-lane roadway with on-street parking adjacent to the campus. Based on traffic volume projections generated in the 2005 study, 220th Street is expected to serve a modest amount of traffic during the peak hour as follows:

- AM Peak Hour: Approximately 825 vehicles, 225 eastbound and 570 westbound, were projected to travel on 220th Street between Vermont Avenue and the proposed parking structure driveway under the cumulative (2010) plus project conditions.
- PM Peak Hour: Approximately 545 vehicles, 400 eastbound and 145 westbound, were projected to travel on 220th Street between Vermont Avenue and the proposed parking structure driveway under the cumulative (2010) plus project conditions.

A portion of the vehicles traveling on 220th Street are already using the existing driveway that would provide access to the proposed parking structure. The potential rerouting of additional vehicle trips generated by the Replacement Project (28 trips during the AM and PM peak hours) to the proposed parking structure would result in a minimal change in traffic volumes along 220th Street and the surrounding roadway network. Based on the traffic volumes along 220th Street, minimal delays and queuing are anticipated for vehicles traveling to/from the proposed parking structure. The availability

of access to/from the north would serve to alleviate the potential delays and queuing during peak hours.

The intersection of Vermont Avenue/220th Street is signalized and was projected to operate at LOC C during both peak hours under the cumulative plus project conditions in the 2005 traffic study (volume-to-capacity ratio of 0.711 during the AM peak hour and 0.728 during the PM peak hour). Therefore, additional capacity is available at this intersection to serve vehicles traveling to/from the proposed parking structure, and the potential rerouting of vehicle trips through this intersection would not result in a significant impact.

The 2005 study determined that the Replacement Project would reduce the existing parking supply by approximately 535 parking spaces, resulting in a total of 2,789 parking spaces on the Harbor-UCLA Medical Center campus. The proposed 544-space parking structure would displace approximately 219 surface parking spaces, resulting in a net increase of approximately 325 parking spaces. With the implementation of the proposed parking structure, there would be 3,114 parking spaces, resulting in a surplus of 405 spaces relative to the Los Angeles County parking code requirement.

In addition to the traffic, circulation, and parking evaluations above, air traffic patterns and traffic hazards were reviewed. Similar to the findings in the Final MND, the proposed parking structure would not affect the air traffic patterns of the medical center's interim or permanent helistop because the highest point on the proposed parking structure is approximately 38 feet above grade while the lowest approach surface of the helicopters for the permanent helistop is located at approximately 95 feet above grade. In addition, the proposed parking structure would not increase traffic hazards within or in the immediate vicinity of the Harbor-UCLA Medical Center campus.

The implementation of the proposed parking structure would not alter the existing or planned emergency access to the medical facility. Finally, the proposed parking structure would not eliminate any existing alternative transportation facilities and would not conflict with any policies, plans, or programs supporting alternatives to private automobile travel.

In summary, implementation of the proposed parking structure would result in no impact/less than significant impact related to traffic and circulation. Since the Final MND identified no impact/less than significant impacts to traffic and circulation, there would be no substantial changes to the "no impact/less than significant impact" findings provided in the Final MND

e) Result in inadequate emergency access?

g) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?

The Final MND identified "No Impact" for Items e) and g). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts to existing emergency access because there are no changes to existing accesses to the campus or to alternative transportation.

e and g) No Substantial Change from Previous Analysis: The Final MND identified that the reconfiguration of the internal access roads would not impact existing emergency access. In addition, the Replacement Project would not conflict with any policies, plans, or programs supporting alternative transportation. Similarly, the implementation of the proposed parking structure would not affect existing emergency access and would not conflict with any policies, plans, or programs supporting alternative transportation.

17. Utilities and Service Systems

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

The Final MND identified "No Impact" for Items a) and g). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in no impacts to existing wastewater treatment requirements and solid waste regulations.

a) and g) No Substantial Change from Previous Analysis: The Final MND stated that wastewater discharged from the Medical Center will continue to meet the requirements established for wastewater discharges by the State Water Resources Control Board after the implementation of the Replacement Project. The Final MND also identified that after implementation of the Replacement Project, the Medical Center would continue to comply with federal, state, and local statutes and regulations pertaining to solid waste.

The proposed parking structure would not affect wastewater discharge requirements or solid waste regulations because increases in stormwater runoff from the site would not occur and nominal solid waste would be associated with the operation of the proposed parking structure.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The Final MND identified "Less Than Significant Impact" for Items b), c), d), e), and f). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Similar to the Replacement Project, the proposed parking structure will result in less than significant impacts to treatment facilities, drainage facilities, water supplies, wastewater treatment capacities, and landfills.

b), c), d), e) and f) No Substantial Change from Previous Analysis: The Final MND stated that the Replacement Project may result in increases in water use and wastewater discharge; however, the increase would not be significant and would not require new treatment facilities. The Final MND also identified that the Replacement Project would not increase the amount of impervious surfaces and consequently the amount of water runoff would not increase. In addition, the Final MND stated that the existing water lines that serve the Medical Center would be adequate to serve the Replacement Project, and therefore, it would not result in a significant effect on water supply. The Final MND also identified that a nominal amount of additional wastewater would be generated by the Replacement Project and would not exceed the capabilities of the existing system.

The proposed parking structure would require water for landscaping areas; however, the increase in water use would not require new treatment facilities or significantly affect existing water supplies. The proposed parking structure would not generate wastewater, therefore, it would result in a less than significant effect on wastewater treatment facilities and existing sewer facilities. Similar to the finding in the Final MND for the Replacement Project, the proposed parking structure would reduce the amount of surface water runoff and would result in a less than significant impact on storm water

drainage facilities. Finally, the proposed project would not significantly affect landfills similar to the Replacement Project because a nominal amount of long-term waste would be generated.

18. Mandatory Findings of Significance

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

The Final MND identified "No Impact" for Item a). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in no impacts on the quality of the plant or wildlife environment and historic or prehistoric resources.

a) No Substantial Changes from Previous Analysis: The Final MND stated that the site lacked native habitat, and therefore, the Replacement Project would have no potential to affect fish or wildlife species or plant communities. In addition, the Final MND identified that there were no known historical or prehistoric resources that exist on the site.

The site of the proposed parking structure is located in a completely developed area that is currently void of other distinctive land elements that have the potential to harbor sensitive plant or animal species. Therefore, the project would not degrade the quality of the environment or affect fish, wildlife, or plant species. In addition, the construction of the proposed parking structure would not affect known historical or prehistoric resources.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The Final MND identified "Less Than Significant Impact" for Item b). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in less than significant cumulative impacts.

b) No substantial Changes from Previous Analysis: The Final MND identified that the contribution of the Replacement Project's environmental impacts would not be cumulatively considerable.

The Final MND included a cumulative projects list within Appendix E. There were 10 cumulative projects in the vicinity (i.e., within approximately one mile) of the proposed Replacement Project. Since the list of cumulative projects was gathered in 2005, an update of cumulative projects within approximately one mile of the proposed parking structure has recently been conducted for the purpose of this Addendum. Table 11 in Item 16 (Transportation/Traffic) shows the status of the 10 cumulative projects identified in the 2005 study; five have been constructed, two are under construction, and three have not been constructed. The two projects that are under construction include a development of two single family homes located approximately one mile northwest of the proposed parking structure and the SB 1953 Seismic Retrofit project that is under construction at the main hospital of the Harbor-UCLA Medical Center. The seismic retrofit includes structure and non-structural activities. The majority of the construction activities will occur within the hospital with some activities occurring on the exterior façade of the structure. The exterior activities include retrofitting sheer walls, and these activities are expected to be completed by the end of April 2010. The three projects that have not been constructed include relatively small developments such as an automobile repair, smog check, and three condominium units, and each of these three projects were not identified as active. Because these projects were not identified as active, it is unlikely these three projects would contribute to cumulative construction impacts with the proposed parking structure.

In addition to the 10 cumulative projects identified in the Final MND, there are five additional cumulative projects within the study area. These five cumulative projects include two condominium projects that have already been constructed, one commercial retail center that is under construction, and two projects (225-unit condominium project and an automobile repair shop renovation) that have not been completed. The commercial retail center includes the development of 8,700 square feet approximately 0.75 mile east of the proposed parking structure. The 225-unit condominium project is located approximately 0.4 mile south of the proposed parking structure, and the automobile repair shop renovation is located approximately 0.5 mile east of the proposed parking structure.

As described above and shown in Table 11 in Item 16 (Transportation/Traffic), there are three projects that are under construction. Two of these projects are relatively small (i.e., the 2 single family homes and 8,700 square feet of retail commercial) and located at or more than 0.5 mile from the site of the proposed parking structure. The third project that is under construction at the main hospital on the Harbor-UCLA Medical Campus. In addition to the three projects that are under construction, there are three projects on the 2005 cumulative projects list that have not been constructed and are not considered active. On the updated list, there are two additional projects (225-unit condominium project and an automobile repair shop renovation) that have not been constructed.

Following is a discussion of the potential for the proposed parking structure to contribute to cumulative impacts along with the cumulative projects listed in Table 11 and identified as under construction or have not been completed. According to Appendix G of the CEQA Guidelines, an impact of a project is cumulatively considerable if the incremental effects of a project are

considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

The implementation of the proposed parking structure will result in no impacts to agricultural resources, biological resources, land use and planning, mineral resources, population and housing, and recreation. Since the proposed parking structure would contribute no impacts to these environmental issues, the proposed parking structure would not contribute to cumulative impacts associated with these environmental issues.

The proposed parking structure will result in impacts associated with aesthetic/light and glare, air quality, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation and traffic, and utilities. The proposed parking structure's contribution to the cumulative effects associated with these environmental issues are addressed below.

Aesthetics/Light and Glare

The proposed parking structure will contribute to the alteration of the visual characteristics of the project area. The nearest cumulative project is the seismic retrofit at the main hospital of the Harbor-UCLA Medical Center. Since the seismic retrofit project is retrofitting the existing structure, nominal exterior structure modifications would occur. The remaining cumulative projects (not including the seismic retrofit project) that are under construction or have not been completed are 0.25 mile from the proposed parking structure and would not contribute to the visual characteristics at the site because they are located too far from the site. Therefore, since the proposed parking structure would result in less than significant visual impacts and cumulative projects would contribute nominal visual impacts, cumulative visual impacts would be less than significant.

The proposed parking structure contains lighting facilities; however, these facilities will not represent a new source of substantial light. The nearest cumulative project is at the main hospital of the Harbor-UCLA Medical Campus; however, this project will not result in new lighting. The remaining cumulative projects that are under construction or have not been completed are greater than 0.25 mile from the proposed parking structure site and will not contribute lighting in the area of the proposed parking structure. Since the proposed parking structure would result in less than significant lighting impacts and the cumulative projects will not contribute lighting in the project area, cumulative lighting impacts would be less than significant.

Air Quality

Construction activities associated with the proposed parking structure will result in less than significant air emissions after the implementation of the mitigation measures listed in the approved Final MND. As noted above, there are three projects that are currently under construction and could contribute construction emissions at the same time as the construction of the proposed parking

structure. Because the construction activities associated with the seismic retrofit project will primarily occur within the main hospital and the remaining cumulative projects are greater than 0.25 mile from the project site and will be required to comply with SCAQMD construction emission reduction measures, the emissions associated with the proposed parking structure will contribute less than cumulatively considerable to the cumulative air emissions.

Long-term activities associated with the proposed parking structure will not generate any new air emissions because the parking structure would not generate new vehicle trips to the Harbor-UCLA Medical Campus.

Cultural Resources

Implementation of the proposed parking structure will not affect any known historical/archaeological or paleontological resources or human remains; however, because the project includes excavation, there is a potential to affect unknown resources, Because the site of the proposed parking structure does not overlap with the site of any of the cumulative projects, the implementation of the parking structure would not result in a cumulative effect on cultural resources. In addition, the cumulative projects are presumably complying with any required mitigation specific to their own site.

Geology and Soils

The proposed parking structure will result in less than significant impacts related to exposing people or structures to fault ruptures, strong seismic ground shaking, seismic-related ground failure, substantial soil erosion, unstable soils, and expansive soils. Because the site of the proposed parking structure does not overlap with the site of any of the cumulative projects and would not be affected by the other projects, the implementation of the parking structure would not result in a cumulative effect on geology and soils.

Greenhouse Gas Emissions

The cumulative impacts analysis is already included above as all projects must be analyzed in a cumulative context for greenhouse gas effects. The proposed parking structure will generate approximately 175 $MTCO_2e$ of greenhouse gases which is less than SCAQMD's 3,000 $MTCO_2e$ per year draft threshold and a small percentage of California's greenhouse gas emissions. Implementation of the cumulative projects may also increase greenhouse gases; however, since the proposed parking structure would not exceed SCAQMD's draft threshold, the parking structure's contribution of greenhouse gas emissions to cumulative levels is considered to be less than cumulatively considerable.

Hazards and Hazardous Materials

The proposed parking structure will not increase the amount of hazardous waste generated at the Harbor-UCLA Medical Center, and therefore, would result in a less than significant impact related to hazardous materials. The construction and use of the cumulative projects may increase the amount of

hazardous materials; however, since the proposed parking structure would not increase the amount of hazardous waste generated at the Medical Center, the parking structure's contribution to cumulative hazards and hazardous waste impacts is considered to be less than cumulatively considerable.

Hydrology and Water Quality

The proposed parking structure encompasses approximately 1.5 acres and will decrease the amount of impervious surface in the area of the parking structure from 84 percent impervious before construction to 76 percent impervious after construction. This decrease in impervious surface occurs due to the increase in the landscaping and the gravel infiltration zone surrounding the perimeter of the parking structure. Construction of the cumulative projects may increase impervious surfaces and thereby increase the amount of surface water runoff; however, since the proposed parking structure will decrease surface water runoff, the parking structure's contribution to cumulative storm water runoff impacts is considered to be less than cumulatively considerable.

In addition, since the proposed parking structure would be similar in operation and use as the existing surface parking lot, the release of pollutants would be similar. Therefore, the proposed parking structure would not substantially degrade the surface water quality. Construction and operation of the cumulative projects may result in the degradation of surface water quality; however, the parking structure's contribution to cumulative surface water degradation is considered to be less than cumulatively considerable.

Noise

Construction noise associated with the proposed parking structure would be less than significant. The greatest noise impacts to the nearby residential homes would occur during the site clearing and grading of the proposed parking structure. The nearest cumulative project is the seismic retrofit at the main hospital of the Harbor-UCLA Medical Center. Since the seismic retrofit project is primarily retrofitting the existing structure within the hospital and the exterior construction activities will be completed in April 2010, the seismic retrofit project would not contribute to exterior construction noise levels at the residential homes near the proposed parking structure. The remaining cumulative projects that are under construction or have not been completed are 0.25 mile from the proposed parking structure and would not contribute to potential construction noise levels to the nearby residential homes. Therefore, the parking structure's contribution to cumulative construction noise levels is considered to be less than cumulatively considerable.

Operational noise from the proposed parking structure is not expected to occur because traffic patterns around the site would not be altered compared to the travel patterns anticipated as a result of the Replacement Project. Therefore, the parking structure's contribution to cumulative operational noise impacts is considered to be less than cumulatively considerable.

Public Services

The proposed parking structure will result in less than significant impacts to fire protection services after the implementation of the mitigation measure identified in the approved Final MND. The implementation of the cumulative projects may increase the need for fire services; however, the parking structure's contribution to cumulative fire protection services is considered less than cumulatively considerable.

The proposed parking structure will result in less than significant impacts to police protection services. The implementation of the cumulative projects may increase the need for police services; however, the parking structure's contribution to cumulative fire protection services is considered less than cumulatively considerable.

The proposed parking structure would result in no impacts to schools, parks, and other public facilities; and therefore, would not contribute to potential cumulative impacts to these services.

Transportation/Traffic

The proposed parking structure will provide 325 additional parking spaces for staff and visitors in the southeastern portion of the Harbor-UCLA Medical Center campus. This increase over the number of parking spaces approved as part of the Replacement Project will result in no changes in the overall circulation patterns around the site because doctors, staff, and visitors are expected to use the same travel patterns as they currently do. Therefore, no increases in traffic impacts on the surrounding roadways would occur. As a result, the proposed parking structure would not contribute to potential cumulative traffic impacts associated with cumulative projects.

In addition, the provision of additional parking spaces as a result of the proposed parking structure would result in no adverse impacts on existing parking. Therefore, the parking structure would not contribute to potential cumulative parking impacts associated with cumulative projects.

Utilities and Service Systems

The proposed parking structure will result in less than significant impacts to treatment facilities, drainage facilities, water supplies, wastewater treatment capacities, and landfills. The implementation of cumulative projects may effect the above mentioned utilities and service systems; however, as described in Item 17 above, the proposed parking structure will result in no impact or less than significant impacts on utilities and service systems. Since the parking structure's impacts would be less than significant, the parking structure's contribution to cumulative treatment facilities, drainage facilities, water supplies, wastewater treatment capacities, and landfills is considered less than cumulatively considerable.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

The Final MND identified "Less Than Significant Impact" for Item c). As described below, the implementation of the proposed parking structure will not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The proposed parking structure will result in less than significant adverse impacts on human beings.

c) No substantial Changes from Previous Analysis: The Final MND stated that the Replacement Project would not result in any significant environmental impacts to human beings. Sufficient construction control measures had been identified to reduce short-term construction impacts to less than significant. Compliance with the many existing federal, state, and local regulations, along with standard design criteria would ensure that the facilities that are part of the Replacement Project would contain sufficient prevention and containment measures to reduce hazards associated with storage, use, and transport of hazardous substances to a less than significant impact.

The implementation of the proposed parking structure would also not result in any significant environmental impacts to human beings with the incorporation of the mitigation measures that were approved with the Final MND. In addition, the proposed parking structure will not increase the amount of hazardous waste generated at the Harbor-UCLA Medical Center.

SECTION 6: CONCLUSION

The proposed parking structure is a modification to the Harbor-UCLA Medical Center Surgery/Emergency Replacement Project. This modification is fully described in Section 3 of this document. As it was determined in Section 5 of this document, no substantial changes to the analysis contained in the Final MND would occur as a result of the construction and operation of the proposed parking structure which would necessitate the preparation of a Subsequent MND. No mitigation measures, in addition to those identified in the Final MND, would be required with the implementation of the proposed parking structure. Based on no new substantial changes to the analysis in the MND, the use of an Addendum to the Final MND for the proposed parking structure is the appropriate level of documentation.

SECTION 7: PREPARERS OF THE MND

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Michael E. Houlihan, AICP ..... Project Manager
Vince Mirabella ..... Air Quality Specialist
Greg Tonkavich ..... Noise Specialist
Margaret Lin ..... Environmental Specialist
Sandra L. Tomlin ..... Document Processing
Karlee McCracken ..... Graphics/GIS

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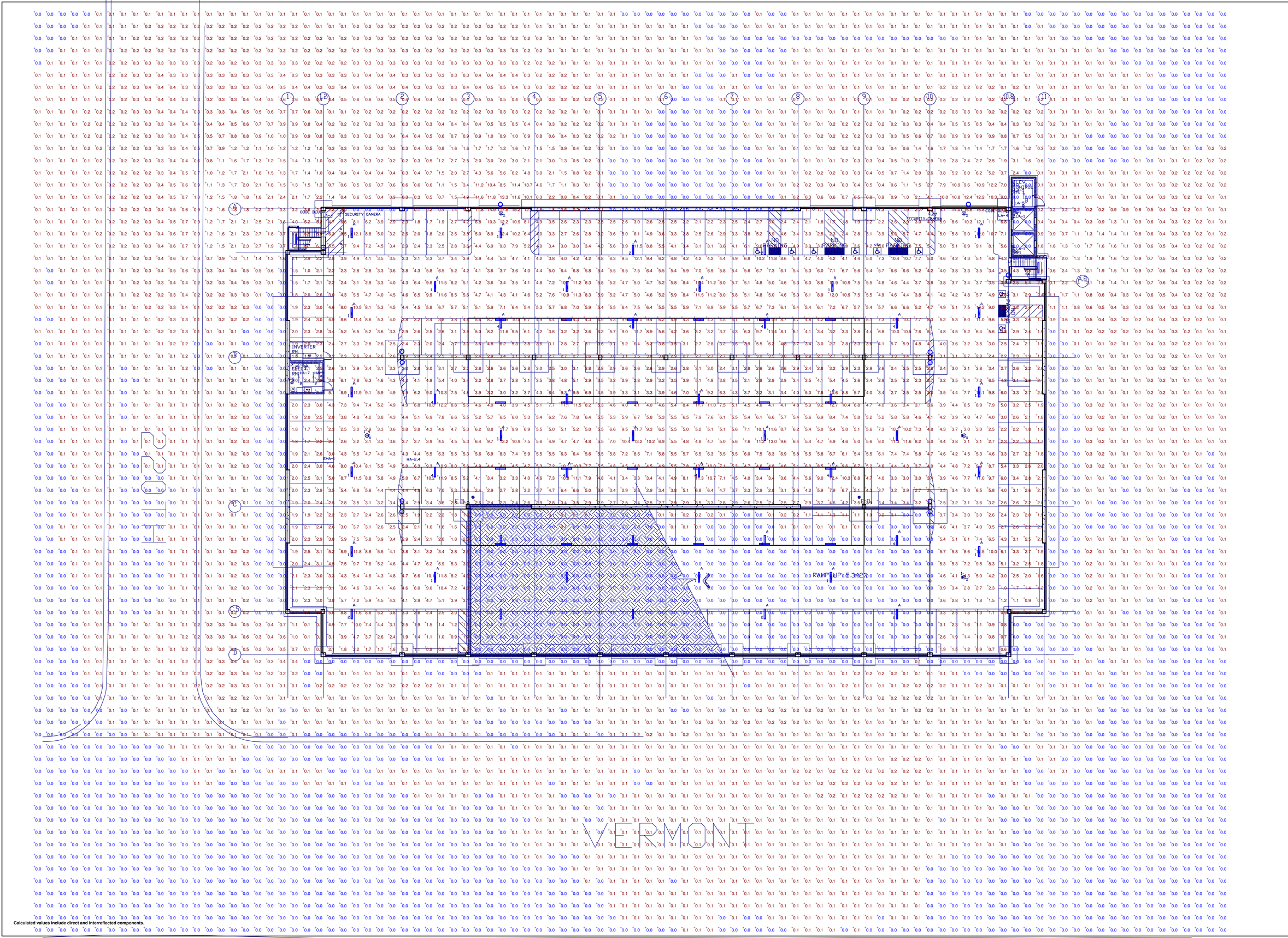
Appendix A:
Photometric Analysis



Calculated values include direct and interreflected components.

VISUAL

HARBOR-UCLA MEDICAL CENTER PARKING STRUCTURE

OVERALL LIGHT SPILL STUDY

Designer	T.P.
Date	Dec 9 2009
Scale	1" = 16'-0"
Drawing No.	

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	A	83	052308-1A	48-1/4"L. X 7-1/8"W. X 3-3/8"H. SURFACE MOUNTED LUMINAIRE 8 MODULES, 180 COOL WHITE LEDS IN A MODULE ACRYLIC PRISMATIC LENS	LED	BayLume_4_foot_LLI050816A.ies	7302	0.90	101.5
	B	26	XWL 2 32	WET LOCATION FIXTURE, TWO LAMP T8, CLEAR PRISMATIC POLYCARBONATE DROP DIFFUSER 2.25" DEEP, ELECTRONIC BALLAST	TWO 32-WATT T8 LINEAR FLUORESCENT, HORIZONTAL POSITION.	XWL_2_32.ies	2850	0.80	51
	C	10	MPTR-4S-250	MEDIUM ARCHITECTURAL AREA LUMINAIRE - TYPE IV DISTRIBUTION	250 WATT PULSE-START CLEAR ED-28 HORIZONTAL BURN	MPTR-4S-250.ies	22000	0.80	283
	D	2	MPTR-4S-150	MEDIUM ARCHITECTURAL AREA LUMINAIRE - TYPE IV DISTRIBUTION	150 WATT PULSE-START CLEAR ED-28 HORIZONTAL BURN	MPTR-4S-250.ies	14000	0.80	185

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.2 fc	17.8 fc	0.0 fc	N / A	N / A

Calculated values include direct and interreflected components.

HUCLA PARKING STRUCTURE
SCHEDULES

Designer
T.P.

Date
Jan 8 2010

Scale

Drawing No.

Appendix B:
Air Quality and Climate Emission Inventory

1/18/2010 9:13:54 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\MBA\HarborMedCenter\HUCLA_Update.urb924

Project Name: Harbor UCLA Medical Center URBEMIS Update - Construction - Main Facility

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	10.38	87.60	49.85	0.02	43.61	4.70	46.91	9.11	4.32	12.14	11,362.03
2010 TOTALS (lbs/day mitigated)	10.38	87.60	49.85	0.02	6.49	4.70	9.79	1.36	4.32	4.39	11,362.03
2011 TOTALS (lbs/day unmitigated)	9.59	80.93	47.71	0.02	0.09	4.36	4.44	0.03	4.00	4.03	11,361.71
2011 TOTALS (lbs/day mitigated)	9.59	80.93	47.71	0.02	0.09	4.36	4.44	0.03	4.00	4.03	11,361.71
2012 TOTALS (lbs/day unmitigated)	9.01	74.75	45.83	0.02	0.09	4.17	4.25	0.03	3.83	3.86	11,361.46
2012 TOTALS (lbs/day mitigated)	9.01	74.75	45.83	0.02	0.09	4.17	4.25	0.03	3.83	3.86	11,361.46
2013 TOTALS (lbs/day unmitigated)	71.14	69.14	45.00	0.02	0.09	3.75	3.84	0.03	3.45	3.48	11,452.30
2013 TOTALS (lbs/day mitigated)	71.14	69.14	45.00	0.02	0.09	3.75	3.84	0.03	3.45	3.48	11,452.30
2014 TOTALS (lbs/day unmitigated)	72.51	75.99	52.62	0.02	0.10	4.14	4.24	0.03	3.81	3.84	12,991.59
2014 TOTALS (lbs/day mitigated)	72.51	75.99	52.62	0.02	0.10	4.14	4.24	0.03	3.81	3.84	12,991.59

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 6/1/2010-8/6/2010 Active Days: 49	2.41	21.70	11.79	0.01	1.14	1.01	2.15	0.24	0.93	1.17	2,117.03
Demolition 06/01/2010-08/06/2010	2.41	21.70	11.79	0.01	1.14	1.01	2.15	0.24	0.93	1.17	2,117.03
Fugitive Dust	0.00	0.00	0.00	0.00	1.11	0.00	1.11	0.23	0.00	0.23	0.00
Demo Off Road Diesel	2.04	17.08	9.51	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,430.66
Demo On Road Diesel	0.35	4.59	1.76	0.01	0.02	0.19	0.21	0.01	0.17	0.18	624.18
Demo Worker Trips	0.02	0.03	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.20
Time Slice 8/9/2010-12/16/2010 Active Days: 94	8.22	68.44	40.12	0.00	**43.61**	3.30	**46.91**	**9.11**	3.03	**12.14**	5,971.43
Mass Grading 08/09/2010-12/16/2010	8.22	68.44	40.12	0.00	43.61	3.30	46.91	9.11	3.03	12.14	5,971.43
Mass Grading Dust	0.00	0.00	0.00	0.00	43.60	0.00	43.60	9.11	0.00	9.11	0.00
Mass Grading Off Road Diesel	8.16	68.31	38.02	0.00	0.00	3.29	3.29	0.00	3.03	3.03	5,722.64
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.07	0.12	2.10	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79
Time Slice 12/17/2010-12/31/2010 Active Days: 11	10.38	**87.60**	49.85	0.02	0.09	**4.70**	4.79	0.03	**4.32**	4.35	11,362.03
Building 12/17/2010-03/19/2014	10.38	87.60	49.85	0.02	0.09	4.70	4.79	0.03	4.32	4.35	11,362.03
Building Off Road Diesel	9.80	84.80	35.40	0.00	0.00	4.57	4.57	0.00	4.21	4.21	9,457.13
Building Vendor Trips	0.18	2.05	1.68	0.00	0.01	0.09	0.10	0.00	0.08	0.08	389.87
Building Worker Trips	0.40	0.75	12.77	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,515.03
Time Slice 1/3/2011-12/30/2011 Active Days: 260	9.59	80.93	47.71	0.02	0.09	4.36	4.44	0.03	4.00	4.03	11,361.71
Building 12/17/2010-03/19/2014	9.59	80.93	47.71	0.02	0.09	4.36	4.44	0.03	4.00	4.03	11,361.71
Building Off Road Diesel	9.06	78.39	34.27	0.00	0.00	4.24	4.24	0.00	3.90	3.90	9,457.13
Building Vendor Trips	0.17	1.85	1.56	0.00	0.01	0.08	0.09	0.00	0.07	0.07	389.88
Building Worker Trips	0.37	0.69	11.88	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.70

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Time Slice 1/2/2012-12/31/2012 Active Days: 261	9.01	74.75	45.83	0.02	0.09	4.17	4.25	0.03	3.83	3.86	11,361.46
Building 12/17/2010-03/19/2014	9.01	74.75	45.83	0.02	0.09	4.17	4.25	0.03	3.83	3.86	11,361.46
Building Off Road Diesel	8.53	72.47	33.33	0.00	0.00	4.06	4.06	0.00	3.73	3.73	9,457.13
Building Vendor Trips	0.15	1.65	1.44	0.00	0.01	0.07	0.08	0.00	0.06	0.07	389.89
Building Worker Trips	0.33	0.63	11.05	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.44
Time Slice 1/1/2013-12/18/2013 Active Days: 252	8.41	69.11	44.38	0.02	0.09	3.75	3.83	0.03	3.44	3.47	11,361.30
Building 12/17/2010-03/19/2014	8.41	69.11	44.38	0.02	0.09	3.75	3.83	0.03	3.44	3.47	11,361.30
Building Off Road Diesel	7.97	67.07	32.78	0.00	0.00	3.65	3.65	0.00	3.35	3.35	9,457.13
Building Vendor Trips	0.14	1.46	1.33	0.00	0.01	0.06	0.07	0.00	0.05	0.06	389.91
Building Worker Trips	0.30	0.58	10.27	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.26
Time Slice 12/19/2013-12/31/2013 Active Days: 9	71.14	69.14	45.00	0.02	0.09	3.75	3.84	0.03	3.45	3.48	11,452.30
Building 12/17/2010-03/19/2014	8.41	69.11	44.38	0.02	0.09	3.75	3.83	0.03	3.44	3.47	11,361.30
Building Off Road Diesel	7.97	67.07	32.78	0.00	0.00	3.65	3.65	0.00	3.35	3.35	9,457.13
Building Vendor Trips	0.14	1.46	1.33	0.00	0.01	0.06	0.07	0.00	0.05	0.06	389.91
Building Worker Trips	0.30	0.58	10.27	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.26
Coating 12/19/2013-03/19/2014	62.73	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.00
Architectural Coating	62.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.00

Time Slice 1/1/2014-1/17/2014 Active Days: 13	70.57	62.73	43.47	0.02	0.09	3.34	3.43	0.03	3.06	3.10	11,452.15
Building 12/17/2010-03/19/2014	7.84	62.70	42.90	0.02	0.09	3.33	3.42	0.03	3.06	3.09	11,361.16
Building Off Road Diesel	7.44	60.89	32.10	0.00	0.00	3.24	3.24	0.00	2.98	2.98	9,457.13
Building Vendor Trips	0.13	1.28	1.23	0.00	0.01	0.05	0.07	0.00	0.05	0.05	389.92
Building Worker Trips	0.28	0.53	9.57	0.02	0.07	0.05	0.12	0.03	0.04	0.06	1,514.11
Coating 12/19/2013-03/19/2014	62.73	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99
Architectural Coating	62.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99
Time Slice 1/20/2014-3/19/2014 Active Days: 43	**72.51**	75.99	**52.62**	**0.02**	0.10	4.14	4.24	0.03	3.81	3.84	**12,991.59**
Asphalt 01/19/2014-03/19/2014	1.94	13.25	9.14	0.00	0.01	0.81	0.81	0.00	0.74	0.74	1,539.44
Paving Off-Gas	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.76	12.88	8.42	0.00	0.00	0.79	0.79	0.00	0.73	0.73	1,370.82
Paving On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	75.38
Paving Worker Trips	0.02	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.24
Building 12/17/2010-03/19/2014	7.84	62.70	42.90	0.02	0.09	3.33	3.42	0.03	3.06	3.09	11,361.16
Building Off Road Diesel	7.44	60.89	32.10	0.00	0.00	3.24	3.24	0.00	2.98	2.98	9,457.13
Building Vendor Trips	0.13	1.28	1.23	0.00	0.01	0.05	0.07	0.00	0.05	0.05	389.92
Building Worker Trips	0.28	0.53	9.57	0.02	0.07	0.05	0.12	0.03	0.04	0.06	1,514.11
Coating 12/19/2013-03/19/2014	62.73	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99
Architectural Coating	62.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99

Phase Assumptions

Phase: Demolition 6/1/2010 - 8/6/2010 - Default Demolition Description

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Building Volume Total (cubic feet): 139946.7

Building Volume Daily (cubic feet): 2650.8

On Road Truck Travel (VMT): 147.27

Off-Road Equipment:

1 Rubber Tired Dozers (352 hp) operating at a 0.59 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (79 hp) operating at a 0.465 load factor for 8 hours per day

Phase: Mass Grading 8/9/2010 - 12/16/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 8.74

Maximum Daily Acreage Disturbed: 2.18

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

4 Rubber Tired Dozers (352 hp) operating at a 0.59 load factor for 8 hours per day

4 Tractors/Loaders/Backhoes (79 hp) operating at a 0.465 load factor for 8 hours per day

Phase: Paving 1/19/2014 - 3/19/2014 - Default Paving Description

Acres to be Paved: 2.18

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.575 load factor for 8 hours per day

1 Pavers (132 hp) operating at a 0.59 load factor for 8 hours per day

1 Rollers (114 hp) operating at a 0.43 load factor for 8 hours per day

Phase: Building Construction 12/17/2010 - 3/19/2014 - Default Building Construction Description

Off-Road Equipment:

4 Concrete/Industrial Saws (84 hp) operating at a 0.73 load factor for 8 hours per day

9 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day

4 Rough Terrain Forklifts (94 hp) operating at a 0.475 load factor for 8 hours per day

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Phase: Architectural Coating 12/19/2013 - 3/19/2014 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 6/1/2010-8/6/2010 Active Days: 49	2.41	21.70	11.79	0.01	1.14	1.01	2.15	0.24	0.93	1.17	2,117.03
Demolition 06/01/2010-08/06/2010	2.41	21.70	11.79	0.01	1.14	1.01	2.15	0.24	0.93	1.17	2,117.03
Fugitive Dust	0.00	0.00	0.00	0.00	1.11	0.00	1.11	0.23	0.00	0.23	0.00
Demo Off Road Diesel	2.04	17.08	9.51	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,430.66
Demo On Road Diesel	0.35	4.59	1.76	0.01	0.02	0.19	0.21	0.01	0.17	0.18	624.18
Demo Worker Trips	0.02	0.03	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.20
Time Slice 8/9/2010-12/16/2010 Active Days: 94	8.22	68.44	40.12	0.00	6.49	3.30	9.79	1.36	3.03	4.39	5,971.43
Mass Grading 08/09/2010-12/16/2010	8.22	68.44	40.12	0.00	6.49	3.30	9.79	1.36	3.03	4.39	5,971.43
Mass Grading Dust	0.00	0.00	0.00	0.00	6.48	0.00	6.48	1.35	0.00	1.35	0.00
Mass Grading Off Road Diesel	8.16	68.31	38.02	0.00	0.00	3.29	3.29	0.00	3.03	3.03	5,722.64
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.07	0.12	2.10	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79

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Time Slice 12/17/2010-12/31/2010 Active Days: 11	10.38	**87.60**	49.85	0.02	0.09	**4.70**	4.79	0.03	**4.32**	4.35	11,362.03
Building 12/17/2010-03/19/2014	10.38	87.60	49.85	0.02	0.09	4.70	4.79	0.03	4.32	4.35	11,362.03
Building Off Road Diesel	9.80	84.80	35.40	0.00	0.00	4.57	4.57	0.00	4.21	4.21	9,457.13
Building Vendor Trips	0.18	2.05	1.68	0.00	0.01	0.09	0.10	0.00	0.08	0.08	389.87
Building Worker Trips	0.40	0.75	12.77	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,515.03
Time Slice 1/3/2011-12/30/2011 Active Days: 260	9.59	80.93	47.71	0.02	0.09	4.36	4.44	0.03	4.00	4.03	11,361.71
Building 12/17/2010-03/19/2014	9.59	80.93	47.71	0.02	0.09	4.36	4.44	0.03	4.00	4.03	11,361.71
Building Off Road Diesel	9.06	78.39	34.27	0.00	0.00	4.24	4.24	0.00	3.90	3.90	9,457.13
Building Vendor Trips	0.17	1.85	1.56	0.00	0.01	0.08	0.09	0.00	0.07	0.07	389.88
Building Worker Trips	0.37	0.69	11.88	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.70
Time Slice 1/2/2012-12/31/2012 Active Days: 261	9.01	74.75	45.83	0.02	0.09	4.17	4.25	0.03	3.83	3.86	11,361.46
Building 12/17/2010-03/19/2014	9.01	74.75	45.83	0.02	0.09	4.17	4.25	0.03	3.83	3.86	11,361.46
Building Off Road Diesel	8.53	72.47	33.33	0.00	0.00	4.06	4.06	0.00	3.73	3.73	9,457.13
Building Vendor Trips	0.15	1.65	1.44	0.00	0.01	0.07	0.08	0.00	0.06	0.07	389.89
Building Worker Trips	0.33	0.63	11.05	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.44
Time Slice 1/1/2013-12/18/2013 Active Days: 252	8.41	69.11	44.38	0.02	0.09	3.75	3.83	0.03	3.44	3.47	11,361.30
Building 12/17/2010-03/19/2014	8.41	69.11	44.38	0.02	0.09	3.75	3.83	0.03	3.44	3.47	11,361.30
Building Off Road Diesel	7.97	67.07	32.78	0.00	0.00	3.65	3.65	0.00	3.35	3.35	9,457.13
Building Vendor Trips	0.14	1.46	1.33	0.00	0.01	0.06	0.07	0.00	0.05	0.06	389.91
Building Worker Trips	0.30	0.58	10.27	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.26

Time Slice 12/19/2013-12/31/2013 Active Days: 9	71.14	69.14	45.00	0.02	0.09	3.75	3.84	0.03	3.45	3.48	11,452.30
Building 12/17/2010-03/19/2014	8.41	69.11	44.38	0.02	0.09	3.75	3.83	0.03	3.44	3.47	11,361.30
Building Off Road Diesel	7.97	67.07	32.78	0.00	0.00	3.65	3.65	0.00	3.35	3.35	9,457.13
Building Vendor Trips	0.14	1.46	1.33	0.00	0.01	0.06	0.07	0.00	0.05	0.06	389.91
Building Worker Trips	0.30	0.58	10.27	0.02	0.07	0.04	0.11	0.03	0.03	0.06	1,514.26
Coating 12/19/2013-03/19/2014	62.73	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.00
Architectural Coating	62.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.62	0.00	0.00	0.00	0.01	0.00	0.00	0.00	91.00
Time Slice 1/1/2014-1/17/2014 Active Days: 13	70.57	62.73	43.47	0.02	0.09	3.34	3.43	0.03	3.06	3.10	11,452.15
Building 12/17/2010-03/19/2014	7.84	62.70	42.90	0.02	0.09	3.33	3.42	0.03	3.06	3.09	11,361.16
Building Off Road Diesel	7.44	60.89	32.10	0.00	0.00	3.24	3.24	0.00	2.98	2.98	9,457.13
Building Vendor Trips	0.13	1.28	1.23	0.00	0.01	0.05	0.07	0.00	0.05	0.05	389.92
Building Worker Trips	0.28	0.53	9.57	0.02	0.07	0.05	0.12	0.03	0.04	0.06	1,514.11
Coating 12/19/2013-03/19/2014	62.73	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99
Architectural Coating	62.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99

Time Slice 1/20/2014-3/19/2014 Active Days: 43	**72.51**	75.99	**52.62**	**0.02**	0.10	4.14	4.24	0.03	3.81	3.84	**12,991.59**
Asphalt 01/19/2014-03/19/2014	1.94	13.25	9.14	0.00	0.01	0.81	0.81	0.00	0.74	0.74	1,539.44
Paving Off-Gas	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.76	12.88	8.42	0.00	0.00	0.79	0.79	0.00	0.73	0.73	1,370.82
Paving On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	75.38
Paving Worker Trips	0.02	0.03	0.59	0.00	0.00	0.00	0.01	0.00	0.00	0.00	93.24
Building 12/17/2010-03/19/2014	7.84	62.70	42.90	0.02	0.09	3.33	3.42	0.03	3.06	3.09	11,361.16
Building Off Road Diesel	7.44	60.89	32.10	0.00	0.00	3.24	3.24	0.00	2.98	2.98	9,457.13
Building Vendor Trips	0.13	1.28	1.23	0.00	0.01	0.05	0.07	0.00	0.05	0.05	389.92
Building Worker Trips	0.28	0.53	9.57	0.02	0.07	0.05	0.12	0.03	0.04	0.06	1,514.11
Coating 12/19/2013-03/19/2014	62.73	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99
Architectural Coating	62.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.03	0.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	90.99

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 8/9/2010 - 12/16/2010 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

1/18/2010 9:17:02 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\MBA\HarborMedCenter\ParkStructureTest.urb924

Project Name: Harbor UCLA Medical Center Parking Structure - Construction

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	6.31	58.13	27.97	0.01	7.40	2.79	8.18	1.55	2.57	2.58	6,658.46
2010 TOTALS (lbs/day mitigated)	6.31	58.13	27.97	0.01	1.52	2.79	2.83	0.32	2.57	2.58	6,658.46

Harbor UCLA Medical Center Parking Structure Daily Emissions

Local Operational Impact Analysis

Includes emissions from vehicle travel within parking structure
Includes emissions from vehicle idle within parking structure

Assumptions

Capacity of Structure: 544 spaces
All spaces occupied for a 12-hour business period
All vehicles are light duty automobiles
Vehicles travel within the structure at 5 miles per hour
Vehicles travel an average distance of 1000 feet within the structure (entry and exit)
Vehicles idle within the structure for 0.5 minutes
Parking Lot Turnover: 50% (i.e., 50% of the spaces turnover in the hour)

Emission Factors

Exhaust Emission Factor at 5 miles per hour (grams/mile) from EMFAC2007 in 2015

CO	NOx	PM10	PM2.5
2.58	0.211	0.054	0.05

Travel Emissions

Emissions (lbs/day) = [Emission Factor (grams/mile)] x [travel distance per vehicle (mile/ veh)] x x [number of vehicles (vehicles/hour) x [business time (12 hours/day)] / 454 grams/pound * (1 + turnover)

Daily Exhaust Emissions (lbs/day)

CO	NOx	PM10	PM2.5
10.53905	1.292871	0.330877	0.306368

Idle Emissions

EMFAC does not generate idle emissions for light duty automobiles. Therefore, the following equation was used.

Idle Emissions (grams/hr) = [Emission Factor @ 5 miles/hr (grams/mile)] x 5 miles/hr

Estimated Idle emission factors (grams/hr)

CO	NOx	PM10	PM2.5
12.9	1.055	0.27	0.25

Emissions (lbs/day) = [Emission Factor (grams/hr)] x Idle Time/60 x [number of vehicles (vehicles/hr)] x [business time (12 hours/day)] / 454 grams/pound x (1+turnover)

Daily Idle Emissions (lbs/day)

CO	NOx	PM10	PM2.5
2.31859	0.284432	0.072793	0.067401

Total Daily Emissions

	CO	NOx	PM10	PM2.5
	12.9	1.6	0.4	0.4
SCAQMD Op LST	1063	134	4	3

Appendix C:
Geotechnical Report

REPORT OF GEOTECHNICAL INVESTIGATION
PROPOSED PARKING STRUCTURE

HARBOR-UCLA MEDICAL CENTER
1000 WEST CARSON STREET
TORRANCE, CALIFORNIA

Prepared for:

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Alhambra, California

October 23, 2009

Project 4953-09-1402

MACTEC

MACTEC

engineering and constructing a better tomorrow

October 23, 2009

Ms. VanAnn Allen, Project Director
County of Los Angeles Department of Public Works
900 South Fremont Avenue
Alhambra, California 91803

Subject: **LETTER OF TRANSMITTAL**
Report of Geotechnical Investigation
Proposed Parking Structure
Harbor-UCLA Medical Center
1000 West Carson Street
Torrance, California
MACTEC Project 4953-09-1402

Dear Ms. Allen:

We are pleased to submit the results of our geotechnical investigation for the proposed parking structure to be constructed near the southeast corner of the Harbor-UCLA Medical Center campus in Torrance, California. This investigation was conducted in general accordance with our proposal August 12, 2009, which was authorized on August 20, 2009, and with the terms and conditions contained in Contract No. PW13100 between MACTEC and the Los Angeles County Department of Public Works.

The scope of our services was planned with you and Mr. Mark Reinmiller of Vanir Construction Management, Inc. Mr. Kevin Morton and Ms. Esther Chau of Hohbach Lewin, Inc. have advised us of the structural loading information of the proposed parking structure. Mr. Amer Soudani of Parking Structure Builders, Inc. (PSBI) advised of the features of the proposed parking structure and provided us with plans for the project.

The results of our investigation and design recommendations are presented in this report. Please note that you or your representative should submit copies of this report to the appropriate governmental agencies for their review and approval prior to obtaining a building permit.

MACTEC Engineering and Consulting, Inc.
5628 East Slauson • Los Angeles, CA 90040-1554 • Phone: 323.889.5300 • 323.889-5398
www.mactec.com

It has been a pleasure to be of professional service to you. Please contact us if you have any questions or if we can be of further assistance.

Sincerely,

MACTEC Engineering and Consulting, Inc.

Mark A. Murphy
Senior Engineer
Project Manager

Jake Kharraz
Senior Principal Engineer

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(5 copies submitted)

Attachments

cc: (2) Hohbach Lewin, Inc.
Attn: Mr. Kevin Morton

(2) Parking Structure Builders, Inc.
Attn: Mr. Amer Soudani

REPORT OF GEOTECHNICAL INVESTIGATION
PROPOSED PARKING STRUCTURE

HARBOR-UCLA MEDICAL CENTER
1000 WEST CARSON STREET
TORRANCE, CALIFORNIA

Prepared for:

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

Alhambra, California

MACTEC Engineering and Consulting, Inc.

Los Angeles, California

October 23, 2009

Project 4953-09-1402

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SUMMARY

We have completed our geotechnical investigation of the site of the proposed parking structure to be constructed near the southeast corner of the Harbor-UCLA Medical Center campus near the intersection of Vermont Avenue and 220th Street in Torrance, California. Our subsurface explorations, engineering analyses, and foundation design recommendations are summarized below.

We explored the soil conditions by drilling six borings at the site; fill soils, 1 to 4½ feet thick, were encountered in our borings. The natural soils generally consist of approximately 5 feet of stiff silty clay underlain by medium dense to dense silty sand and poorly graded sand with silt interlayered with stiff to very stiff sandy silt and silt to the depths explored. The upper clayey on-site soils are moderately expansive and will shrink and swell with fluctuations in moisture content. In addition to the borings, two Cone Penetration Tests (CPTs) were performed to determine the depths of the granular soil deposits at each location and a subsequent boring was drilled for the purpose of performing a field permeability test at the selected depth. Ground water was not encountered within the 50-foot depth explored by the borings.

Based on the available geologic data, active or potentially active faults with the potential for surface rupture are not known to be located beneath or projecting toward the site. In our opinion, the potential for surface rupture at the site due to fault plane displacement propagating to the ground surface during the design life of the proposed parking structure is considered low. Although the site could be subjected to strong ground shaking in the event of an earthquake, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the parking structure is designed in conformance with current building codes and engineering practices.

The relatively flat-lying topography at the site precludes overall site stability problems. The potential for other geologic hazards such as liquefaction, liquefaction-induced settlement, lateral spreading, seismically-induced settlement, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is also considered low.

The existing fill soils are not considered suitable for support of the proposed parking structure, its floor slab, or paving or other concrete walks and slabs on grade. The natural soils at the site are generally stiff and dense. The proposed parking structure may be supported on isolated shallow spread footings established in the stiff and dense undisturbed natural soils. As an alternative to the use of isolated spread footings, the proposed parking structure may be supported on continuous strip footings to minimize the differential settlement between adjacent columns.

The on-site soils may be used in any required fill. However, because of the moderately expansive characteristics of the upper on-site clayey soils, floor slabs and other concrete walks and slabs on grade will need to be underlain by at least one foot of relatively non-expansive soil. Where natural clayey soils are exposed, the clayey soils should be overexcavated to allow for the placement of at least one foot of relatively non-expansive soil beneath floor slabs and other concrete walks and slabs on grade. In fill areas or areas where existing fill is to be excavated, the upper one foot of the new fill beneath floor slabs and other concrete walks and slabs on grade should consist of relatively non-expansive soil.

1.0 SCOPE

This report provides foundation design information for the proposed parking structure. This report also provides the results of field permeability testing performed at a selected location at the subject site. The location of the site is illustrated on Figure 1, Vicinity Map. The locations of the proposed parking structure, existing buildings, and our exploration borings are shown on Figure 2, Plot Plan.

Our legacy firms, LeRoy Crandall and Associates and Law/Crandall, previous performed several investigations at the medical center campus. The locations of the explorations performed as part of these previous investigations are shown on Figure 2. The recommendations in the current report were developed in part using geotechnical information from our previous investigations.

This investigation was authorized to determine the static physical characteristics of the soils at the site of the proposed parking structure, and to provide recommendations for foundation design, floor slab and pavement support, and grading for the development. We were to evaluate the existing soil and ground-water conditions at the site, including the corrosion potential of the soils, and develop recommendations for the following:

- A feasible foundation system design along with the necessary design parameters;
- Estimated settlement for the anticipated loadings;
- Seismic design parameters based on the current California Building Code;
- Results of permeability testing;
- Subgrade preparation and floor slab support;
- Design of asphalt and portland cement concrete paving;
- Grading, including site preparation, excavation and slopes, the placing of compacted fill, and quality control measures relating to earthwork.

In addition, we were to perform a limited geologic-seismic hazards evaluation for the project site. Our scope of services also included limited environmental sampling and testing of soil samples obtained our borings for the purpose of characterizing these soils for planning the future

excavations and eventual disposition of excavated soils. The results of this testing program will be submitted under separate cover.

Our recommendations are based on the results of our current and previous field explorations, laboratory tests, and appropriate engineering analyses. The results of our current field explorations and laboratory tests, which form the basis of our recommendations, are presented in the Appendices.

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities. No other warranty, express or implied, is made as to the professional advice included in this report. This report has been prepared for the County of Los Angeles Department of Public Works and their design consultants to be used solely in the design of the proposed parking structure. This report has not been prepared for use by other parties, and may not contain sufficient information for purpose of other parties or other uses.

2.0 PROJECT DESCRIPTION

The proposed parking structure will consist of a slab on grade and two supported decks of parking. The proposed parking structure will encompass approximately 60,000 square feet in plan area and will not contain subterranean construction.

Dead-plus-live loads for gravity columns of the parking structure will range between approximately 40 kips and 750 kips. The lower parking level will be established at about the currently existing grade. Only minor grading and site work are planned.

In addition, as part of the parking structure project, stormwater runoff will need to be disposed of on-site, most likely through the use of dry wells. We understand that the design requirement for the dry wells will be that the entire lower 10 feet of the dry well be established within highly permeable soil (having a permeability of at least ½ inch per hour).

3.0 SITE CONDITIONS

The site is located near the southeast corner of the medical center campus near the intersection of Vermont Avenue and 220th Street. The site is currently occupied by an asphalt-paved surface parking lot with landscaped planter islands. The ground surface of the site is relatively flat, with slight downward slope to the southeast, having a difference in elevation of less than 3 feet across the site (between Elevation 42 near the northwest corner and Elevation 39 near the southeast corner). Underground electrical and water lines cross the site; various other underground utilities may also cross the site.

4.0 FIELD EXPLORATIONS AND LABORATORY TESTS

The soil conditions beneath the site were explored by drilling six borings near the footprint of the proposed parking structure using hollow stem auger drilling equipment to depths of 30 to 50 feet below the existing grade at the locations shown on Figure 2. Data were also available from our previous investigations at the medical center campus; the locations of the explorations for these investigations are also shown on Figure 2. In addition to the borings, two Cone Penetration Tests (CPTs) were performed to a depth of 60 feet below existing grade to determine the depths of the granular soil deposits at each location. The locations for the CPTs are also presented on Figure 2. Details of the explorations and the logs of the borings are presented in Appendix A. Results of the CPTs are presented in Appendix B.

Subsequent to the advancement of the CPTs, and after analyzing their results, one additional exploration boring was drilled using bucket-auger drilling equipment to a depth of 28 feet below the adjacent grade at the location shown on Figure 2 for the purpose of performing a field permeability test within the boring at the selected depth. Details of this exploration boring are also presented in Appendix A.

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine the pertinent engineering properties of the foundation soils. The following tests were performed:

- Moisture content and dry density determinations.
- Direct shear.
- Consolidation.
- Compaction
- Expansion Index.
- Stabilometer (R-Value).

All testing was performed in general accordance with applicable ASTM specifications. Details of the laboratory testing program and test results are presented in Appendix A. In addition, we have retained Schiff and Associates to perform a corrosion study for the project. The results of the corrosion study will be submitted under separate cover.

5.0 SOIL CONDITIONS

Fill soils, 1 to 4½ feet thick, were encountered in our borings. The fill soils consist of silty sand, sandy silt, silt, and clay and are not uniformly well compacted. Deeper fill could occur between boring locations, particularly near existing utility lines.

The natural soils generally consist of approximately 5 feet of stiff silty clay underlain by medium dense to dense silty sand and poorly graded sand with silt interlayered with stiff to very stiff sandy silt and silt to the depths explored. The upper clayey on-site soils are moderately expansive and will shrink and swell with fluctuations in moisture content.

Ground water was not encountered within the 50-foot depth explored by the borings.

As previously stated, the report of corrosion studies will be submitted under separate cover.

6.0 LIMITED GEOLOGIC-SEISMIC HAZARDS EVALUATION

Based on the available geologic data, active or potentially active faults with the potential for surface rupture are not known to be located beneath or projecting toward the site. The closest active faults to the site are the Newport Inglewood fault zone (located approximately 6 kilometers to the northeast of the site) and the Palos Verdes fault zone (located approximately 6 kilometers to the southwest of the site). In our opinion, the potential for surface rupture at the site due to fault plane displacement propagating to the ground surface during the design life of the proposed parking structure is considered low. Although the site could be subjected to strong ground shaking in the event of an earthquake, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the parking structure is designed in conformance with current building codes and engineering practices.

Liquefaction potential is greatest where the ground-water level is shallow, and loose, fine sands or silts occur within a depth of about 50 feet. Liquefaction potential decreases as grain size and clay and gravel content increase. As ground acceleration and shaking duration increase during an earthquake, liquefaction potential increases.

According to the Los Angeles County Seismic Safety Element (1990), the Safety Element of the City of Torrance General Plan (1992), the site is not located in an area identified as having a potential for liquefaction. Based on ground water contour maps and ground-water level measurements in our prior and current borings at the site, ground water is at a depth greater than 50 feet. Historic-high ground-water level contours are not reported in the vicinity of the project site (California Division of Mines and Geology, 1999) and the site is not within an area having a potential for liquefaction, which would imply that the historic-high ground-water level would be deeper than 40 to 50 feet below the existing grade. Additionally, the Pleistocene age alluvial deposits beneath the site are generally dense and not subject to liquefaction. Therefore, the potential for liquefaction and the associated ground deformation beneath the site is considered to be low and seismically-induced settlement of the unsaturated soils above the ground-water level in the event of a moderate to large earthquake occurring on a nearby fault is expected to be less than ½ inch.

The relatively flat-lying topography at the site precludes overall site stability problems. The potential for other geologic hazards such as liquefaction, liquefaction-induced settlement, lateral spreading, seismically-induced settlement, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is also considered low.

7.0 RECOMMENDATIONS

7.1 GENERAL

The existing fill soils are not considered suitable for support of the proposed parking structure, its floor slab, or paving or other concrete walks and slabs on grade. The natural soils at the site are generally stiff and dense. The proposed parking structure may be supported on isolated shallow spread footings established in the stiff and dense undisturbed natural soils. As an alternative to the use of isolated spread footings, the proposed parking structure may be supported on continuous strip footings to minimize the differential settlement between adjacent columns.

The on-site soils may be used in any required fill. However, because of the moderately expansive characteristics of the upper on-site clayey soils, floor slabs and other concrete walks and slabs on grade will need to be underlain by at least one foot of relatively non-expansive soil. Where natural clayey soils are exposed, the clayey soils should be overexcavated to allow for the placement of at least one foot of relatively non-expansive soil beneath floor slabs and other concrete walks and slabs on grade. In fill areas or areas where existing fill is to be excavated, the upper one foot of the new fill beneath floor slabs and other concrete walks and slabs on grade should consist of relatively non-expansive soil.

7.2 FOUNDATIONS

Bearing Value

Isolated spread footings carried at least 1 foot into the undisturbed natural soils and at least 2 feet below the lowest adjacent grade or floor level may be designed to impose a net dead-plus-live load pressure of 4,000 pounds per square foot. The excavations should be deepened as necessary to extend into satisfactory soils.

If the proposed parking structure is supported on continuous strip footings, such footing may be designed to impose a net dead-plus-live load pressure of 3,000 pounds per square foot if carried at least 1 foot into the undisturbed natural soils and at least 2 feet below the lowest adjacent grade or floor level. The excavations should be deepened as necessary to extend into satisfactory soils.

Deeper than normal spread footings may be required to extend the footings into the undisturbed natural soils. In this case, the footings could be designed to extend to a given depth (say 2 feet) and the deeper portion of the footing excavations required to extend one foot into the natural soils could be backfilled with structural concrete.

Footings for minor structures (loading dock walls, minor retaining walls, and free-standing walls) that are structurally separate from the proposed parking structure may be designed to impose a net dead-plus-live load pressure of 1,500 pounds per square foot at a depth of 1½ feet below the lowest adjacent grade. Such footings may be established in either properly compacted fill soils or undisturbed natural soils.

A one-third increase may be used for wind or seismic loads. The recommended bearing values are net values, and the weight of concrete in the footings can be taken as 50 pounds per cubic foot; the weight of soil backfill may be neglected when determining the downward loads.

Settlement

We estimate the settlement of the proposed parking structure, supported on isolated spread footings or continuous strip footings in the manner recommended, will be on the order of 1½ inches or less. Due to the wide range of dead-plus-live loads on the gravity columns, we estimate that the differential settlement between adjacent columns could be up to 1 inch over distances as short as 50 feet. The use of continuous strip footings would reduce the estimated differential settlement between columns depending on the rigidity of such footings.

Lateral Resistance

Lateral loads may be resisted by soil friction and by the passive resistance of the soils. A coefficient of friction of 0.4 may be used between the proposed parking structure footings and the floor slab and the supporting soils. The passive resistance of natural soils or properly compacted fill soils may be assumed to be equal to the pressure developed by a fluid with a density of 300 pounds per cubic foot. A one-third increase in the passive value may be used for wind or seismic loads. The frictional resistance and the passive resistance of the soils may be combined without reduction in determining the total lateral resistance.

Modulus of Subgrade Reaction

For structural analyses of isolated spread or continuous strip footings supported on the stiff and dense undisturbed natural soil as recommended, a vertical modulus of subgrade reaction of 175 pounds per cubic inch may be used. The above value is a unit value for use with a 1-foot wide footing. The modulus should be reduced in accordance with the following equation when used with the larger footings:

$$K_R = K\left[\frac{B+1}{2B}\right]^2$$

where: K = unit subgrade modulus
K_R = reduced subgrade modulus
B = footing width

Ultimate Values

The recommended bearing and lateral load design values above are for use with loadings determined by a conventional working stress design. When considering an ultimate design approach, the recommended design values shall be multiplied by the following factors:

Design Item	Ultimate Design Factor
Bearing Value	3.0
Passive Pressure	1.33
Coefficient of Friction	1.25

In no event, however, shall foundation sizes be less than those required for dead-plus-live loads when using the working stress design values.

7.3 SITE COEFFICIENT AND SEISMIC ZONATION

We have determined the seismic parameters in accordance with the 2007 CBC and ASCE 7-05 Standard (ASCE, 2005) using the United States Geological Survey (USGS, 2009) program, Earthquake Ground Motion Parameters, Version 5.0.9a. For design of the proposed facilities, the parameters S_S and S_1 may be taken as 1.59g and 0.64g, respectively. Based on the results of our subsurface explorations and on a review of the local soil and geologic conditions and shear wave velocity measurements made during the previous advancement during our previous investigation

for the proposed high school site, the site may be classified as Site Class D, as specified in the 2007 CBC and the site coefficients, F_a and F_v, may be taken as 1.0 and 1.5, respectively. Accordingly, the remaining seismic design parameters, S_{DS}, S_{D1}, S_{MS}, and S_{M1} can be obtained from ASCE 7-05 as 1.06g, 0.64g, 1.59g, and 0.97g, respectively.

7.4 FIELD PERMEABILITY TESTING

Test Method

We tested the permeability of the natural soils at the selected location using method USBR 7300-89, described in the United States Department of the Interior, Bureau of Reclamation (USBR), Earth Manual, 1990. The method consists of:

- Drilling a boring to the desired depth;
- Backfilling the bottom of the boring with 4 inches of gravel;
- Adding relatively clean water into the borehole and maintaining it at a constant level;
- Measuring the volume of water added to the borehole to maintain the water level at a constant height;
- Using the amount of water added to the boring and the boring dimensions to calculate the permeability.

The test is run long enough to establish a steady state flow condition. Steady state condition is identified when consistent flow rates are observed during testing.

TEST PREPARATION

The boring was drilled at the selected location, as shown on Figure 2. The boring was drilled using a 14-inch diameter bucker auger. Details of the exploration and the log of the boring is presented in Appendix A.

As previously stated, the boring was drilled to a depth of 28 feet and was terminated for permeability testing. After completion of drilling, 4 inches of pea gravel were placed at the bottom

of the boring and the boring was pre-soaked with water. The permeability test was performed in the boring on the following day.

50-gallon drums were used to supply water to the boring and maintain a constant head. Potable water was released to the borings using a float-activated valve that automatically added water to maintain a constant water level in the permeability test boring. The volume of water added to the boring was periodically recorded by measuring the drop in the drum. The drop in water level in the drum was measured to the nearest one-sixteenth of an inch. The test was continued until steady state seepage was established as indicated by a nearly constant rate of drop in the water-level in the drum.

Based on the results of our current and previous borings on the site and the historic-high ground-water level, the field permeability tests at the site are governed by Condition I (Low Water Table) as given in method USBR 7300-89.

Test Results

The soil permeability was calculated using the physical dimensions of the boring, flow rates, and equations shown in the USBR 7300-89 Test Procedure. The flow measurements used for the calculations were averaged for a period after equilibrium was reached. The permeability results are presented below. The results are consistent with the published literature for materials similar to those encountered in the permeability test boring.

Boring No.	Depth (ft)	Material	Permeability (inches per hour)
4	28	Poorly Graded Sand and Sandy Silt	2.4

Conclusions

We understand that it is required that the soils in the lower 10 feet of a dry well have a permeability rate of at least ½ inch per hour. Based on this criteria and on the results of our boring, CPTs, and field permeability testing, we recommend that the infiltration zones be established between a depth of 10 and 30 feet below the existing grade.

Dry wells should be kept at a distance of least 20 horizontal feet away from adjacent structures.

7.5 FLOOR SLAB SUPPORT

If the subgrade is prepared as recommended in the following section on grading, the building floor slab can be supported on grade. The upper on-site clayey soils are moderately expansive, and floor slabs and other concrete walks and slabs on grade should be underlain by at least one foot of properly compacted fill consisting of relatively non-expansive soils with an expansion index of less than 35.

Construction activities and exposure to the environment can cause deterioration of the prepared subgrade. Therefore, we recommend that our field representative observe the condition of the final subgrade soils immediately prior to slab-on-grade construction, and, if necessary, perform further density and moisture content tests to determine the suitability of the final prepared subgrade.

If vinyl or other moisture-sensitive floor covering is planned, we recommend that the floor slab in those areas be underlain by a capillary break consisting of a vapor-retarding membrane over a 4-inch-thick layer of gravel. A 2-inch-thick layer of sand should be placed between the gravel and the membrane to decrease the possibility of damage to the membrane. We suggest the following gradation for the gravel:

Sieve Size	Percent Passing
¾"	90–100
No. 4	0–10
No. 100	0–3

A low-slump concrete should be used to minimize possible curling of the slab. A 2-inch-thick layer of coarse sand should be placed over the vapor retarding membrane to reduce slab curling. If this sand bedding is used, care should be taken during the placement of the concrete to prevent displacement of the sand. The concrete slab should be allowed to cure properly before placing vinyl or other moisture-sensitive floor covering. The sand and gravel layers should not be considered as part of the required one foot of relatively non-expansive soil.

7.6 PAVING

To provide support for paving, the subgrade soils should be prepared as recommended in the following section on grading. Compaction of the subgrade, including trench backfills, to at least 90%, and achieving a firm, hard, and unyielding surface will be important for paving support. The preparation of the paving area subgrade should be performed immediately prior to placement of the base course. Proper drainage of the paved areas should be provided since this will reduce moisture infiltration into the subgrade and increase the life of the paving.

To provide data for design of paving sections, the R-value of a sample of the upper soils was determined. The test results, which indicate an R-value of 5, are presented in Appendix A. This R-value should be confirmed during grading.

Asphalt Concrete Paving

The required paving and base thicknesses will depend on the expected wheel loads and volume of traffic (Traffic Index or TI). Assuming that the paving subgrade will consist of the on-site or comparable soils compacted to at least 90% as recommended, the minimum recommended paving thicknesses are presented in the following table.

Traffic Use	Assumed Traffic Index	Asphalt Paving (inches)	Base Course (inches)
Automobile Parking	4	3	7
Driveways with Light Truck Traffic	5	3	10
Roadways with Heavy Truck Traffic	6	4	12

The asphalt paving sections were determined using the Caltrans design method. We can determine the recommended paving and base course thicknesses for other Traffic Indices if required. Careful inspection is recommended to verify that the recommended thicknesses or greater are achieved, and that proper construction procedures are followed.

Portland Cement Concrete Paving

Portland cement concrete paving sections were determined in accordance with procedures developed by the Portland Cement Association. Concrete paving sections for a range of Traffic Indices are presented in the following table. We have assumed that the Portland cement concrete will have a compressive strength of at least 3,000 pounds per square inch.

Traffic Use	Assumed Traffic Index	Concrete Paving (inches)	Base Course (inches)
Automobile Parking	4	8	4
Driveways with Light Truck Traffic	5	8	4
Roadways with Heavy Truck Traffic	6	8½	4

The concrete paving should be provided with expansion joints at regular intervals no more than 15 feet in each direction. Load transfer devices, such as dowels or keys, are recommended at joints in the paving to reduce possible offsets. The paving sections in the above table have been developed based on the strength of unreinforced concrete. Steel reinforcing may be added to the paving to reduce cracking and to prolong the life of the paving; however, reinforcing will not decrease the thickness of the paving sections given above.

Base Course

The base course for both asphaltic and concrete paving should meet the specifications for Class 2 Aggregate Base as defined in Section 26 of the latest edition of the State of California, Department of Transportation, Standard Specifications. Alternatively, the base course could meet the specifications for untreated base as defined in Section 200-2 of the latest edition of the Standard Specifications for Public Works Construction. The base course should be compacted to at least 95%.

7.7 GRADING

The existing fill soils are not considered suitable for support of the proposed parking structure, its floor slab, or paving or other concrete walks and slabs on grade. To provide proper support for the proposed parking structure floor slab, paving, and other concrete walks and slabs on grade, the existing fill soils should be excavated and replaced as properly compacted fill. All required fill should be uniformly well compacted and observed and tested during placement.

The on-site soils may be used in any required fill. However, because of the moderately expansive characteristics of the upper on-site clayey soils, floor slabs and other concrete walks and slabs on grade will need to be underlain by at least one foot of relatively non-expansive soil. Where natural clayey soils are exposed, the clayey soils should be overexcavated to allow for the placement of at

least one foot of relatively non-expansive soil beneath floor slabs and other concrete walks and slabs on grade. In fill areas or areas where existing fill is to be excavated, the upper one foot of the new fill beneath floor slabs and other concrete walks and slabs on grade should consist of relatively non-expansive soil.

Site Preparation

After the site is cleared and any existing fill soils are excavated as recommended, the exposed natural soils should be carefully observed for the removal of all unsuitable deposits. Next, the exposed soils should be scarified to a depth of 6 inches, brought to near-optimum moisture content, and rolled with heavy compaction equipment. At least the upper 6 inches of the exposed soils should be compacted to at least 90% of the maximum dry density obtainable by the ASTM Designation D1557 method of compaction.

The upper on-site clayey soils are moderately expansive and will shrink and swell with fluctuations in moisture content. Floor slabs and adjacent concrete walks and slabs on grade should be underlain by at least one foot of relatively non-expansive soil. Good drainage of surface water should be provided by adequately sloping all surfaces. Such drainage will be important to minimize infiltration of water beneath floor slabs, other concrete walks and slabs, and pavement.

Excavations and Temporary Slopes

Where excavations are deeper than about 4 feet, the sides of the construction excavations should be sloped back at ¾:1 (horizontal to vertical) or shored for safety. Unshored excavations should not extend below a plane drawn at 1½:1 (horizontal to vertical) extending downward from adjacent existing footings. We would be pleased to present data for design of shoring if required.

Excavations should be observed by personnel of our firm so that any necessary modifications based on variations in the soil conditions can be made. All applicable safety requirements and regulations, including OSHA regulations, should be met.

Compaction

Any required fill should be placed in loose lifts not more than 8-inches-thick and compacted. The fill should be compacted to at least 90% of the maximum density obtainable by the ASTM Designation D1557 method of compaction. The moisture content of the on-site soils at the time of compaction should vary no more than 2% below or above optimum moisture content. The moisture content of the on-site clayey soils at the time of compaction should be between 2% and 4% above optimum moisture content.

Backfill

All required backfill should be mechanically compacted in layers; flooding should not be permitted. Proper compaction of backfill will be necessary to minimize settlement of the backfill and to reduce settlement of overlying slabs and paving. Backfill should be compacted to at least 90% of the maximum dry density obtainable by the ASTM Designation D1557 method of compaction. The on-site soils may be used in the compacted backfill. However, the upper on-site clayey soils are moderately expansive and may be difficult to compact, and should not be used within the upper backfill or as wall backfill. The exterior grades should be sloped to drain away from the foundations to prevent ponding of water.

Some settlement of the backfill should be expected, and any utilities supported therein should be designed to accept differential settlement, particularly at the points of entry to the structure. Also, provisions should be made for some settlement of concrete walks supported on backfill.

Material for Fill

The on-site soils, less any debris or organic matter, can be used in required fills. However, because of their moderately expansive characteristics, the upper on-site clayey soils should not be used within one foot of the subgrade for floor slabs, and other concrete walks and slabs on grade. Cobbles larger than 4 inches in diameter should not be used in the fill. Any required import material should consist of relatively non-expansive soils with an expansion index of less than 35. The imported materials should contain sufficient fines (binder material) so as to be relatively impermeable and result in a stable subgrade when compacted. All proposed import materials should be approved by our personnel prior to being placed at the site.

7.8 GEOTECHNICAL OBSERVATION

The reworking of the upper soils and the compaction of all required fill should be observed and tested during placement by a representative of our firm. This representative should perform at least the following duties:

- Observe the clearing and grubbing operations for proper removal of all unsuitable materials.
- Observe the exposed subgrade in areas to receive fill and in areas where excavation has resulted in the desired finished subgrade. The representative should also observe proofrolling and delineation of areas requiring overexcavation.
- Evaluate the suitability of on-site and import soils for fill placement; collect and submit soil samples for required or recommended laboratory testing where necessary.
- Observe the fill and backfill for uniformity during placement.
- Test backfill for field density and compaction to determine the percentage of compaction achieved during backfill placement.
- Observe and probe foundation materials to confirm that suitable bearing materials are present at the design foundation depths.
- Observe the drilling and installation of dry wells to determine if appropriate materials are present at the design elevation.

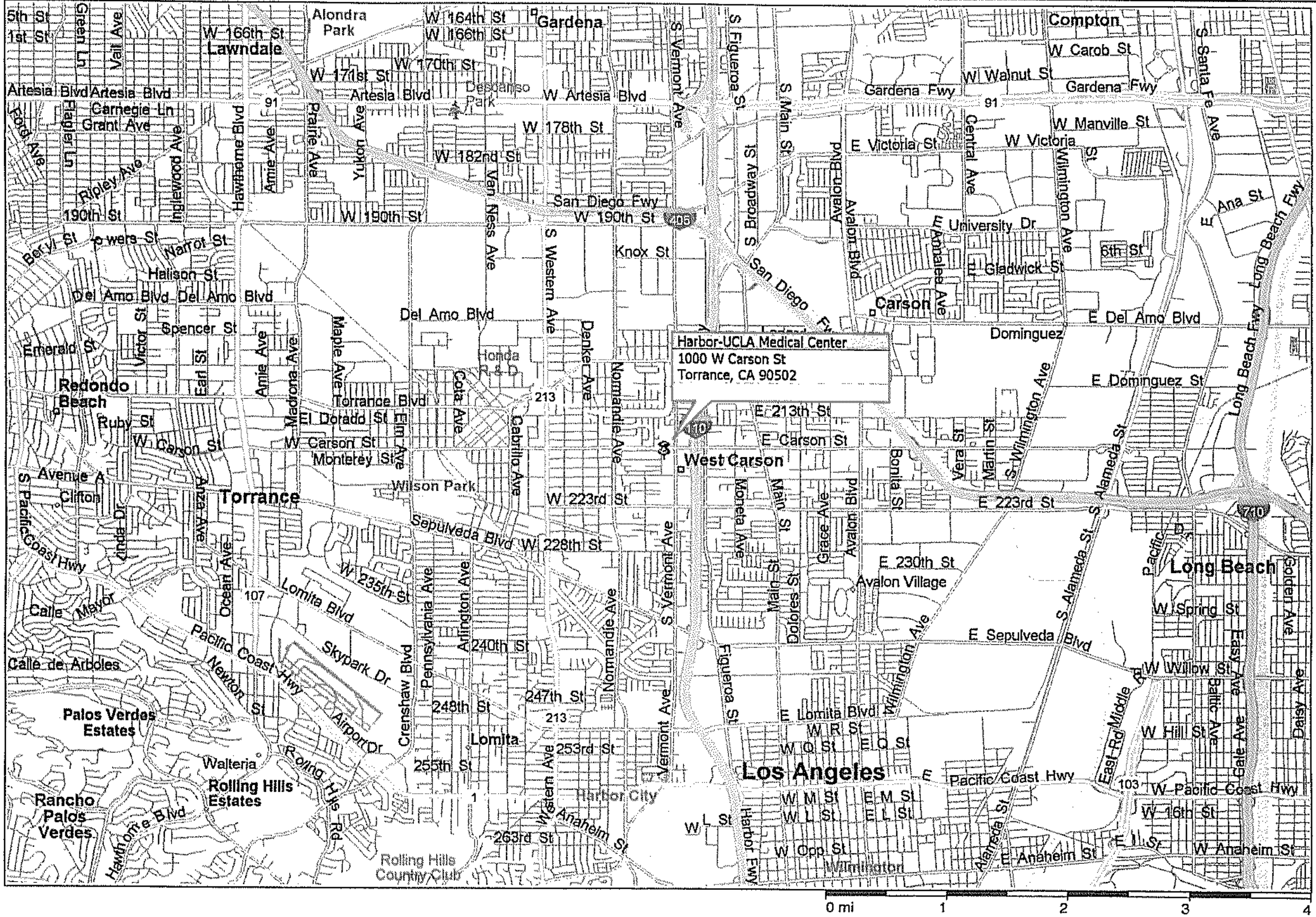
The governmental agencies having jurisdiction over the project should be notified prior to commencement of grading so that the necessary grading permits can be obtained and arrangements can be made for required inspection(s). The contractor should be familiar with the inspection requirements of the reviewing agencies.

8.0 BASIS FOR RECOMMENDATIONS

The recommendations provided in this report are based upon our understanding of the described project information and on our interpretation of the data collected during our current and previous subsurface explorations. We have made our recommendations based upon experience with similar subsurface conditions under similar loading conditions. The recommendations apply to the specific project discussed in this report; therefore, any change in the structure configuration, loads, location, or the site grades should be provided to us so that we can review our conclusions and recommendations and make any necessary modifications.

The recommendations provided in this report are also based upon the assumption that the necessary geotechnical observations and testing during construction will be performed by representatives of our firm. The field observation services are considered a continuation of the geotechnical investigation and essential to verify that the actual soil conditions are as expected. This also provides for the procedure whereby the client can be advised of unexpected or changed conditions that would require modifications of our original recommendations. In addition, the presence of our representative at the site provides the client with an independent professional opinion regarding the geotechnically related construction procedures. If another firm is retained for the geotechnical observation services, our professional responsibility and liability would be limited to the extent that we would not be the geotechnical engineer of record.

FIGURES



REFERENCE:
MAPPOINT, 2004.

MACTEC
5628 E. SLAUSON AVENUE
LOS ANGELES, CALIFORNIA 90040
(323) 889-5300 FAX (323) 889-5398

VICINITY MAP

HARBOR - UCLA MEDICAL CENTER
1000 WEST CARSON STREET
TORRANCE, CALIFORNIA

FIGURE 1

PROJECT NO.	4953-09-1402	REVISION:
DATE:	10/15/09	
SCALE:	AS NOTED	
DWG BY:	TT	CHECKED BY: MM

APPENDIX A

FIELD EXPLORATIONS AND LABORATORY TEST RESULTS

APPENDIX A

FIELD EXPLORATIONS AND LABORATORY TEST RESULTS

FIELD EXPLORATIONS

The soil conditions beneath the site were explored by drilling six borings at the locations shown on Figure 2. The borings were drilled to depths of 30 to 50 feet below the existing grade using 8-inch-diameter hollow stem auger-type drilling equipment. One additional boring was drilled to a depth of 28 feet below the existing grade using 14-inch diameter bucket-auger drilling equipment for the purpose of performing a field permeability test. The location of this boring is also shown on Figure 2.

The soils encountered were logged by our field technician, and undisturbed and bulk samples were obtained for laboratory inspection and testing. The logs of the borings are presented on Figures A-1.1 through A-1.7; the depths at which undisturbed samples were obtained are indicated to the left of the boring logs. The number of blows required to drive the Crandall sampler 12 inches using the hammer weight and drop height indicated on the logs. In addition to obtaining undisturbed samples, standard penetration tests (SPTs) were performed in some of the borings; the results of the tests are indicated on the logs. The soils are classified in the accordance with the Unified Soil Classification System described on Figure A-2.

CONE PENETRATION TESTING

Two Cone Penetration Tests (CPTs) were performed to a depth of 60 feet below existing grade to determine the depths of the granular soil deposits at each location for selection of the field permeability test location and depth. The locations of the CPTs are presented on Figure 2. Results of the CPTs are presented in Appendix B.

LABORATORY TEST RESULTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to evaluate their engineering properties.

The field moisture content and dry density of the soils encountered were determined by performing tests on the undisturbed samples. The results of the tests are presented to the left of the boring logs.

Direct shear tests were performed on selected undisturbed samples to determine the strength of the soils. The tests were performed at field moisture content and after soaking to near-saturated moisture content and at various surcharge pressures. The yield-point values determined from the direct shear tests are presented on Figure A-3, Direct Shear Test Data.

Confined consolidation tests were performed on three undisturbed samples to determine the compressibility of the soils. Water was added to one of the samples during the tests to illustrate the effect of moisture on the compressibility. The results of the tests are presented on Figures A-4.1 and A-4.2, Consolidation Test Data.

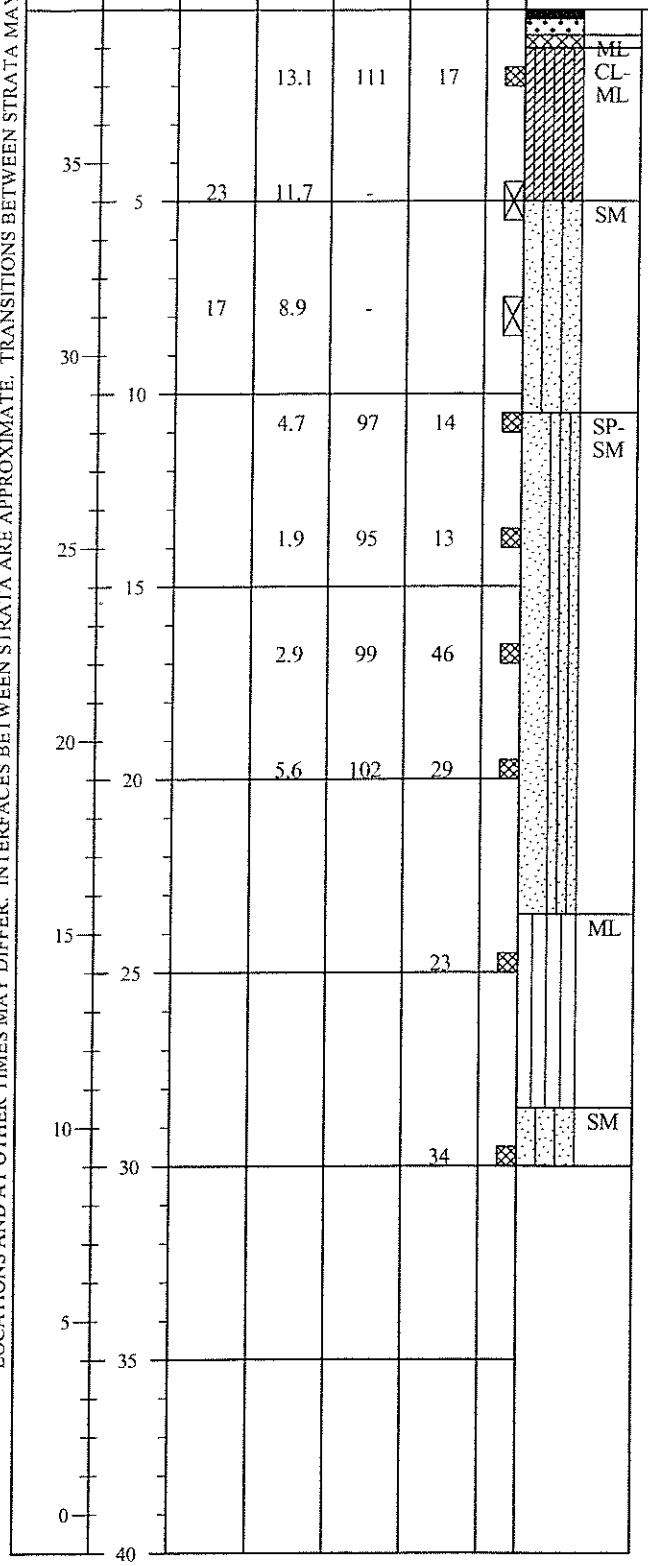
The optimum moisture content and maximum dry density of the upper soils were determined by performing a compaction test on a sample obtained from Boring 3. The test was performed in accordance with the ASTM Designation D1557 method of compaction. The results of the test are presented on Figure A-5, Compaction Test Data.

The Expansion Index of the soils was determined by testing one sample in accordance with the Uniform Building Code Standard No. 29-2 method. The results of the test are presented on Figure A-6, Expansion Index Test Data.

To provide information for paving design, a stabilometer test ("R" value test) was performed on a sample of the upper soils. The test was performed for us by LaBelle·Marvin Professional Pavement Engineering. The results of the test are presented on Figure A-7.

BORING 1

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 39 **



3-inch thick Asphalt Concrete over 5-inch thick Base Course

ML / CL-ML — FILL - SANDY SILT - moist, brown, some Clay
SILTY CLAY - stiff, moist, dark brown

SM — SILTY SAND - medium dense, moist, light orange brown

SP-SM — POORLY GRADED SAND with SILT - loose, moist, light brown, fine-grained

Becomes medium dense, some shells

ML — SILT - stiff, moist, light greenish-brown, some Clay

SM — SILTY SAND - medium dense, moist, light brown

END OF BORING AT 30 FEET

NOTES:

Water not encountered. Boring backfilled with bentonite cement grout from bottom up.

* Number of blows required to drive the Crandall sampler 12 inches using a 140 pound hammer falling 30 inches.

** Elevations based on topographic survey proformed by Mollenhauer Group dated June 26, 2006

Field Tech: MKT
Prepared By: AH
Checked By: MKT

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

B12SOIL_CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/22/09

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

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LOG OF BORING
Project: 4953-09-1402 Figure: A-1.1

BORING 2

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 40 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		
								3½-inch thick Asphalt Concrete over 4½-inch thick Base Course
							ML	FILL - SILT - moist, dark brown, trace Clay
			12.3	115	20		CL-ML	SILTY CLAY - stiff, moist, dark brown
35	5	10	12.8	-			ML	SANDY SILT - stiff, moist, light brown
		14	7.8	-			SM	SILTY SAND - medium dense, moist, light brown
30	10		6.7	96	17			
			9.1	113	31		SP-SM	POORLY GRADED SAND with SILT - medium dense, moist, light orange brown, fine-grained
25	15		2.9	88	20			
20	20		2.2	96	27			Some shells
							ML	SILT - stiff, moist, light greenish brown, some Clay
15	25		22.0	96	18			
							SM	SILTY SAND - medium dense, moist, light brown
10	30		7.7	96	38			END OF BORING AT 30 FEET
5	35							NOTES:
								Water not encountered. Boring backfilled with bentonite cement grout from bottom up.
	40							

Field Tech: MKT
Prepared By: AH
Checked By:

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

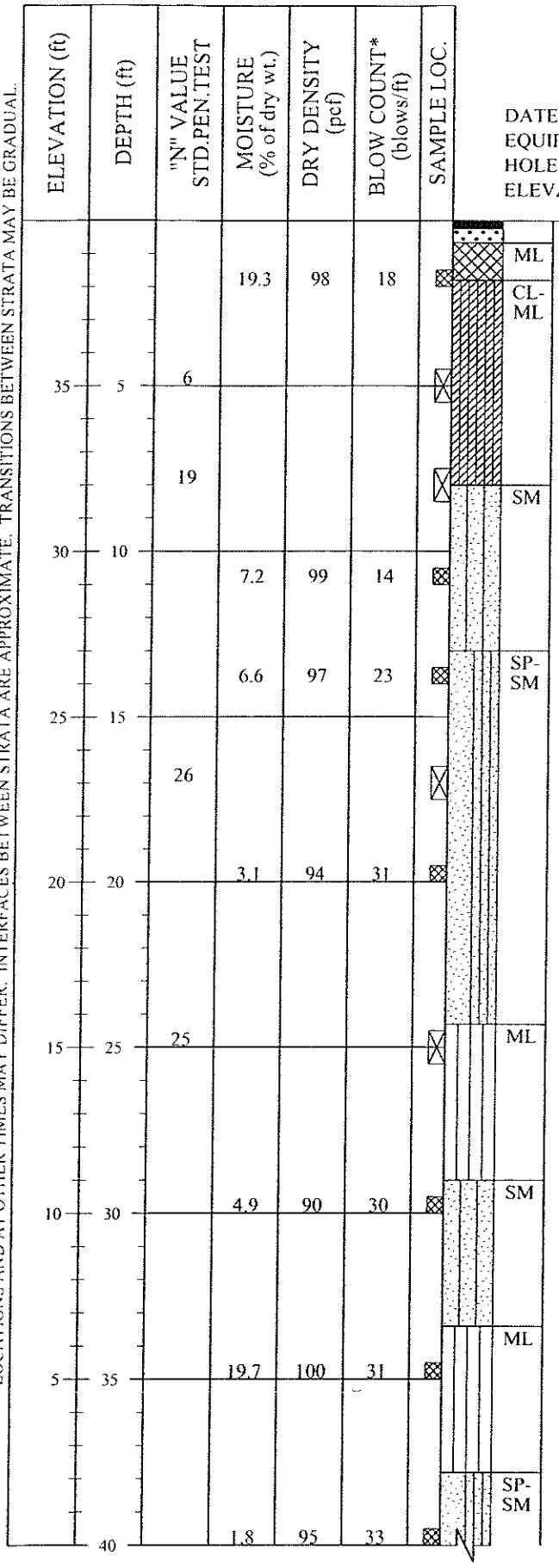
MACTEC

LOG OF BORING
Project: 4953-09-1402 Figure: A-1.2

B12SOIL_CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/23/09

BORING 3

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 40 **



3-inch thick Asphalt Concrete over 5-inch thick Base Course
ML — FILL - SANDY SILT - moist, light brown, some clay
CL-ML — SILTY CLAY - stiff, moist, dark brown
Becomes light brown
SM — SILTY SAND - medium dense, moist, light brown
SP-SM — POORLY GRADED SAND with SILT - medium dense, moist, light brown, fine grained
Becomes siltier
Some shells
ML — SILT - very stiff, moist, light brown, some Clay
SM — SILTY SAND - medium dense, moist, light brown
ML — SILT - very stiff, moist, light greenish brown, some fine sand, some Clay
SP-SM — POORLY GRADED SAND with SILT - medium dense, moist, light gray, fine-grained

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: MKT
Prepared By: AH
Checked By:

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

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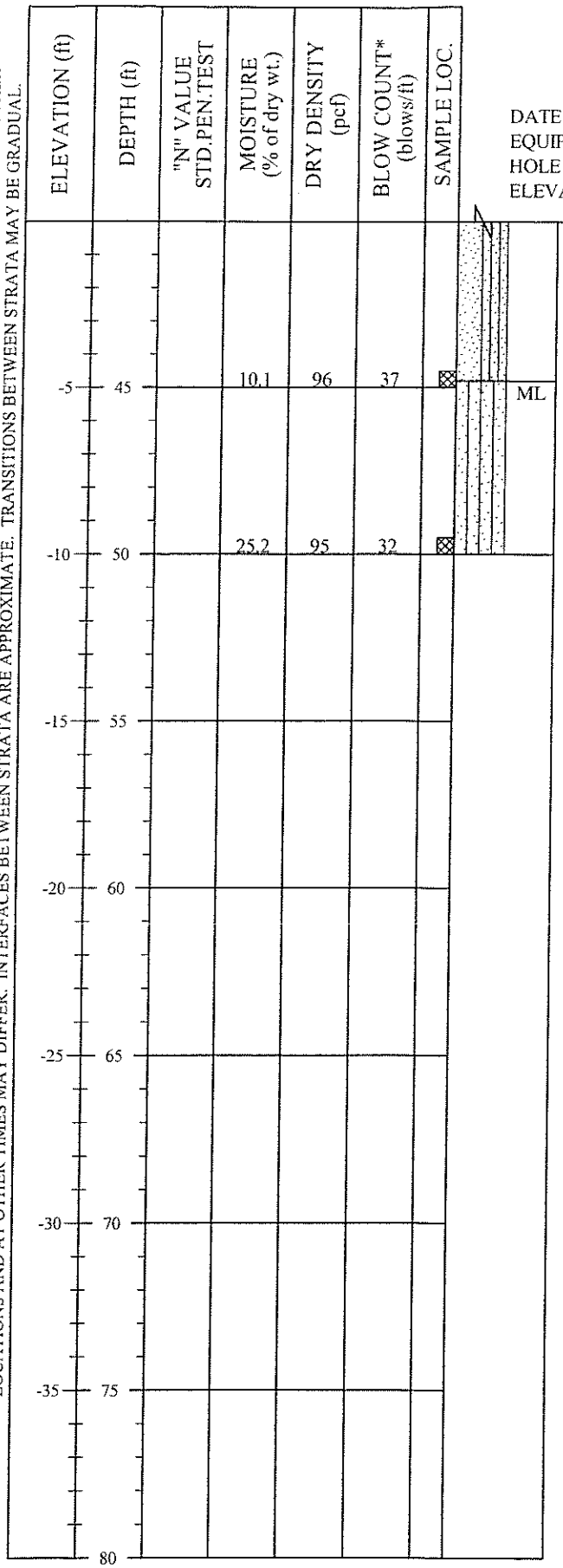
LOG OF BORING
Project: 4953-09-1402 Figure: A-1.3a

BORING 3 (Continued)

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 40 **



SANDY SILT - very stiff, moist, light greenish gray, some clay

Becomes sandier, fine grained
END OF BORING AT 50 FEET

NOTES:

Water not encountered. Boring backfilled with bentonite cement grout from bottom up.

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Field Tech: MKT
Prepared By: AH
Checked By: MKT

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

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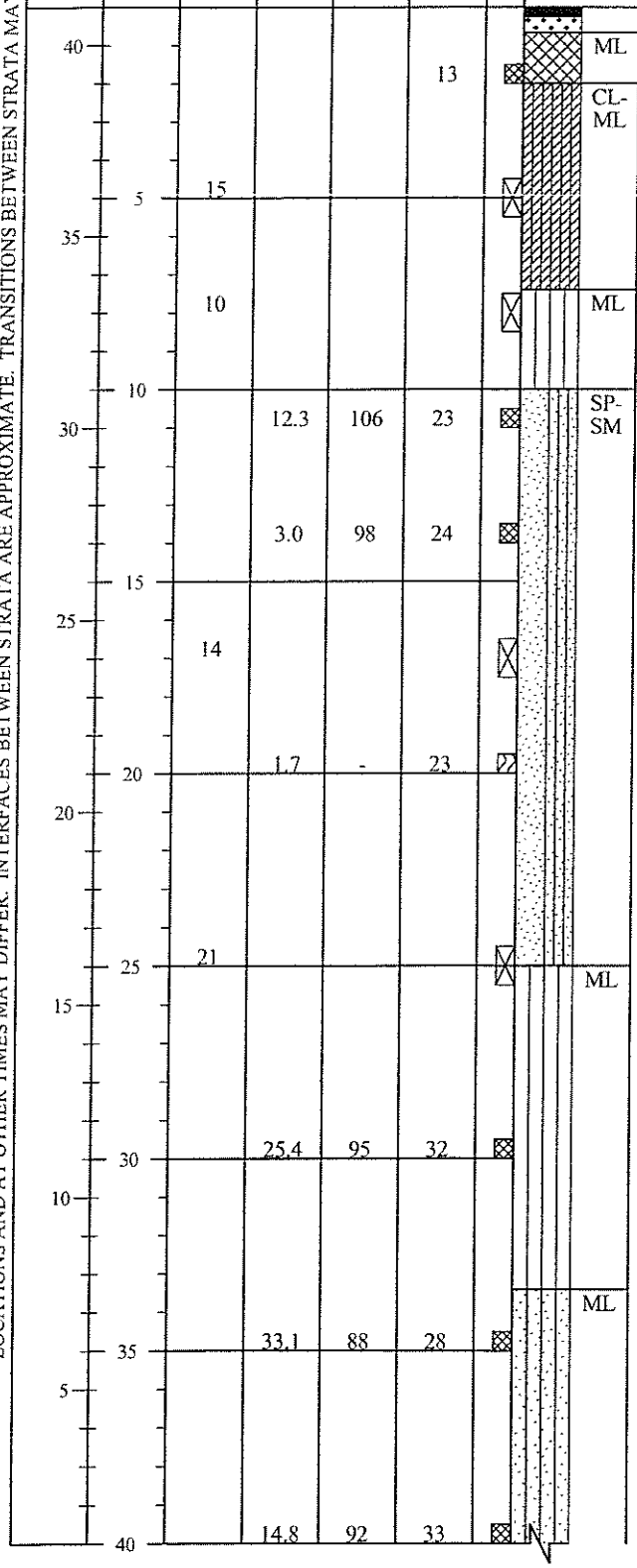
LOG OF BORING
Project: 4953-09-1402 Figure: A-1.3b

B12SOIL CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/22/09

BORING 4

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 41 **



3-inch thick Asphalt Concrete over 5-inch thick Base Course
FILL - SANDY SILT - moist, light brown, some clay

SILTY CLAY - stiff, moist, dark brown

SILT - stiff, moist, light brown, some Clay

POORLY GRADED SAND with SILT - medium dense, moist, light brown, fine-grained

Becomes siltier, some shells

more shells
SILT - very stiff, moist, light greenish-brown, some fine sand, some Clay

Less clayey

SANDY SILT - very stiff, moist, light greenish brown, some clay

Less clay

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: MKT
Prepared By: AH
Checked By: MKT

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

B12SOIL CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/22/09

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

MACTEC

LOG OF BORING
Project: 4953-09-1402 Figure: A-1.4a

BORING 4 (Continued)

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 41 **

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.
0	0					
-5	45		11.0	103	41	⊠
-10	50		27.8	94	27	⊠
-15	55					
-20	60					
-25	65					
-30	70					
-35	75					
	80					

Becomes light grayish-brown

SP-SM POORLY GRADED SAND with SILT - medium dense, moist, light grayish-brown, fine-grained

ML SILT - very stiff, moist, light greenish gray, some Clay

END OF BORING AT 50 FEET

NOTES:

Water not encountered. Boring backfilled with bentonite cement grout from bottom up.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: MKT
Prepared By: AH
Checked By: MKT

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

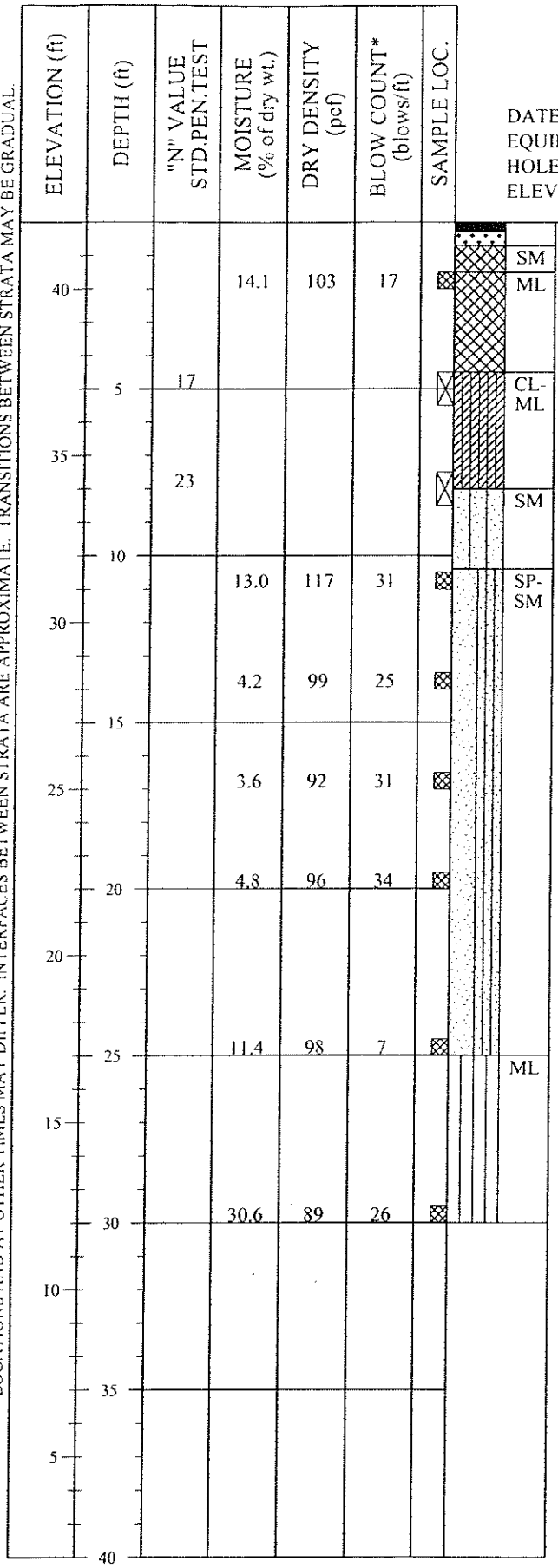
MACTEC

LOG OF BORING
Project: 4953-09-1402 Figure: A-1.4b

B12SOIL_CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/22/09

BORING 5

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 42 **



3½-inch thick Asphalt Concrete over 5-inch thick Base Course

FILL - SILTY SAND - moist, light brown

FILL - SANDY SILT - moist, brown, trace clay, some roots

SILTY CLAY - very stiff, moist, dark brown

SILTY SAND - medium dense, moist, light brown

POORLY GRADED SAND with SILT - medium dense, moist, light brown, fine-grained

Becomes less silty, some shells

Becomes loose, more shells

SILT - very stiff, moist, light brown, some Clay

Less clay, some fine sand

END OF BORING AT 30 FEET

NOTES:

Water not encountered. Boring backfilled with bentonite cement grout from bottom up.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: MKT
Prepared By: AH
Checked By:

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

MACTEC

LOG OF BORING
Project: 4953-09-1402 Figure: A-1.5

B12SOIL_CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/23/09

BORING 6

DATE DRILLED: September 12, 2009
EQUIPMENT USED: Hollow Stem Auger
HOLE DIAMETER (in.): 8
ELEVATION: 41 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD.PEN.TEST	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		
40	0							3-inch thick Asphalt Concrete over 6-inch thick Base Course
			17.6	104	16		ML	FILL - SANDY SILT - moist, light brown, some clay
							CL-ML	SILTY CLAY - medium stiff, moist, dark grayish-brown, trace sand
35	5	5						
			16.2	114	25			Becomes light brown
30	10	25					SM	SILTY SAND - medium dense, moist, light brown, trace Clay
			5.9	98	21		SP-SM	POORLY GRADED SAND with SILT - medium dense, moist, light gray, fine-grained
25	15							Becomes orange brown
			3.4	-	29			Some shells
20	20		2.2	94	42			
			2.3	-	56			More shells, sample is disturbed
15	25						ML	SILT - very stiff, moist, light brown, trace fine sand, some Clay
			19.3	100	32			
10	30							END OF BORING AT 30 FEET
								NOTES:
								Water not encountered. Boring backfilled with bentonite cement grout from bottom up.
5	35							
	40							

Field Tech: MKT
Prepared By: AH
Checked By: MKT

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

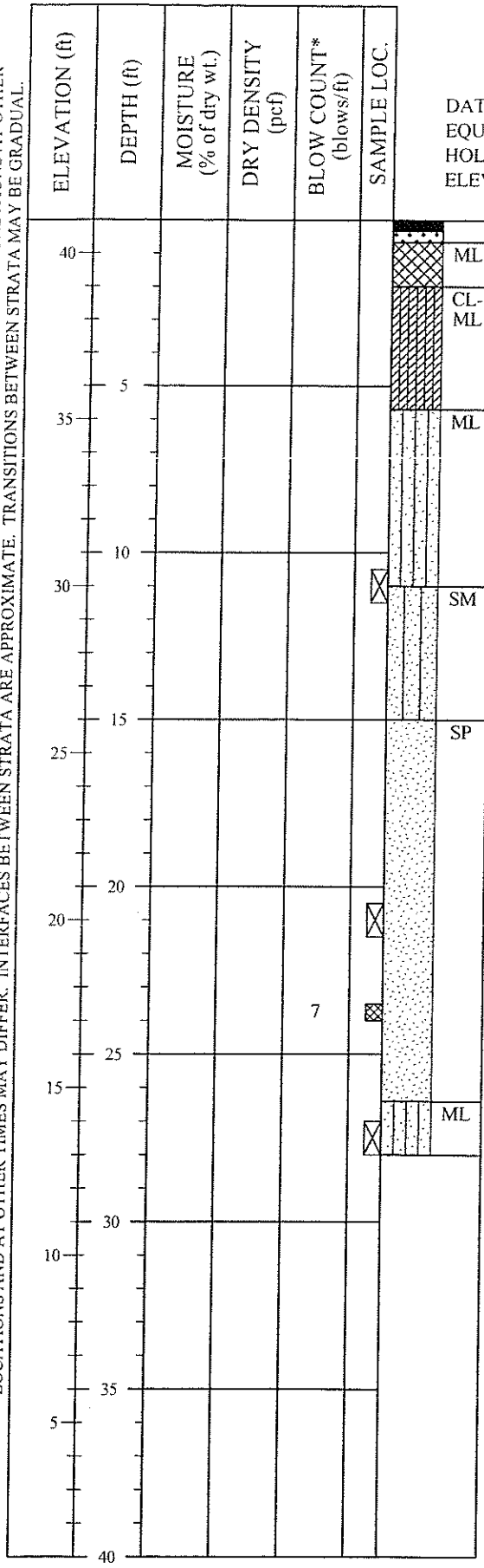
MACTEC

LOG OF BORING
Project: 4953-09-1402 Figure: A-1.6

B12SOIL CRANDALL (NO DECIMAL) 4953-09-1402.GPJ LAW_CRAN.GDT 10/22/09

BORING 4

DATE DRILLED: September 19, 2009
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 14
ELEVATION: 41**



4-inch thick Asphalt Concrete over 4-inch thick Base Course

ML — FILL - SILT - moist, light brownish-orange, some very fine sand, some Clay

CL-ML — SILTY CLAY - moist, brown

ML — SANDY SILT - moist, light brown, some Clay

SM — SILTY SAND - moist, light brown

SP — POORLY GRADED SAND - moist, light brown, fine- to medium-grained, some shell

Less shells

Becomes coarse, some shells

ML — SANDY SILT - moist, gray

END OF BORING AT 28 FEET

NOTES:

Water not encountered. Boring backfilled with slurry from bottom up.
Percolation test equipment installed at 23 feet (5-foot constant head)

* Number of blows required to drive the Crandall sampler 12 inches using a 1600 pound hammer falling 12 inches.

** Elevations based on topographic survey proformed by Mollenhauer Group dated June 26, 2006

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. LATITUDE AND LONGITUDE OF BORING LOCATION SHOWN ON LOGS ARE APPROXIMATE; REFER TO PLOT PLAN FOR MORE ACCURATE LOCATION INFORMATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Field Tech: AR
Prepared By: AH
Checked By: MKT

Proposed Parking Sturcture
Harbor-UCLA Medical Center
Torrance, California

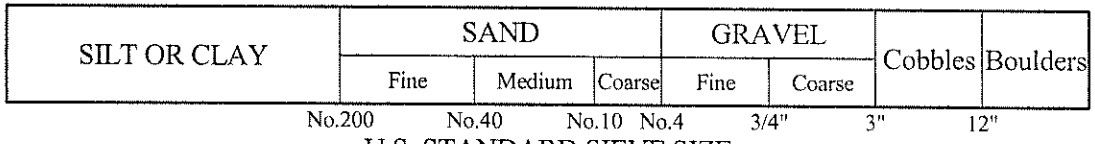
MACTEC

LOG OF BORING
Project: 4953-09-1402 Figure: A-1.7

B11SOIL_CRANDALL(ELEVATION) 4953-09-1402 BORING B-4.GPJ LAW_CRAN.GDT 10/22/09

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel - sand mixtures, little or no fines.
			GP	Poorly graded gravels or grave - sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel - sand - silt mixtures.
			GC	Clayey gravels, gravel - sand - clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 Sieve Size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand - silt mixtures
			SC	Clayey sands, sand - clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts and with slight plasticity.
			CL	Inorganic lays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.



U.S. STANDARD SIEVE SIZE

Reference: The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)

Undisturbed Sample		Auger Cuttings	
Standard Penetration Test		Bulk Sample	
Rock Core		Crandall Sampler	
Dilatometer		Pressure Meter	
Packer		No Recovery	
Water Table at time of drilling		Water Table after drilling	

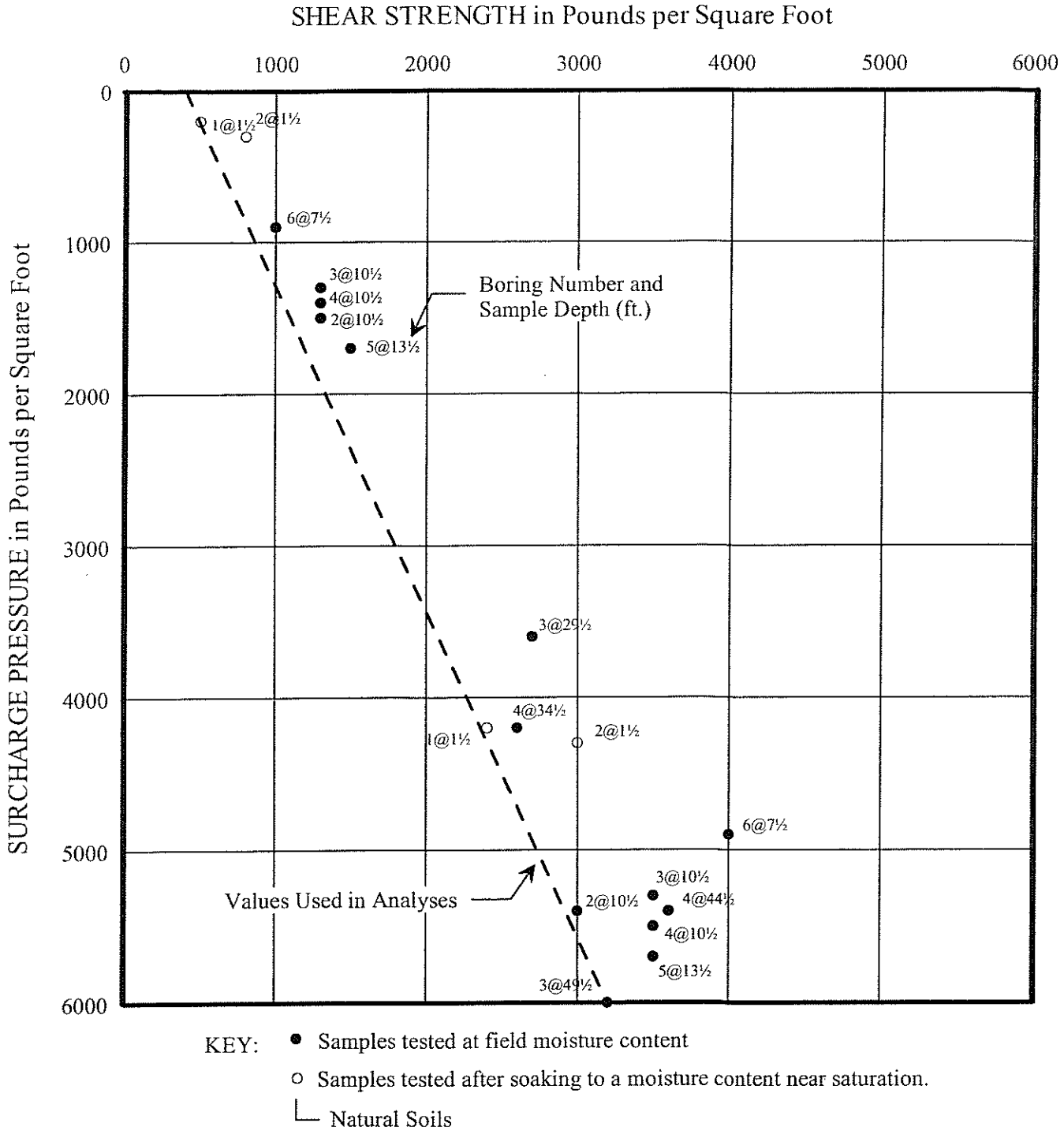
Correlation of Penetration Resistance with Relative Density and Consistency

SAND & GRAVEL		SILT & CLAY	
No. of Blows	Relative Density	No. of Blows	Consistency
0 - 4	Very Loose	0 - 1	Very Soft
5 - 10	Loose	2 - 4	Soft
11 - 30	Medium Dense	5 - 8	Medium Stiff
31 - 50	Dense	9 - 15	Stiff
Over 50	Very Dense	16 - 30	Very Stiff
		Over 30	Hard

KEY TO SYMBOLS AND DESCRIPTIONS

MACTEC

Figure A-2



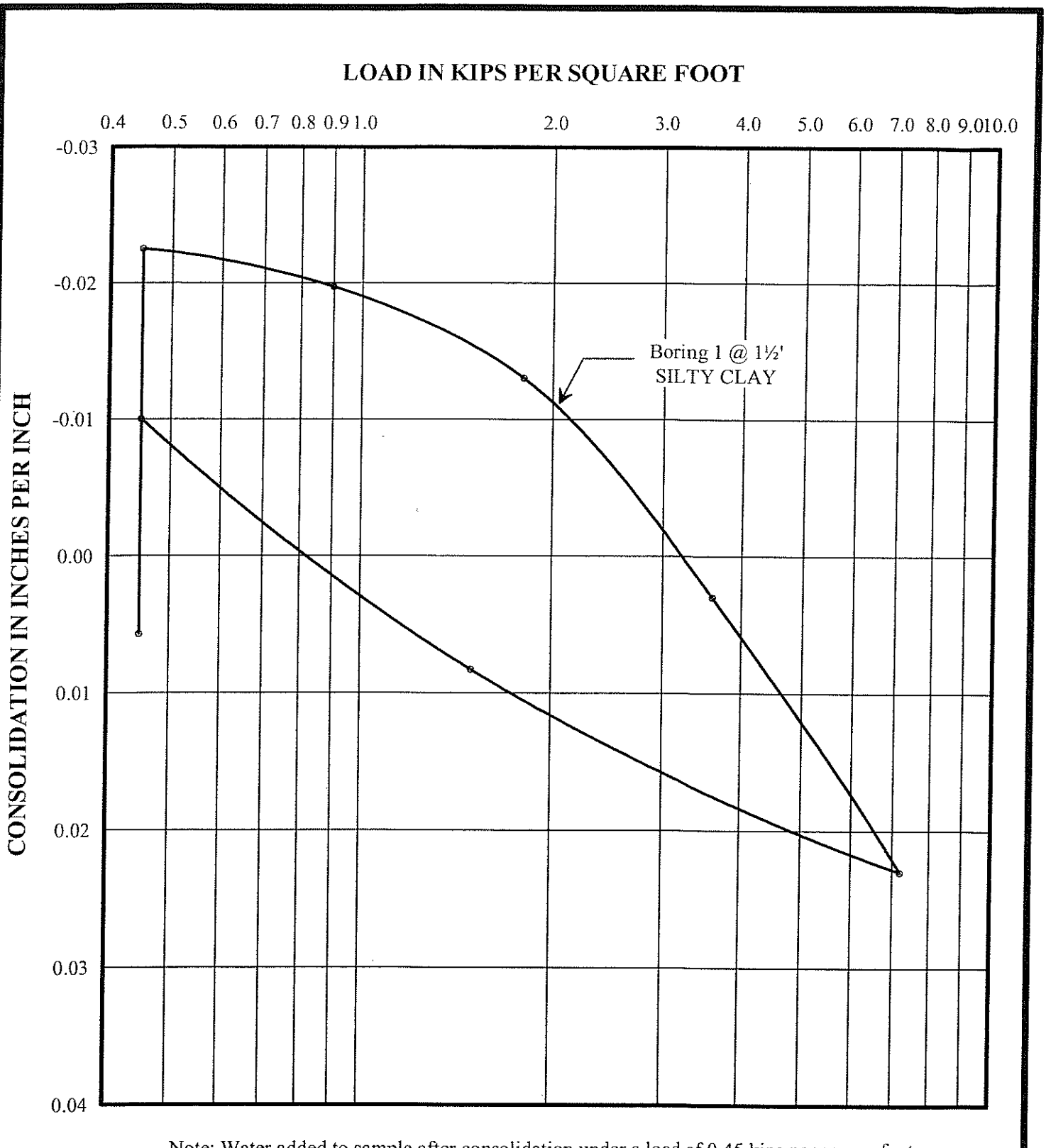
KEY: ● Samples tested at field moisture content

○ Samples tested after soaking to a moisture content near saturation.

└ Natural Soils

Prepared/Date: MKT 10/15/09
Checked/Date: LT 10/22/09

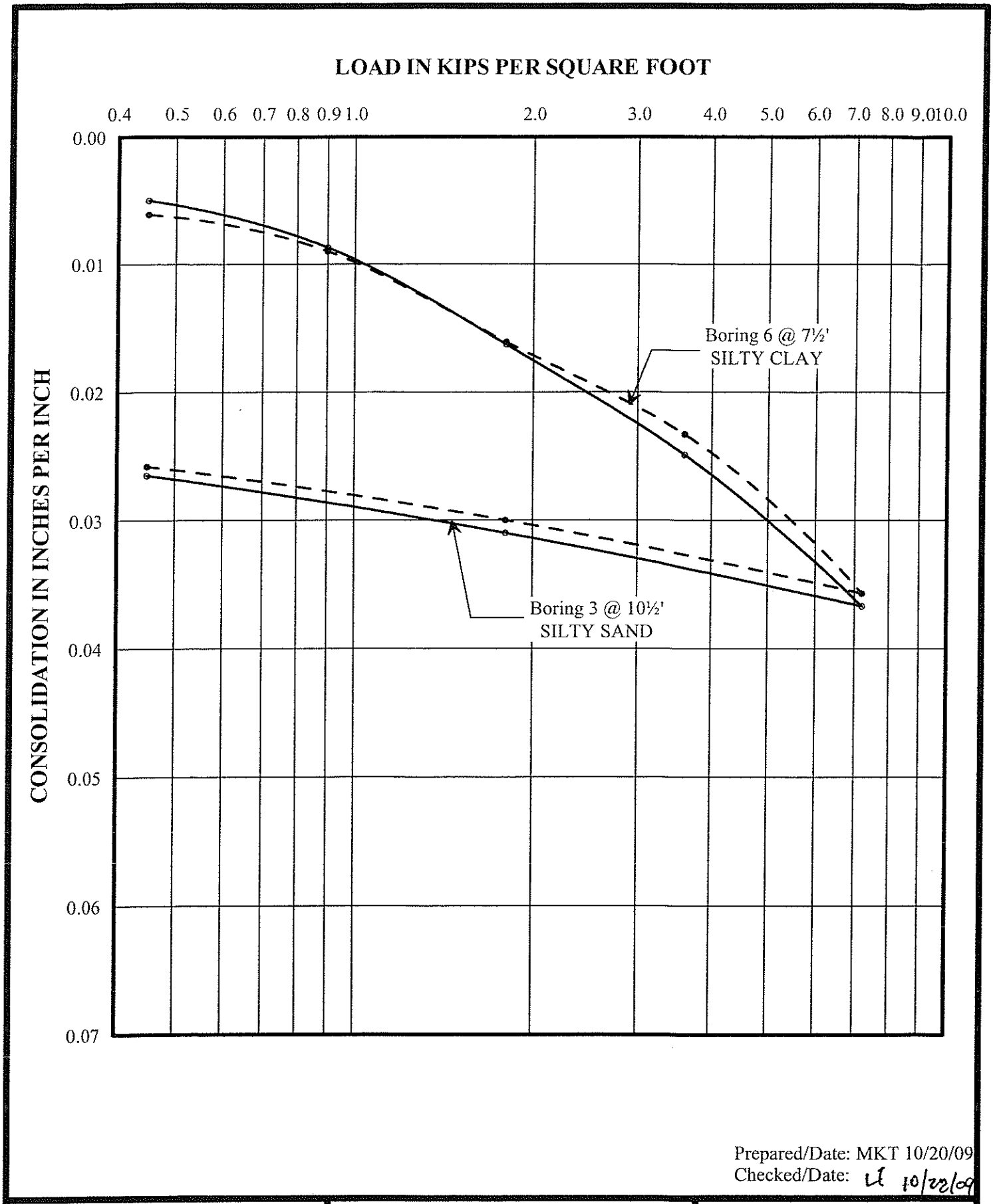
Proposed Parking Structure Harbor-UCLA Medical Center Torrance, California	MACTEC	DIRECT SHEAR TEST DATA Project No. 4953-09-1402 Figure A-3



Note: Water added to sample after consolidation under a load of 0.45 kips per square foot.

Prepared/Date: MKT 10/20/09
Checked/Date: LY 10/22/09

Proposed Parking Structure Harbor-UCLA Medical Center Torrance, California	MACTEC	CONSOLIDATION TEST DATA Project 4953-09-1402 Figure A-4.1



Prepared/Date: MKT 10/20/09
Checked/Date: LL 10/22/09

Proposed Parking Structure Harbor-UCLA Medical Center Torrance, California	MACTEC	CONSOLIDATION TEST DATA Project 4953-09-1402 Figure A-4.2

BORING NUMBER AND SAMPLE DEPTH:	3 at 1' to 5'
SOIL TYPE:	SILTY CLAY
MAXIMUM DRY DENSITY: (lbs./cu.ft.)	126
OPTIMUM MOISTURE CONTENT: (%)	10

TEST METHOD: ASTM Designation D1557

Prepared/Date: MKT 10/20/09
Checked/Date: LT 10/22/09

Proposed Parking Structure
Harbor-UCLA Medical Center
Torrance, California

MACTEC

COMPACTION TEST DATA
Project 4953-09-1402
Figure A-5

BORING NUMBER AND SAMPLE DEPTH:	3 at 1' to 5'
SOIL TYPE:	SILTY CLAY
CONFINING PRESSURE: (lbs./sq. ft.)	144
INITIAL MOISTURE CONTENT: (% dry wt.)	11.4
FINAL MOISTURE CONTENT: (% dry wt.)	23.0
DRY DENSITY: (lbs/cu.ft.)	106
EXPANSION INDEX:	84

Prepared/Date: MKT 10/20/09
Checked/Date: LT 10/22/09

Proposed Parking Structure
Harbor-UCLA Medical Center
Torrance, California

MACTEC

EXPANSION INDEX
TEST DATA
Project 4953-09-1402
Figure A-6

R - VALUE DATA SHEET

J.N. 4953-09-1402
Harbor UCLA Med.Ct

PROJECT NUMBER 36561 BORING NUMBER: B-3 @ 1'-5'

SAMPLE DESCRIPTION: Brown Slightly Sandy Clay

Item	SPECIMEN		
	a	b	c
Mold Number	2		
Water added, grams	200		
Initial Test Water, %	23.1		
Compact Gage Pressure,psi	30		
Exudation Pressure, psi	331		
Height Sample, Inches	2.59		
Gross Weight Mold, grams	3001		
Tare Weight Mold, grams	1969		
Sample Wet Weight, grams	1032		
Expansion, Inches x 10exp-4	0		
Stability 2,000 lbs (160psi)	**66 / 150**		
Turns Displacement	4.43		
R-Value Uncorrected	4		
R-Value Corrected	4		
Dry Density, pcf	98.1		
DESIGN CALCULATION DATA			
Traffic Index Assumed:	4.0		
G.E. by Stability	0.98		
G. E. by Expansion	0.00		

Equilibrium R-Value	**5 or less** by EXUDATION	Examined & Checked: 10 /22/ 09

Gf = 1.25

REMARKS: Sample Exuded @ 331 psi.

REGISTERED PROFESSIONAL ENGINEER STEVEN R MARVIN 30659 EXP 3/31/10 CIVIL STATE OF CALIFORNIA

Steven R. Marvin, RCE 30659

The data above is based upon processing and testing samples as received from the field. Test procedures in accordance with latest revisions to Department of Transportation, State of California, Materials & Research Test Method No. 301.

LaBelle • Marvin

Figure A - 7

APPENDIX B

CONE PENETRATION TEST RESULTS

SUMMARY

OF

CONE PENETRATION TEST DATA

Project:

Harbor UCLA Medical Center
W. 220th Street & S. Vermont Avenue
Torrance, CA
September 5 & 12, 2009

Prepared for:

Mr. Ethan Tsai
MACTEC Engineering & Consulting, Inc.
5628 E. Slauson Avenue
Los Angeles, CA 90040-2922
Office (323) 889-5300 / Fax (323) 721-6700

Prepared by:

KEHOE TESTING & ENGINEERING
5415 Industrial Drive
Huntington Beach, CA 92649-1518
Office (714) 901-7270 / Fax (714) 901-7289
www.kehoetesting.com

TABLE OF CONTENTS

SUMMARY

OF

CONE PENETRATION TEST DATA

1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the Harbor UCLA Medical Center project located at W. 220th Street & S. Vermont Avenue in Torrance, California. The work was performed by Kehoe Testing & Engineering (KTE) on September 5 & 12, 2009. The scope of work was performed as directed by MACTEC Engineering & Consulting, Inc. personnel.

2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at three locations to determine the soil lithology. The groundwater measurements were taken in the open CPT hole approximately 10 minutes after completion of CPT. The following **TABLE 2.1** summarizes the CPT soundings performed:

LOCATION	DEPTH OF CPT (ft)	COMMENTS/NOTES:
CPT-PS1	25	Refusal, hole open to 24 ft (dry)
CPT-PS1-1	60	Hole open to 52 ft (dry)
CPT-PS2	60	Hole open to 59 ft (dry)

TABLE 2.1 - Summary of CPT Soundings

3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm^2 cone and recorded the following parameters at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed
- Pore Pressure Dissipation (at selected depths)

The above parameters were recorded and viewed in real time using a portable computer and stored on a diskette for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. Penetration depths are referenced to ground surface. The soil classification on the CPT plots is derived from the CPT Classification Chart (Robertson, 1986) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

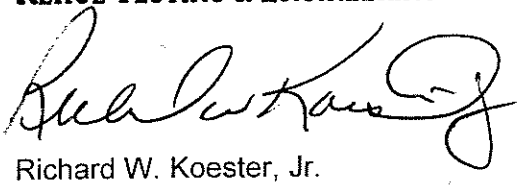
Output from the interpretation program CPTINT provides averaged CPT data over one-foot intervals. The CPTINT output includes Soil Classification Zones, SPT N Values and Undrained Shear Strength (Su). A summary of the equations used for the tabulated parameters is provided in the CPTINT Correlation Table in the Appendix.

The interpretation of soils encountered on this project was carried out using correlations developed by Robertson et al, 1986. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgment and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING



Richard W. Koester, Jr.
General Manager

09/18/09-at-91-9916-1

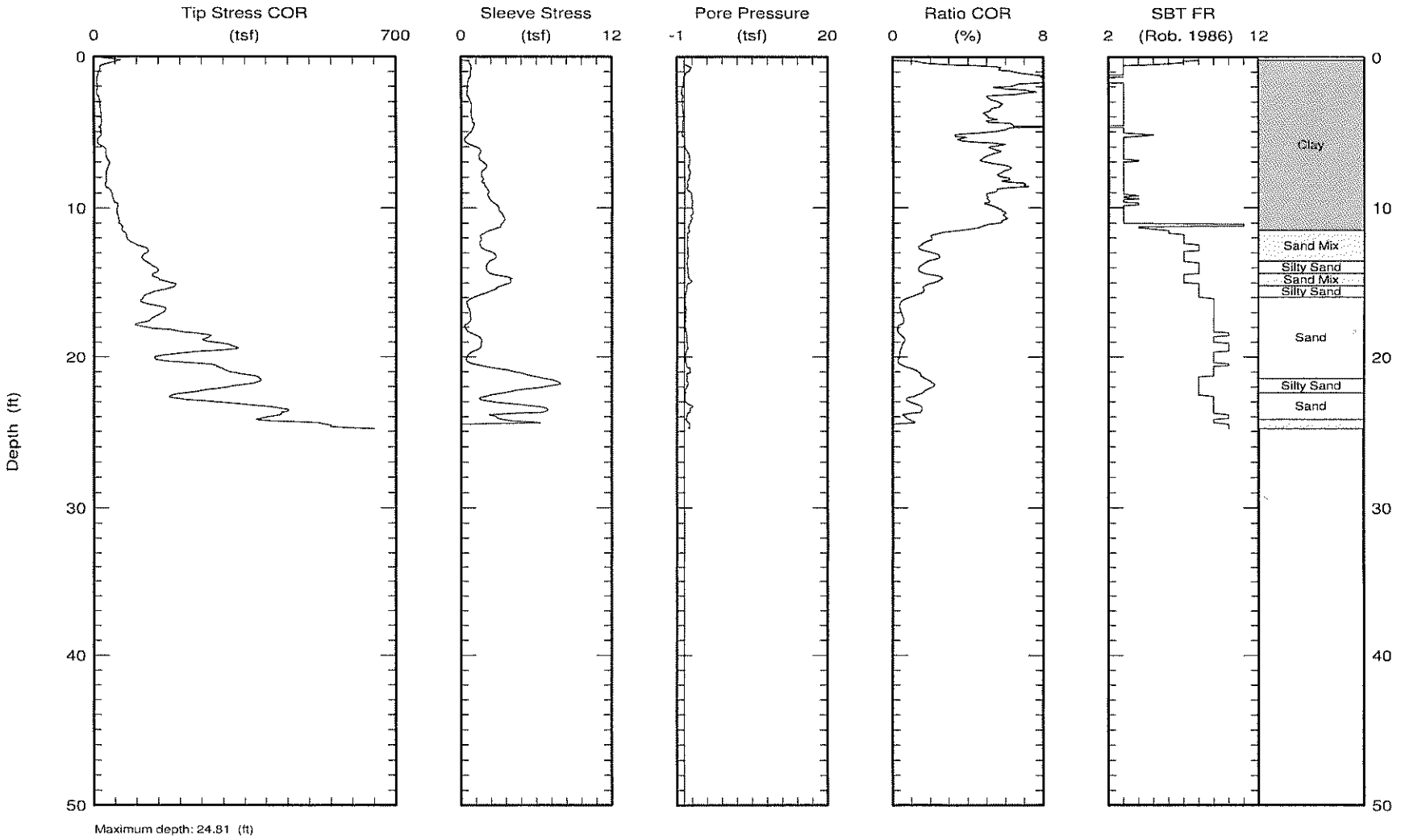
APPENDIX

Kehoe Testing & Engineering
Office: (714) 901-7270
Fax: (714) 901-7289
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 05/Sep/2009
Test ID: CPT-PS1
Project: Torrance

Customer: MACTEC
Job Site: Harbor UCLA Medical Center



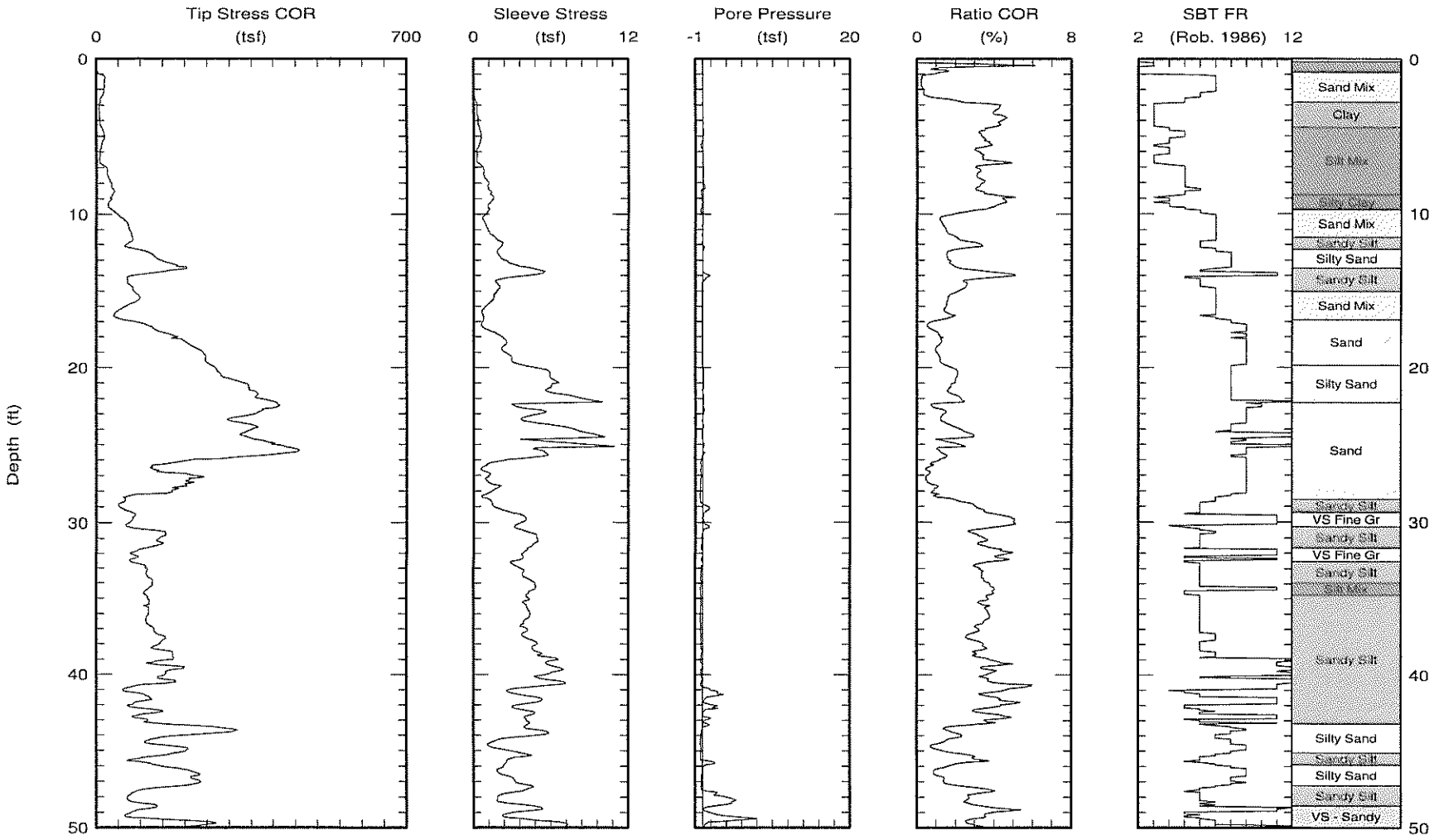
Maximum depth: 24.81 (ft)

Kehoe Testing & Engineering
Office: (714) 901-7270
Fax: (714) 901-7289
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 12/Sep/2009
Test ID: CPT-PS1-1
Project: Torrance

Customer: MACTEC
Job Site: Harbor UCLA Medical Center



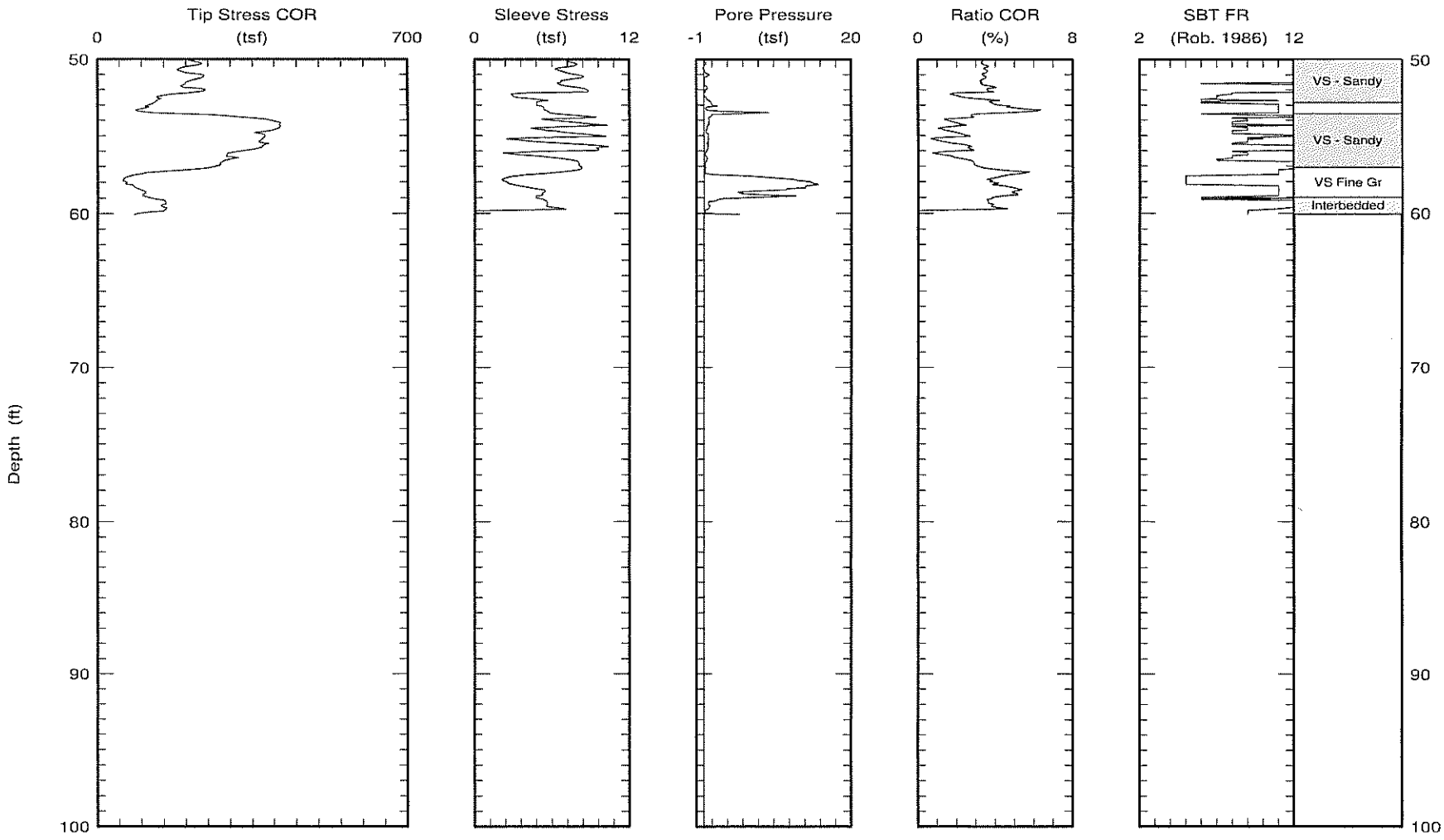
Maximum depth: 60.09 (ft)

Kehoe Testing & Engineering
Office: (714) 901-7270
Fax: (714) 901-7289
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 12/Sep/2009
Test ID: CPT-PS1-1
Project: Torrance

Customer: MACTEC
Job Site: Harbor UCLA Medical Center



Maximum depth: 60.09 (ft)

Kehoe Testing & Engineering
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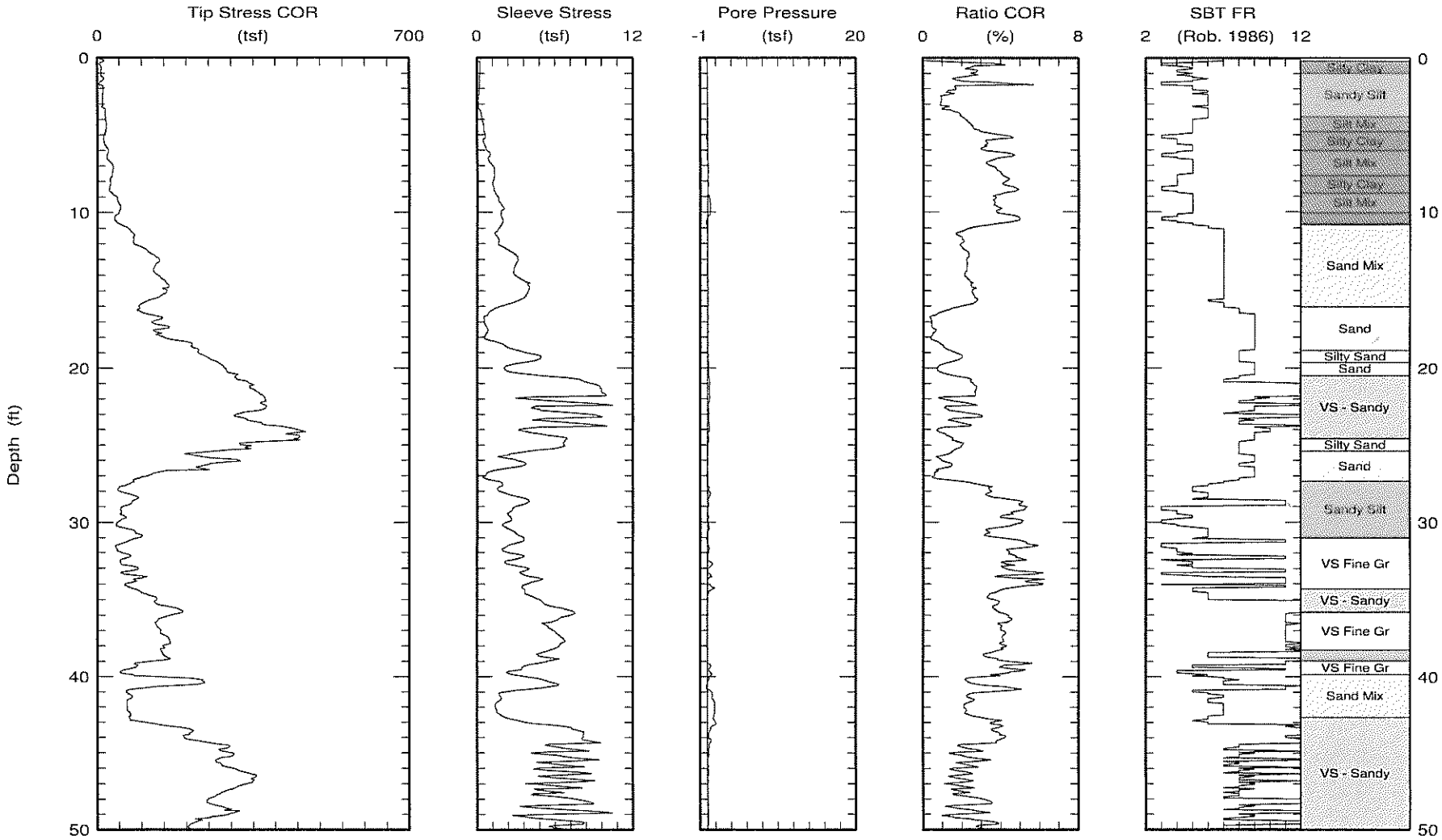
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 12/Sep/2009
Test ID: CPT-PS2
Project: Torrance

Customer: MACTEC
Job Site: Harbor UCLA Medical Center



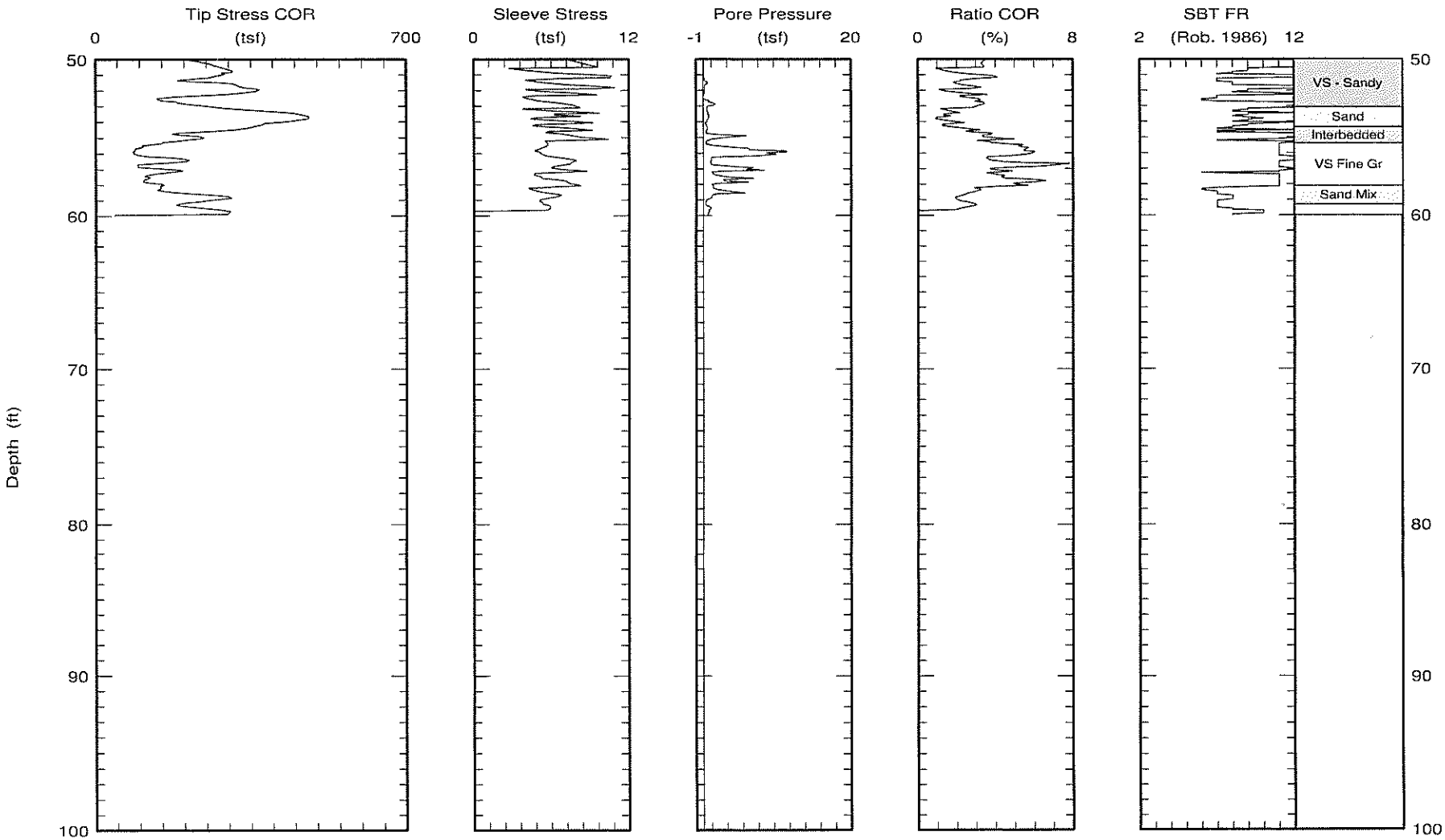
Maximum depth: 60.01 (ft)

Kehoe Testing & Engineering
Office: (714) 901-7270
Fax: (714) 901-7289
rich@kehoetesting.com
skehoe@msn.com

CPT Data
30 ton rig

Date: 12/Sep/2009
Test ID: CPT-PS2
Project: Torrance

Customer: MACTEC
Job Site: Harbor UCLA Medical Center

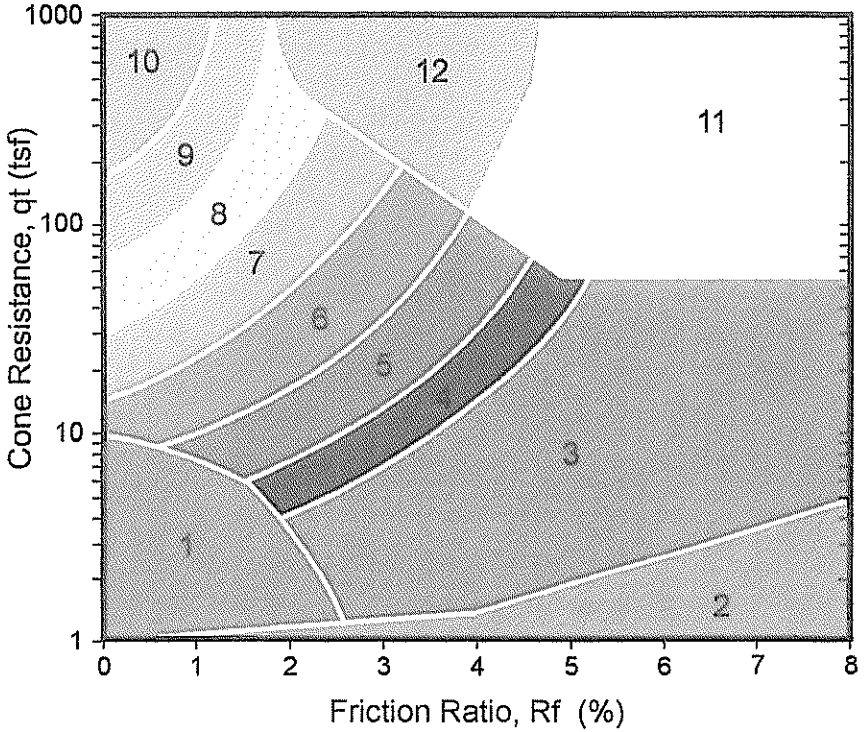


Maximum depth: 60.01 (ft)

KEHOE TESTING & ENGINEERING

CPT Classification Chart

(after Robertson and Campanella, 1988)



Zone	q_t / N	Soil Behavior Type	UCSCS
1	2	sensitive fine grained	OL-OH
2	1	organic material	Pt-OH
3	1	clay	CH
4	1.5	silty clay to clay	CL-CH
5	2	clayey silt to silty clay	ML-CL
6	2.5	sandy silt to clayey silt	MH-ML
7	3	silty sand to sandy silt	SM-ML
8	4	sand to silty sand	SP-SM
9	5	sand	SP
10	6	gravelly sand to sand	SW-SP
11	1	very stiff fine grained *	CL-MH
12	2	sand to clayey sand *	SP-SC

* overconsolidated or cemented

INPUT FILE: C:\temp\CPT-PS1.CSV

Depth (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	27.507	0.557	2.019	6	11	17	1.836
1.500	8.560	0.646	7.553	3	8	12	0.564
2.500	9.680	0.563	5.864	3	9	14	0.630
3.500	15.347	0.818	5.349	3	15	23	1.005
4.500	16.150	0.949	5.881	3	15	23	1.058
5.500	12.820	0.559	4.360	3	12	18	0.832
6.500	28.847	1.491	5.153	3	28	42	1.903
7.500	30.887	1.801	5.806	3	30	45	2.037
8.500	31.106	1.907	6.109	3	30	45	2.046
9.500	47.880	2.463	5.122	3	46	69	3.166
10.500	55.520	3.283	5.893	3	53	74	3.670
11.500	68.413	2.422	3.535	5	33	43	4.520
12.500	103.512	1.758	1.696	7	33	40	9E9
13.500	122.353	2.403	1.963	7	39	45	9E9
14.500	148.547	3.012	2.026	7	47	51	9E9
15.500	155.607	2.537	1.630	8	37	38	9E9
16.500	138.750	0.631	0.455	9	27	27	9E9
17.500	126.607	0.629	0.496	9	24	23	9E9
18.500	229.333	1.051	0.458	9	44	40	9E9
19.500	265.120	1.203	0.454	10	42	36	9E9
20.500	236.925	1.669	0.704	9	45	37	9E9
21.500	362.293	6.639	1.832	8	87	70	9E9
22.500	227.680	3.236	1.421	8	55	43	9E9
23.500	403.593	5.063	1.254	9	77	58	9E9
24.500	407.600	2.790	0.684	10	65	47	9E9

INPUT FILE: C:\temp\CPT-PS1-1.CSV

Depth (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	2.167	0.032	1.477	1	1	2	0.143
1.500	18.660	0.050	0.268	7	6	9	9E9
2.500	12.973	0.132	1.017	6	5	8	0.856
3.500	7.613	0.323	4.236	3	7	11	0.496
4.500	13.550	0.497	3.665	4	9	14	0.886
5.500	13.387	0.464	3.471	4	9	14	0.870
6.500	10.387	0.371	3.575	3	10	15	0.667
7.500	27.127	0.876	3.226	5	13	20	1.781
8.500	36.919	1.308	3.543	5	18	27	2.427
9.500	33.800	1.230	3.642	5	16	24	2.214
10.500	65.733	0.899	1.368	7	21	30	9E9
11.500	79.767	1.659	2.080	7	25	33	9E9
12.500	109.325	2.083	1.904	7	35	44	9E9
13.500	159.293	4.181	2.624	7	51	60	9E9
14.500	75.900	2.173	2.861	6	29	32	5.004
15.500	90.400	1.531	1.694	7	29	31	9E9
16.500	54.119	0.786	1.453	7	17	17	9E9
17.500	137.613	1.221	0.888	9	26	25	9E9
18.500	212.260	2.410	1.135	9	41	38	9E9
19.500	251.347	3.187	1.268	9	48	42	9E9
20.500	291.200	5.954	2.044	8	70	59	9E9
21.500	355.533	6.529	1.836	8	85	69	9E9
22.500	392.520	5.825	1.484	9	75	59	9E9
23.500	335.093	5.155	1.538	8	80	61	9E9
24.500	358.369	7.867	2.195	8	86	63	9E9
25.500	393.040	5.799	1.475	9	75	53	9E9
26.500	159.247	1.169	0.735	9	30	21	9E9
27.500	206.053	1.435	0.696	9	39	26	9E9
28.500	84.987	1.210	1.424	7	27	18	9E9
29.500	77.056	3.219	4.172	5	37	24	5.023
30.500	119.867	4.064	3.389	6	46	29	7.871
31.500	122.780	4.531	3.691	6	47	28	8.057
32.500	91.273	3.494	3.828	5	44	26	5.952
33.500	119.725	4.114	3.437	6	46	26	7.843
34.500	118.073	4.539	3.846	6	45	25	7.727
35.500	119.140	4.204	3.530	6	46	25	7.795
36.500	118.067	4.078	3.455	6	45	24	7.719
37.500	144.100	4.298	2.983	6	55	29	9.453
38.500	157.507	5.147	3.269	6	60	31	10.341
39.500	160.927	6.267	3.895	12	77	39	9E9
40.500	133.000	5.539	4.165	11	127	64	9E9
41.499	96.813	4.099	4.224	5	46	23	6.299
42.499	107.000	4.000	3.733	6	41	21	6.968
43.499	227.353	4.736	2.083	7	73	37	9E9
44.499	154.040	2.071	1.345	8	37	19	9E9
45.499	134.762	3.134	2.325	7	43	22	9E9
46.499	213.093	2.487	1.167	9	41	21	9E9
47.499	139.120	3.488	2.505	7	44	22	9E9
48.499	98.760	3.493	3.520	6	38	19	6.415
49.499	159.881	4.849	3.024	6	61	31	10.487

INPUT FILE: C:\temp\CPT-PS1-1.CSV

Depth (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	210.100	7.247	3.449	12	101	51	9E9
51.499	216.793	7.562	3.487	12	104	52	9E9
52.499	162.607	5.085	3.125	6	62	31	10.630
53.499	188.980	6.297	3.326	6	73	37	12.401
54.499	396.081	7.210	1.820	8	95	48	9E9
55.499	369.727	7.385	1.997	8	89	45	9E9
56.499	293.627	6.160	2.098	8	70	35	9E9
57.499	127.113	5.241	4.098	11	122	61	9E9
58.499	92.062	4.371	4.642	11	90	45	9E9
59.499	143.307	4.166	2.903	6	55	28	9.321
60.499	86.900	0.000	0.000	9	9E9	9E9	9E9

INPUT FILE: C:\temp\CPT-PS2.CSV

Depth (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
0.500	9.500	0.177	1.860	5	5	8	0.631
1.500	10.413	0.231	2.222	5	5	8	0.688
2.500	12.580	0.147	1.171	6	5	8	0.829
3.500	16.773	0.266	1.586	6	6	9	1.104
4.500	19.350	0.519	2.685	5	9	14	1.272
5.500	17.833	0.617	3.464	4	11	17	1.166
6.500	25.773	0.975	3.785	4	16	24	1.692
7.500	33.180	1.321	3.979	4	21	32	2.184
8.500	31.019	1.331	4.292	4	20	30	2.033
9.500	48.907	1.850	3.778	5	23	35	3.226
10.500	46.873	1.898	4.048	5	22	31	3.083
11.500	79.667	1.588	1.993	7	25	33	9E9
12.500	114.031	2.499	2.192	7	36	44	9E9
13.500	131.573	2.945	2.238	7	42	49	9E9
14.500	152.053	3.701	2.433	7	49	54	9E9
15.500	128.173	3.364	2.625	7	41	43	9E9
16.500	115.300	0.949	0.823	8	28	28	9E9
17.500	140.827	0.723	0.514	9	27	26	9E9
18.500	204.587	2.005	0.980	9	39	36	9E9
19.500	258.447	3.903	1.510	8	62	54	9E9
20.500	310.519	5.237	1.686	8	74	62	9E9
21.500	358.480	8.507	2.373	8	86	70	9E9
22.500	364.093	6.374	1.750	8	87	68	9E9
23.500	361.833	6.971	1.926	8	87	66	9E9
24.500	418.962	5.688	1.358	9	80	58	9E9
25.500	274.047	3.815	1.392	9	52	37	9E9
26.500	211.547	2.303	1.088	9	41	28	9E9
27.500	72.273	1.405	1.943	7	23	15	9E9
28.500	75.853	3.181	4.191	5	36	23	4.943
29.500	54.906	2.611	4.755	4	35	22	3.539
30.500	72.987	2.641	3.617	5	35	22	4.742
31.500	54.860	2.719	4.956	4	35	21	3.528
32.500	64.273	2.916	4.534	4	41	24	4.155
33.500	81.044	4.052	4.997	11	78	45	9E9
34.500	98.573	3.856	3.910	5	47	26	6.432
35.500	160.633	6.164	3.837	12	77	42	9E9
36.500	139.300	5.921	4.251	11	133	71	9E9
37.500	154.444	6.394	4.140	11	148	77	9E9
38.500	148.687	5.526	3.717	12	71	36	9E9
39.500	77.233	3.471	4.491	5	37	19	4.988
40.500	169.307	4.959	2.929	7	54	27	9E9
41.499	69.913	1.674	2.389	6	27	14	4.499
42.499	73.993	2.068	2.789	6	28	14	4.767
43.499	182.367	7.094	3.888	12	87	44	9E9
44.499	258.720	7.273	2.810	7	83	42	9E9
45.499	285.138	6.541	2.294	7	91	46	9E9
46.499	340.620	6.696	1.966	8	82	41	9E9
47.499	287.473	5.849	2.035	8	69	35	9E9
48.499	276.060	7.503	2.718	7	88	44	9E9
49.499	228.269	5.885	2.578	7	73	37	9E9

INPUT FILE: C:\temp\CPT-PS2.CSV

Depth (feet)	Qc(avg) (TSF)	Fs(avg) (TSF)	Rf (%)	Rf Zone (zone #)	Spt N (blow/ft)	Spt N1 (blow/ft)	Su (TSF)
50.499	272.900	7.111	2.605	7	87	44	9E9
51.499	286.653	7.579	2.643	7	92	46	9E9
52.499	225.627	6.060	2.685	7	72	36	9E9
53.499	407.307	6.538	1.605	8	98	49	9E9
54.499	295.225	6.996	2.368	7	94	47	9E9
55.499	128.147	6.057	4.699	11	123	62	9E9
56.499	140.540	6.674	4.726	11	135	68	9E9
57.499	135.280	6.381	4.694	11	130	65	9E9
58.499	208.225	5.923	2.840	7	67	34	9E9
59.499	223.500	3.722	1.665	8	54	27	9E9

Program: CPTINT - CPT Cone Interpretation Program
Version: 5.2
Table File by: Dr. R. G. (DICK) Campanella, P.Eng.
Rev. Dated: April 3, 2002

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Depth average see NOTE #1	Depth averaged over specified range (see menu)		All	All
Parameter Averaging	Averaged over range specified for depth. If no values exist, your choice is zero's or no value		All	All
Qc, Tip Stress	measured tip force/area	#6,#8	All	All
Qt corrtd for U2 see NOTE #2	Qt = Qc + (1 - a) x U2 and a = tip area ratio Defaults to U2 if given or uses U1 or U3 times Const. [Note: Input value from input file is used if defined, not calculated]	#6,#8	All	All
Q (Qt Normalized)	$Q = \frac{Qt - sv}{sv'}$	#9 & 13	All	All
Fs	measured sleeve force/area	#6,#8	All	All
Rf Friction Ratio (if Rf>8, Rf=8)	$Rf = \frac{Fs}{Qt} \times 100\%$	#6,#8	All	All
F (Rf Normalized)	$F = \frac{Fs}{(Qt - sv)} \times 100\%$	#9 & 13	All	All
Gamma Total Unit Weight (Soil + Water) see NOTE #3	Based on Rf or Bq Classif. Zone Zone # — Gamma = kN/m^3 1 — Qt<4bar — 15.70 1 — Qt=4bar — 17.30 2 — Rf<5% — 13.36 2 — Rf=5% — 11.80 2 — Bq Zone — 12.58 3 — Qt<10bar — 18.86 3 — Qt=10bar — 19.65 4, 5 & 6 — Qt<20bar — 18.86 4, 5 & 6 — Qt=20bar — 19.65 7 — 18.86 8 & 9 — 19.65 10 — 20.44 11 & 12 — 21.22		All	All

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
U Penetration Pore Pressure see NOTE #4	U1,measured on Face of tip U2,measured Behind Tip at shoulder (std location) U3,measured Behind Friction Sleeve		All	All
Water Table	Depth below ground surface to where pore pressure = 0 Make negative if water level is above ground		All	All
Uo Hydrostatic Pore Pressure see NOTE #4	Uo = water depth,Hw x unit weight water, Gamma or Uo=Hw=depth-depth to water table if depth<water table,Uo = 0		All	All
dU Excess Pore Pressure	dU = U2 - Uo Defaults to U2 if given or uses U1 or U3 x const.		All	All
DPPR (Differential Pore Pressure Ratio)	$DPPR = \frac{dU}{Qt} = \frac{U - Uo}{Qt}$ Defaults to U2 if given or uses U1 or U3 x const.	#6,#8	All	All
Bq	$Bq = \frac{dU}{Qt - sv}$	# 4 # 8 # 13	All	All
OS (Overburden Stress)	OS = sv = S (Gamma x Depth)		All	All
EOS (Effective Overburden Stress)	EOS = sv' = OS - Uo = sv - Uo		All	All
Rf Zone Soil Behavior Type see NOTE #5	Classification chart for Qc and Rf Zone # = Soil Behavior Type 1=sensitive fine grained 2=organic material 3=clay 4=silty clay 5=clayey silt 6=sandy silt 7=silty sand 8=fine sand 9=sand 10=gravelly sand 11=very stiff fine grained ¥ 12=sand to clayey sand ¥ ¥ overconsolidated or cemented	#6 #8, Fig4.3	All	1<Qt<1000bar 0<Rf<8%

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Bq Zone Soil Behavior Type	Classification chart for Qc and Bq (same zone #'s as Rf above)	#8 Fig 4.3	All	0<Qt<1000bar -0.1<Bq<1.4
Spt N(60) Standard Penetration Test (Blows/foot) at 60% Energy After R&C(1983) see NOTE #6	Qt/N ratio per zone Zone # Qt/N Zone # Qt/N 1 2 7 3 2 1 8 4 3 1 9 5 4 1.5 10 6 5 2 11 1 6 2.5 12 2	# 7 # 8 Fig 4.2	All	All
Spt N1(60) Normalized for Overburden str	Spt N1(60) = Cn x Spt N(60) where Cn = (sv')^(-0.77)	# 8	All	0.5<Cn<1.5
Dr Relative Density see NOTE #7	Specific Sands: $Dr = \frac{100}{C2} * \ln\left[\frac{Qc}{C0\ sv'^{C1}}\right]$ where: All are NC & UNAGED	# 8		
Compressibility	Sand | C0 | C1 | C2			
moderate	Ticino | 17.37 | .558 | 2.58	# 1	Sand	7 to 10 0<Qt<500bar 0<sv'<5bar
high	Schmertmann | 15.32 | .520 | 2.75	# 1		
all	ALL SANDS: NC, OC, ALL TESTS $Dr = C3 + C4\log_{10}\left[\frac{Qc/C1}{(sv'/C0)^{C2}}\right]$ where: C0 | C1 | C2 | C3 | C4 0.100 | 0.0981 | 0.5 | -98 | 66	# 5	Sand	7 to 10 (6 possible)
Phi Friction Angle	Methods: 1) Robertson & Campanella 2) Durgunoglu & Mitchell 3) Janbu beta = +15 degree 4) Janbu beta = 0 degree 5) Janbu beta = -15 degree	 #6, #8 # 2 #6, #8 #6, #8 #6, #8	Sand	7 to 10 & 6 0<Qt<500bar 0<sv'<4bar 29<phi<49

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Gmax Maximum Shear Modulus at very small strains	Clay: Gmax = alpha x Qt Sand: Digitized figure of Qc vs Gmax with interpolation between sv'curves,R&C method	# 8 Fig4.18 # 6 # 8 Fig4.13	Clay Sand	1 to 6 (6 possible) 7 to 10 .25<sv'<8bar
CSR(Qc), t/s LEVEL ground + Liquefaction SAND Resistance see NOTE #8	Seed's CSR vs N1(60) graph for specified equake Magnitude.Can include silty sand corr. for Zone 7. N1(60) from CPT correlations.	# 11 # 12	Sand	7 to 10 (6 possible)
CSR(Eq), t/s Cyclic Stress Ratio applied by design quake	$CSR(Eq) = 0.65 \frac{Amax}{g} \frac{sv}{svo'} rd$ Amax=max surface acceleratn including Amplification	# 12 # 3	Sand	7 to 10 (6 possible)
[Note: Input value from input file is used if defined, & not calculated]				
rd Reduction Factor to find CSR(Eq)	Digitized graph to use for depth vs rd: 1) Seed's mean 2) Fraser Delta	# 12 # 3	Sand	(6 possible) 7 to 10 0<depth<30m
FL,Safety Factor against Liquefaction	FL = CSR(Qc)/CSR(Eq)	# 3	Sand	7 to 10 (6 possible)
Qcr Critical Bearng required to resist Liquefctn	Qcr backcalculated from CSR(Eq) for a specified FL. Qcr is only for the given GWT,EOS,OS,Amax/g & Eq.Mag	# 12	Sand	7 to 10 (6 possible)
Su, Undrained Shear Strength of CLAY METHODS: see NOTE #9	Nk: $Su = \frac{Qc - st}{Nk}$ Nke: $Su = \frac{Qt - U2}{Nke}$ Nkt: $Su = \frac{Qt - sv}{Nkt}$ Nc: $Su = \frac{Qt}{Nc}$ NdU: $Su = \frac{dU2 \text{ (dU1 or dU3)}}{NdU}$	# 8	Clay Clay Clay Clay Clay	1 to 6 1 to 6 1 to 6 1 to 6 1 to 6

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
Su/EOS	$Su/EOS = \frac{Su}{sv'}$	# 8	Clay	1 to 6
Ko (NC) Normally Consolidated	$(Ko)NC = 1 - Sin(f)$ see NOTE #10	# 8	Sand	7 to 10 (6 possible)
Ko (OC) Over Consolidated	$(Ko)OC = (Ko)NC \times OCR^{0.42}$	# 8	Sand	7 to 10 (6 possible)
E25 Youngs Modulus	E25 = alpha x Qt where user input alpha	# 8 4.11&12	Sand	(6) 7 to 10 0<Qt<500bar
M Constrained Modulus	CLAY: M = alpha x Qt where user input alpha SAND: Methods: Qt: M = alpha x Qt Baldi: $\frac{M}{Qt} = C0 \times pa \left(\frac{sv'}{pa}\right)^{C1} \times OCR^{C2} \times \exp(C3\ Dr)$	# 8 Tabl4.3 # 8 Fig4.10	Clay Sand Sand	1 to 6 7 to 10 (6 possible) 7 to 10
OCR (Clay) Over- Consolidation Ratio see NOTE #11	$OCR = \left[\frac{\frac{Su}{svo'}}{\left(\frac{Su}{svo'}\right)_{NC}} \right]^{1.25}$	# 6 # 8 Fig4.19	Clay	1 to 6
Ic Material Index After J&D(1993) see NOTE #18	$Ic = \left[\left(3 - \log_{10} (Q(1-Bq))\right)^{2} + \left(1.5 + 1.3 \log_{10} F\right)^{2} \right]^{0.5}$	# 13 # 17	All	All
Spt N(60) Standard Penetration Test (Blows/foot) at 60% Energy After J&D(1993) see NOTE #16	Qc/N = 8.5(1-(Ic/4.75)) where Qc in bars	# 13	All	All

Parameter	Methods	Refer. Number	Valid Soil Type	Valid Zone
State Parameter State, (e-units) Current Void Void Ratio minus Critical Void Ratio	$State = \ln\left[\frac{3M + 8.5M/F}{+ Q(1-Bq) +}\right] \Big/ (11.9 - 1.33F)$ $M = \frac{6 \sin fcv}{3 - \sin fcv}$ fcv = const. vol. Phi angle	# 14	All	All
Fines Content FC(%) Percent less than #200 Sieve After Davies, 99	FC(%) = 42.4179(Ic) - 54.8574 FC(%) = 0% if Ic < 1.2933 FC(%) = 100% if Ic > 3.6508	# 15	All	All
OCR (Clay) Overcons. Ratio by Pore Press. U1 & U2 or U1 & U3 see NOTE #17	OCR = 0.5 + 1.50(PPD) PPD = (U1 - U2)/Uo or PPD = (U1 - U3)/Uo and default 0.5 & 1.5 are settable	# 16	Clay	1 to 6

1. Depth averaging may be in 0.5, 1, 2.5 or 5 ft. intervals or 0.1, 0.25, 0.5 or 1.0 m intervals, or no depth averaging if zero is selected. The average is the mean value of the readings in the interval. The depth value is the mid-depth of the averaged interval. It is convenient to start at half the depth averaging interval. For example, if you want "even" depths and the depth averaging is set at 0.50 m then start at 0.25 to get values of depth of 0.5, 1.0, 1.5, etc.

2. Basic input CPTU data columns are for Depth, Qc, Fs, U1, U2, U3, INC and TEMP may be selected. In addition the following parameters may also be specified as an INPUT data column: Qt, Gamma, Uo, Spt N, Rf Zone, Bq Zone and CSR(EQ). These values will be used where required to obtain other interpreted parameters. If they are not specified the program will estimate them when they are required. For example, you can create an OUTPUT data file of any of the above parameters and then edit some or all of the values to suite your measurements or your desires to specify their values. You can do that with "Gamma" values to input your measurements of unit weight, or with "Uo" if you want to input values of pore water pressure other than hydrostatic, or with any of the other input parameters. You would use your edited file of adjusted data as your new INPUT data file. Thus, you can specify these parameters if you want to override the Program's values.

You can also use the designated value of "9E9" to denote an unknown value.

You can use the "OTHER" designation to input other data that exists on your input file and identify its units. This allows you to output it, without operating on it, if you choose.

It is best NOT to use depth averaging when using input data that is not continuous at regular depth intervals. Always use DEPTH AVERAGING with extreme caution since the program averages ALL INPUT parameters over the interval chosen irregardless of soil type. Careful use of start and end depth choises can make depth averaging very effective.

3. Since there is no data in the file within the initial depth interval, a default Gamma (unit weight) must be specified from the surface to the starting depth. This is done in the "Param" Menu in units of kN/m^3 (1kN/m^3=6.36pcf). Also, you can specify the values of Gamma to be used by the program as in NOTE #2 above.

4. If pore pressures are not measured by the cone then the program will take Qc as being equal to Qt for all interpretations requiring Qt. Also, Uo may be specified in the input file as a column of Uo vs depth values, if the water pressures are not hydrostatic. See NOTE #2 for more info on customizing input data.

5. You can choose to use either the Rf classif. Zone or the Bq classif. Zone to divide soil into Undrained Parameters (Zones 1 to 6) and Drained Parameters (Zones 7 to 10) in the "Param" Menu. (However, in order to use the Bq Zone you must have Pore Pressure, U2, data.) Also, you may choose to switch Zone 6 to a Drained Zone from its Undrained Zone status. This is done if you feel that the soil identified as Zone 6 (sandy silt) is really coaser (using other sources of information) and/or you want it analyzed as a Drained rather than Undrained soil. Finally, the soil behavior names in each zone were shortened in version 5.0 for simplicity. For example, Zone 6 was named "sandy silt to clayey silt" but was shortened to "sandy silt".

6. Spt N is the same as Spt N(60) for 60% transferred energy. This value is calculated from the Qt/N ratios given for each Soil Zone (you can specify either Rf or Bq Zone) and these values are used in the Level Ground Liquefaction analysis. Values of Spt N may be specified in the Input File, if indepedently measured values are to be used. We suggest that you not use depth averaging if you only have selected Spt N values at a few depths. You may use "9E9" for missing data.

7. If Dr values are negative then soil is very loose or likely more of an undrained soil like a silty sand rather than a drained soil for which the Dr correlations were developed. Use Dr interpretations very cautiously since they also assume the soil is free draining, uncemented, unaged and has the same compressibility of grains as the soil used for the correlations in chamber calibration tests.

8. The simplified sand liquefaction analysis for level ground according to Seed et al requires Spt N1(60) and earthquake magnitude to obtain the cyclic stress ratio to cause liquefaction, CSR(Qc). The design maximum ground acceleration, the depth-reduction factor, Rd, and overburden total and effective stresses are required to calculate the cyclic stress ratio applied by the design earthquake, CSR(EQ). The program estimates the N1(60) values from the cone stresses, the operator identifies the earthquake magnitude and Seed et al chart is used to get CSR(Qc). The program also calculates CSR(EQ) from the user specified maximum ground acceleration including any amplification factors, the calculated overburden stresses and either Seed's mean or the Fraser Delta Rd factor. The Fraser Delta is used only when amplification factors of the order of 2 or more are used. See Reference Nos. 3, 6, 11 and 12 for more information. The user can INPUT specific values for Spt N, CSR(EQ), Soil Zones, Gamma's, etc. in order to customize the analysis for the existing data base of information. It is recommended that you do not use depth averaging when using specific input data but make calculations at specific depths where external input data exists. The calculated value of Qcr is the minimum value of cone bearing stress required at a given depth such that the factor of safety against liquefaction, or the ratio FL = CSR(Qc)/CSR(EQ) have the specified value for a given earthquake magnitude, max. ground acceleration, depth reduction factor, and calculated overburden stresses. This value of Qcr is useful to identify the required minimum level of soil improvement for a given design condition.

9. The NdU method to calculate undrained shear strength has been extended to allow the user to choose either dU1, or dU2 or dU3 provided such pore pressure measurements exist.

10. The Overconsolidation Ratio, OCR, for the sand must be estimated by the user in the "Param" menu if you want to estimate Ko in the sand layers. For the typical normally consolidated sand, OCR = 1.0.

11. It is currently only possible to estimate the OCR for a clay, which makes use of the correlations obtained from extensive laboratory tests.

12. An improved calculation and print routine was added to version 5.0 which uses swap routines to reduce memory requirements, but slows down the calculations.

13. The classification charts for Rf has been extended at all boundaries such that values of Rf>8 and values of Qc<1.00 are possible. The Bq classification chart which requires dU2 and can now accept values of Bq>1.2 and Qt<1. Unfortunately, this feature does not work.

14. Version 5.1ppd added several enhancements to the program. You may input an average vertical flow gradient, which is applied over the entire profile depth to be analysed so adjust the depth of interest accordingly. Zero gives hydrostatic and no flow, a negative gradient is upward flow which increases pore pressure and reduces vertical effective stress. A positive gradient gives downward flow.

15. A State Parameter or current void ratio minus critical void ratio is calculated according to the paper by Ref. 14, Plewes, Davies and Jefferies, 1994.

16. An alternate method to estimate SPT from CPT is provided according to Ref. 13, Jefferies and Davies, 1993 in ASTM.

17. An alternate method to estimate OCR in clays is provided which uses the measured pore pressure difference, ppd, so both U1 and U2 or U1 and U3 must be measured at the same time. (see Ref. 16)

18. Version 5.2 added the value Ic (Material Index) according to Jefferies & Davies, 1993, 1991 (Ref. 13 & 17) which combines all Normalized parameters Q, F and Bq.
(Note: QtN was changed to Q and RfN to F.)

18A. In Version 5.2, if at any depth the value of Bq>1 (in very sensitive saturated soil)then Bq is made equal to 0.99. Also, if Rf>8 it is made 7.99. These changes have a negligable effect on the results.

19. FC(%) or percent of dry weight less than #200 sieve (.074mm) was also added according to Davies, 1999 Ref.#15)

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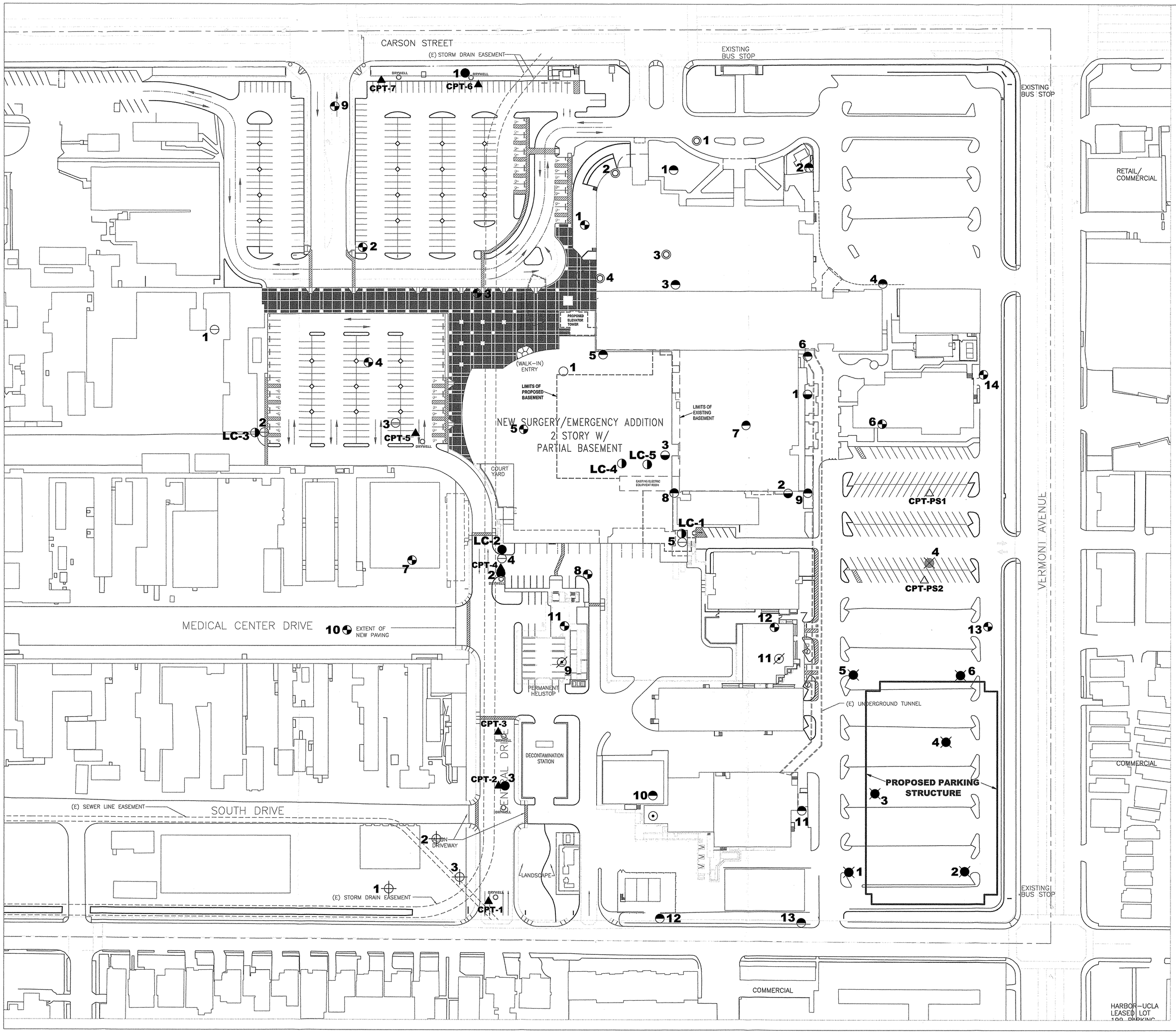

REFERENCE:
OVERALL LAYOUT SITE PLAN, SHEET NO. 1L1.0,
HARBOR-UCLA MEDICAL CENTER, SURGERY/EMERGENCY
REPLACEMENT PROJECT.

LEGEND:

- 6 — CURRENT INVESTIGATION (JOB NO. 4953-09-1402) HOLLOW STEM AUGER BORING
- 4 — CURRENT INVESTIGATION (JOB NO. 4953-09-1402) BUCKET AUGER BORING
- 3 — CONCURRENT INVESTIGATION (JOB NO. 4953-09-1401)
- 11 — PREVIOUS INVESTIGATION (JOB NO. 4953-04-3262)
- 3 — PREVIOUS INVESTIGATION (JOB NO. 4953-04-3261)
- 1 — PREVIOUS INVESTIGATION (JOB NO. 70131-0-0144.✳6003)
- LC-5 — PREVIOUS INVESTIGATION (JOB NO. 2701.40718.0002)
- 5 — PREVIOUS INVESTIGATION (JOB NO. 2661.30499.0001)
- 14 — PREVIOUS INVESTIGATION (JOB NO. A-71012)
- 4 — PREVIOUS INVESTIGATION (JOB NO. L89290.AEO)
- PREVIOUS INVESTIGATION (JOB NO. A-88289)
- 3 — PREVIOUS INVESTIGATION (JOB NO. 62494)
- 13 — PREVIOUS INVESTIGATION (JOB NO. 58017)
- BORING LOCATION AND NUMBER
- CPT-PS2 — CURRENT INVESTIGATION (JOB NO. 4953-09-1402)
- CPT-7 — CONCURRENT INVESTIGATION (JOB NO. 4953-09-1401)
- CONE PENETRATION TEST LOCATION AND NUMBER

0' 50' 100' 200'
SCALE: 1"=50'-0"

MACTEC
5628 E. SLAUSON AVENUE
LOS ANGELES, CALIFORNIA 90040
(323) 889-5300 FAX (323) 889-5386

FIGURE 2
PLOT PLAN
HARBOR - UCLA MEDICAL CENTER
1000 WEST CARSON STREET
TORRANCE, CALIFORNIA

PROJECT NO.	4953-09-1402	REVISION:	
DATE:	10/15/09		
SCALE:	1" = 50'		
DWG BY:	TT	CHECKED BY:	MM

Appendix D:
Noise Information

File Translated: V:\Vista Env\2010\Noise Measurements\1.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.283 / 3.120
Name:
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm&rta.ssa / SLM & Real-Time Analyzer
Location: @Star Lite Trailer Park - 21926 Vermont Ave
Note1: 105' north of 220th St CL
Note2: 55' east of Vermont Ave. and 5' east of 3' wall

Overall Any Data
Start Time: 14-Jan-2010 08:42:23
Elapsed Time: 00:13:00.8

	A Weight	C Weight	Flat
Leq:	65.9 dBA	74.4 dBC	75.2 dBF
SEL:	94.8 dBA	103.3 dBC	104.2 dBF
Peak:	97.2 dBA	100.6 dBC	101.1 dBF
	14-Jan-2010 08:51:53	14-Jan-2010 08:48:59	14-Jan-2010 08:49:18
Lmax (slow):	82.2 dBA	89.1 dBC	89.2 dBF
	14-Jan-2010 08:48:59	14-Jan-2010 08:49:00	14-Jan-2010 08:49:00
Lmin (slow):	51.2 dBA	65.3 dBC	66.9 dBF
	14-Jan-2010 08:45:01	14-Jan-2010 08:45:09	14-Jan-2010 08:45:09
Lmax (fast):	84.1 dBA	91.6 dBC	91.6 dBF
	14-Jan-2010 08:48:59	14-Jan-2010 08:48:59	14-Jan-2010 08:48:59
Lmin (fast):	50.8 dBA	63.7 dBC	65.1 dBF
	14-Jan-2010 08:45:01	14-Jan-2010 08:45:09	14-Jan-2010 08:45:09
Lmax (impulse):	84.4 dBA	92.2 dBC	92.4 dBF
	14-Jan-2010 08:48:59	14-Jan-2010 08:48:59	14-Jan-2010 08:49:18
Lmin (impulse):	51.1 dBA	65.9 dBC	67.7 dBF
	14-Jan-2010 08:44:57	14-Jan-2010 08:45:09	14-Jan-2010 08:55:16

Spectra

Date	Time	Run Time
14-Jan-2010	08:42:23	00:13:00.8

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	58.7		71.5		40.9		630	57.0		74.3		41.8	
16.0	61.1	67.2	73.2	76.0	44.6	49.0	800	57.5		72.1		41.9	
20.0	65.0		66.6		45.8		1000	56.9	61.6	69.8	75.5	41.4	45.5
25.0	63.8		69.3		46.6		1250	56.1		70.0		38.1	
31.5	62.5	68.2	71.2	75.3	48.0	52.4	1600	55.2		69.1		35.0	
40.0	63.9		70.8		48.0		2000	52.5	58.0	66.9	72.5	32.0	37.4
50.0	64.3		74.2		49.5		2500	51.1		66.7		28.7	
63.0	67.9	70.7	75.3	84.9	51.2	55.4	3150	47.8		63.9		25.2	
80.0	64.7		83.9		50.9		4000	46.0	51.0	63.0	67.4	21.8	27.4
100	64.1		74.3		50.2		5000	44.0		60.4		18.3	
125	62.3	67.7	67.5	84.0	48.3	53.4	6300	42.1		57.1		16.4	
160	62.2		83.4		46.9		8000	39.7	45.1	52.8	59.3	15.8	20.9
200	61.9		83.4		45.0		10000	38.2		51.8		16.2	
250	59.1	65.4	74.1	87.0	42.6	48.3	12500	35.8		53.2		16.5	
315	60.4		84.1		42.6		16000	31.2	37.8	44.1	53.9	17.8	22.9
400	59.7		82.6		42.9		20000	29.8		39.5		19.6	
500	56.9	62.8	71.0	83.5	42.3	47.1							

Ln Start Level: 15 dB

L1.00	0.0 dBA	L50.00	0.0 dBA	L95.00	0.0 dBA
L5.00	0.0 dBA	L90.00	0.0 dBA	L99.00	0.0 dBA

Detector: Slow
Weighting: A
SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
SPL Exceedance level 2: 120 dB Exceeded: 0 times
Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
Peak-2 Exceedance Level: 100 dB Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\Noise Measurements\1.slmdl
Model/Serial Number: 824 / A3176

Current Any Data
Start Time: 14-Jan-2010 08:42:23
Elapsed Time: 00:13:00.8

	A Weight	C Weight	Flat
Leq:	65.9 dBA	74.4 dBC	75.2 dBF
SEL:	94.8 dBA	103.3 dBC	104.2 dBF
Peak:	97.2 dBA	100.6 dBC	101.1 dBF
	14-Jan-2010 08:51:53	14-Jan-2010 08:48:59	14-Jan-2010 08:49:18
Lmax (slow):	82.2 dBA	89.1 dBC	89.2 dBF
	14-Jan-2010 08:48:59	14-Jan-2010 08:49:00	14-Jan-2010 08:49:00
Lmin (slow):	51.2 dBA	65.3 dBC	66.9 dBF
	14-Jan-2010 08:45:01	14-Jan-2010 08:45:09	14-Jan-2010 08:45:09
Lmax (fast):	84.1 dBA	91.6 dBC	91.6 dBF
	14-Jan-2010 08:48:59	14-Jan-2010 08:48:59	14-Jan-2010 08:48:59
Lmin (fast):	50.8 dBA	63.7 dBC	65.1 dBF
	14-Jan-2010 08:45:01	14-Jan-2010 08:45:09	14-Jan-2010 08:45:09
Lmax (impulse):	84.4 dBA	92.2 dBC	92.4 dBF
	14-Jan-2010 08:48:59	14-Jan-2010 08:48:59	14-Jan-2010 08:49:18
Lmin (impulse):	51.1 dBA	65.9 dBC	67.7 dBF
	14-Jan-2010 08:44:57	14-Jan-2010 08:45:09	14-Jan-2010 08:55:16

Calibrated: 14-Jan-2010 08:39:49 Offset: -48.7 dB
Checked: 14-Jan-2010 08:39:49 Level: 94.0 dB
Calibrator not set Level: 94.0 dB
Cal Records Count: 1

Interval Records: Disabled Number Interval Records: 0
History Records: Disabled Number History Records: 0
Run/Stop Records: Number Run/Stop Records: 2

File Translated: V:\Vista Env\2010\Noise Measurements\2.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.283 / 3.120
Name:
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm&rta.ssa / SLM & Real-Time Analyzer
Location: Apartments to south @ 2200 S. Vermont Ave Torrance
Note1: 30' south of 220th St CL
Note2: across the street from project's southern driveway

Overall Any Data
Start Time: 14-Jan-2010 08:59:51
Elapsed Time: 00:12:00.6

	A Weight		C Weight		Flat	
Leq:	62.0 dBA		72.5 dBC		73.6 dBF	
SEL:	90.6 dBA		101.0 dBC		102.1 dBF	
Peak:	90.7 dBA		98.3 dBC		99.6 dBF	
	14-Jan-2010	09:01:23	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmax (slow):	71.8 dBA		86.1 dBC		87.1 dBF	
	14-Jan-2010	09:10:02	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmin (slow):	53.5 dBA		65.9 dBC		67.4 dBF	
	14-Jan-2010	09:09:26	14-Jan-2010	09:09:30	14-Jan-2010	09:09:30
Lmax (fast):	73.5 dBA		91.3 dBC		92.3 dBF	
	14-Jan-2010	09:04:40	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmin (fast):	53.2 dBA		64.3 dBC		65.2 dBF	
	14-Jan-2010	09:09:26	14-Jan-2010	09:09:29	14-Jan-2010	09:09:29
Lmax (impulse):	75.4 dBA		94.0 dBC		94.9 dBF	
	14-Jan-2010	09:04:40	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmin (impulse):	53.4 dBA		66.6 dBC		68.2 dBF	
	14-Jan-2010	09:09:25	14-Jan-2010	09:09:30	14-Jan-2010	09:09:29

Spectra

Date	Time	Run Time
14-Jan-2010	08:59:51	00:12:00.6

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	60.3		66.8		41.9		630	53.9		65.7		44.1	
16.0	62.2	66.1	68.7	72.9	46.3	50.1	800	54.3		68.3		43.9	
20.0	61.2		68.6		46.5		1000	52.8	57.9	60.9	69.7	41.3	46.8
25.0	61.8		68.1		47.5		1250	52.0		61.2		39.8	
31.5	64.6	68.4	69.3	73.4	49.6	54.1	1600	51.1		59.9		37.4	
40.0	64.0		68.4		50.3		2000	48.6	53.9	59.6	64.2	35.7	40.6
50.0	66.6		71.5		49.9		2500	46.3		58.7		33.4	
63.0	62.8	69.0	63.6	73.0	50.6	54.4	3150	43.6		55.6		31.3	
80.0	61.4		65.3		47.9		4000	40.8	46.0	55.4	59.6	27.2	33.3
100	62.5		83.6		49.0		5000	37.1		53.0		23.9	
125	63.0	66.6	73.0	84.0	50.1	53.2	6300	37.2		51.5		19.8	
160	58.8		65.7		44.1		8000	36.2	40.3	51.0	56.0	18.3	23.3
200	56.6		68.6		45.7		10000	30.9		51.2		16.9	
250	55.8	60.6	61.8	70.2	46.1	51.2	12500	25.7		48.1		16.8	
315	55.0		62.4		47.3		16000	24.4	28.9	45.5	50.5	17.5	22.8
400	53.1		64.3		45.9		20000	21.3		41.1		19.4	
500	53.6	58.3	64.2	69.6	44.6	49.7							

Ln Start Level: 15 dB

L1.00	0.0 dBA	L50.00	0.0 dBA	L95.00	0.0 dBA
L5.00	0.0 dBA	L90.00	0.0 dBA	L99.00	0.0 dBA

Detector: Slow
Weighting: A
SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
SPL Exceedance level 2: 120 dB Exceeded: 0 times
Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
Peak-2 Exceedance Level: 100 dB Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\Noise Measurements\2.slmdl
Model/Serial Number: 824 / A3176

Current Any Data
Start Time: 14-Jan-2010 08:59:51
Elapsed Time: 00:12:00.6

	A Weight		C Weight		Flat	
Leq:	62.0 dBA		72.5 dBC		73.6 dBF	
SEL:	90.6 dBA		101.0 dBC		102.1 dBF	
Peak:	90.7 dBA		98.3 dBC		99.6 dBF	
	14-Jan-2010	09:01:23	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmax (slow):	71.8 dBA		86.1 dBC		87.1 dBF	
	14-Jan-2010	09:10:02	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmin (slow):	53.5 dBA		65.9 dBC		67.4 dBF	
	14-Jan-2010	09:09:26	14-Jan-2010	09:09:30	14-Jan-2010	09:09:30
Lmax (fast):	73.5 dBA		91.3 dBC		92.3 dBF	
	14-Jan-2010	09:04:40	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmin (fast):	53.2 dBA		64.3 dBC		65.2 dBF	
	14-Jan-2010	09:09:26	14-Jan-2010	09:09:29	14-Jan-2010	09:09:29
Lmax (impulse):	75.4 dBA		94.0 dBC		94.9 dBF	
	14-Jan-2010	09:04:40	14-Jan-2010	09:05:44	14-Jan-2010	09:05:44
Lmin (impulse):	53.4 dBA		66.6 dBC		68.2 dBF	
	14-Jan-2010	09:09:25	14-Jan-2010	09:09:30	14-Jan-2010	09:09:29

Calibrated: 14-Jan-2010 08:39:49 Offset: -48.7 dB
Checked: 14-Jan-2010 08:39:49 Level: 94.0 dB
Calibrator not set Level: 94.0 dB
Cal Records Count: 0

Interval Records: Disabled Number Interval Records: 0
History Records: Disabled Number History Records: 0
Run/Stop Records: Number Run/Stop Records: 2

File Translated: V:\Vista Env\2010\Noise Measurements\3.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.283 / 3.120
Name:
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm&rta.ssa / SLM & Real-Time Analyzer
Location: Northwest corner of proposed parking structure
Note1: construction activities NW of project
Note2:

Overall Any Data
Start Time: 14-Jan-2010 09:15:55
Elapsed Time: 00:12:00.8

	A Weight		C Weight		Flat	
Leq:	58.1 dBA		74.1 dBC		75.3 dBF	
SEL:	86.7 dBA		102.7 dBC		103.9 dBF	
Peak:	87.0 dBA		101.9 dBC		102.8 dBF	
	14-Jan-2010	09:17:15	14-Jan-2010	09:17:15	14-Jan-2010	09:17:15
Lmax (slow):	72.3 dBA		93.9 dBC		94.9 dBF	
	14-Jan-2010	09:17:16	14-Jan-2010	09:17:16	14-Jan-2010	09:17:16
Lmin (slow):	50.2 dBA		64.6 dBC		66.7 dBF	
	14-Jan-2010	09:25:10	14-Jan-2010	09:26:00	14-Jan-2010	09:26:00
Lmax (fast):	73.7 dBA		96.9 dBC		97.9 dBF	
	14-Jan-2010	09:17:15	14-Jan-2010	09:17:15	14-Jan-2010	09:17:15
Lmin (fast):	49.6 dBA		62.8 dBC		64.7 dBF	
	14-Jan-2010	09:25:10	14-Jan-2010	09:25:48	14-Jan-2010	09:22:28
Lmax (impulse):	74.1 dBA		97.8 dBC		98.8 dBF	
	14-Jan-2010	09:17:15	14-Jan-2010	09:17:15	14-Jan-2010	09:17:15
Lmin (impulse):	50.1 dBA		65.7 dBC		68.0 dBF	
	14-Jan-2010	09:25:13	14-Jan-2010	09:26:01	14-Jan-2010	09:24:15

Spectra

Date	Time	Run Time
14-Jan-2010	09:15:55	00:12:00.8

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	59.6		63.1		44.2		630	47.8		59.2		39.4	
16.0	61.2	65.1	66.2	69.4	46.1	50.6	800	48.1		62.0		39.8	
20.0	60.1		64.0		46.9		1000	49.1	53.4	64.6	68.7	39.1	43.8
25.0	63.1		68.2		50.2		1250	48.6		64.6		38.0	
31.5	61.3	70.1	64.7	81.2	45.9	53.6	1600	46.0		61.3		36.0	
40.0	68.4		80.9		49.2		2000	45.3	50.4	60.7	65.7	34.2	39.0
50.0	72.9		97.6		48.8		2500	45.6		60.8		31.5	
63.0	63.5	73.6	75.4	97.6	48.8	53.3	3150	45.6		61.4		29.5	
80.0	60.6		64.2		47.9		4000	43.4	48.3	58.4	64.0	26.2	31.7
100	55.7		71.8		45.8		5000	39.7		56.4		22.1	
125	56.5	60.1	66.9	73.8	47.9	51.1	6300	35.7		51.9		19.0	
160	52.9		65.9		44.7		8000	30.6	37.4	46.7	53.5	16.9	22.3
200	50.4		59.4		42.3		10000	27.7		43.9		16.0	
250	50.9	55.3	57.7	64.7	40.5	46.2	12500	24.7		40.4		16.3	
315	50.1		61.8		41.2		16000	22.6	27.7	40.1	43.4	17.5	22.7
400	48.8		59.4		41.4		20000	20.7		27.7		19.5	
500	48.6	53.2	58.4	63.8	41.7	45.7							

Ln Start Level: 15 dB

L1.00	0.0 dBA	L50.00	0.0 dBA	L95.00	0.0 dBA
L5.00	0.0 dBA	L90.00	0.0 dBA	L99.00	0.0 dBA

Detector: Slow
Weighting: A
SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
SPL Exceedance level 2: 120 dB Exceeded: 0 times
Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
Peak-2 Exceedance Level: 100 dB Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\Noise Measurements\3.slmdl
Model/Serial Number: 824 / A3176

Current Any Data
Start Time: 14-Jan-2010 09:15:55
Elapsed Time: 00:12:00.8

	A Weight	C Weight	Flat
Leq:	58.1 dBA	74.1 dBC	75.3 dBF
SEL:	86.7 dBA	102.7 dBC	103.9 dBF
Peak:	87.0 dBA	101.9 dBC	102.8 dBF
	14-Jan-2010 09:17:15	14-Jan-2010 09:17:15	14-Jan-2010 09:17:15
Lmax (slow):	72.3 dBA	93.9 dBC	94.9 dBF
	14-Jan-2010 09:17:16	14-Jan-2010 09:17:16	14-Jan-2010 09:17:16
Lmin (slow):	50.2 dBA	64.6 dBC	66.7 dBF
	14-Jan-2010 09:25:10	14-Jan-2010 09:26:00	14-Jan-2010 09:26:00
Lmax (fast):	73.7 dBA	96.9 dBC	97.9 dBF
	14-Jan-2010 09:17:15	14-Jan-2010 09:17:15	14-Jan-2010 09:17:15
Lmin (fast):	49.6 dBA	62.8 dBC	64.7 dBF
	14-Jan-2010 09:25:10	14-Jan-2010 09:25:48	14-Jan-2010 09:22:28
Lmax (impulse):	74.1 dBA	97.8 dBC	98.8 dBF
	14-Jan-2010 09:17:15	14-Jan-2010 09:17:15	14-Jan-2010 09:17:15
Lmin (impulse):	50.1 dBA	65.7 dBC	68.0 dBF
	14-Jan-2010 09:25:13	14-Jan-2010 09:26:01	14-Jan-2010 09:24:15

Calibrated: 14-Jan-2010 08:39:49 Offset: -48.7 dB
Checked: 14-Jan-2010 08:39:49 Level: 94.0 dB
Calibrator not set Level: 94.0 dB
Cal Records Count: 0

Interval Records: Disabled Number Interval Records: 0
History Records: Disabled Number History Records: 0
Run/Stop Records: Number Run/Stop Records: 2

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 1/18/2010
Case Description: Harbor-UCLA Medical Center Parking Structure

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Multi-family to south	Residential	65.9	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	65	0
Grader	No	40	85		115	0
Flat Bed Truck	No	40		74.3	165	0
Front End Loader	No	40		79.1	215	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		79.4	75.4	N/A	N/A	N/A	N/A
Grader		77.8	73.8	N/A	N/A	N/A	N/A
Flat Bed Truck		63.9	59.9	N/A	N/A	N/A	N/A
Front End Loader		66.4	62.5	N/A	N/A	N/A	N/A
	Total	**79.4**	**77.9**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 1/18/2010
Case Description: Harbor-UCLA Medical Center Parking Structure

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Multi-family to south Generat	Residential	65.9	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Generator	No	50		80.6	65	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Generator		78.4	75.3	N/A	N/A	N/A	N/A
	Total	**78.4**	**75.3**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Multi-family to south mitigate	Residential	65.9	60	55

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Generator	No	50		80.6	301	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Generator		65	62	N/A	N/A	N/A	N/A
	Total	**65**	**62**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Appendix E:
Traffic Memorandum

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January 15, 2010

Mr. Michael E. Houlihan, AICP
Manager of Environmental Services
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602

Subject: ***Traffic & Parking Assessment for the Harbor-UCLA Medical Center Parking Structure Project*** ***Ref: SM09-2384***

Dear Mr. Houlihan:

This memorandum summarizes the results of a traffic and parking assessment for the Harbor-UCLA Medical Center parking structure to be located in the southeastern area of the medical center campus. A detailed traffic impact study was conducted in 2005 in support of the Mitigated Negative Declaration (MND) for the Harbor-UCLA Medical Center Surgery/Emergency Replacement Project[1]. That study found that the 2005 project would not result in significant traffic impacts. Since then, a 544-space parking structure has been proposed to provide increased convenience for the staff and visitors to the facility. The purpose of this study is to assess potential traffic and parking impacts that could result from the construction of the proposed parking structure.

Based on a discussion with Los Angeles County Department of Public Works (LACDPW) staff in December 2009 regarding the current project and the findings of the 2005 traffic impact study for the approved project, the scope of this analysis is limited to a qualitative traffic and parking assessment of the proposed parking structure relative to the approved development that was analyzed in the 2005 MND.

APPROVED PROJECT & 2005 STUDY OVERVIEW

The County of Los Angeles approved the expansion of the Harbor-UCLA Medical Center in 2005. The expansion consisted of a new Surgery/Emergency Building of 190,300 square feet in the eastern portion of the hospital campus. The traffic impact study analyzed the potential impacts of the proposed Surgery/Emergency Replacement Project on the local street system. The methodology and results of the 2005 study are summarized below.

- The proposed project consisted of a new Surgery/Emergency Building on the Harbor-UCLA campus to alleviate current overcrowding and to accommodate projected future increases in emergency visits and surgical procedures. Construction of the new building resulted in a reconfiguration of the existing parking supply and internal access roads on the campus, and the installation of a traffic signal at a new signalized vehicular entrance on Carson Street opposite Berendo Avenue.

- Increased Emergency Department patient visits and Surgery Department outpatient procedures were projected to generate a net increase of about 250 daily trips, including approximately 28 trips during the weekday AM peak hour and 28 trips during the weekday PM peak hour.

[1] *Traffic Study for the Harbor-UCLA Medical Center Surgery/Emergency Replacement Building Project*, Kaku Associates, June 2005.

- Analysis of projected year 2010 ambient plus project and cumulative plus project conditions indicated that, using the significance criteria established by the County of Los Angeles Department of Public Works, the proposed project would not have a significant impact at any of the seven study intersections. Therefore, no traffic mitigation measures were required.

- After completion of the proposed project, the campus would have a total of approximately 2,790 parking spaces (a reduction of about 535 spaces from 2005 conditions), and would exceed the Los Angeles County code requirement by approximately 80 spaces (2,709 spaces required under code).

PROPOSED PROJECT

The proposed project consists of the construction of a 544-space parking structure in the southeastern area of the medical center campus. The site of the proposed structure is currently occupied by approximately 219 surface parking spaces and the proposed project would result in a net increase of approximately 325 parking spaces. Access to the structure would be provided by the existing driveway on 220th Street serving the surface parking lot, which is located approximately 240 feet west of Vermont Avenue. Access would also be provided to/from the north through internal campus roadways to Carson Street. Figure 1 (attached) displays the project area and the location of the proposed parking structure.

Parking in the southeastern area of campus is currently utilized by doctors and staff. The parking structure would continue to service hospital employees and would also provide additional parking for visitors. Visitors traveling to the campus would likely continue to use main hospital entrance on Carson Street and park in visitor parking provided in the northern area of the campus closest to the hospital entrance. If parking is unavailable in the northern portion of campus, directional signage would guide visitors to the proposed southeastern parking structure. Thus, no changes in the overall circulation patterns around the site are anticipated as a result of this project.

TRAFFIC CONDITIONS & CUMULATIVE PROJECTS

The 2005 traffic study analyzed weekday morning and afternoon peak hour conditions at seven intersections near the project site. The analysis utilized baseline traffic count data collected in February 2005 and estimated future traffic from both ambient growth and known cumulative development projects within one mile of the site. The 2005 baseline traffic count data and 2010 forecasts were reviewed to ensure consistency with current traffic conditions in the study area, as summarized below.

- Field observations were conducted in December 2009 to confirm that the roadway network surrounding the project area, including the configuration of the study intersections had not changed since 2005. No modifications have occurred to the existing roadway network or study intersections.

- Recent traffic counts provided by LA County for several study intersections were compared to the 2005 counts to determine if traffic volumes had substantially changed within the study area. In general, the newer traffic counts were lower than the 2005 volumes reported in the traffic impact study. At locations where traffic volumes were higher, the increases were minor and would not change the operational results reported in the 2005 study.

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- New cumulative projects within the area were compared to the cumulative development projects included in the 2005 traffic study to determine if anticipated development would substantially alter traffic volumes within the study area. In addition, field observations were conducted to determine if cumulative projects applied to the 2005 study have already been constructed. Table 1 summarizes the status of the 2005 cumulative projects and lists the five new cumulative projects.

Table 1
Cumulative Projects

INDEX	PROJECT	STATUS
10 Projects from 2005 Study		
1	Self Storage *735-809 W. Carson Street*	Completed
2	Commercial – Auto Repair *22505 Normandie Avenue*	Not Completed
3	Commercial – Smog Check *20614 Normandie Avenue*	Not Completed
4	SB 1953 Seismic Retrofit – Harbor UCLA Med Center – ICU Beds *1000 W. Carson Street*	Unknown
5	Housing – 2 single family homes *Normandie Avenue & Torrance Boulevard*	Under construction
6	Industrial Redevelopment project – Warehouse/office building *220th Street & Abalone Street*	Completed
7	Detached condos – 8 units *21840-846 Orrick Avenue*	Completed
8	Condos – 3 units *22028 Grace Avenue*	Not completed
9	Condos – 8 units *630 E. 220th Street*	Completed
10	Condos – 8 units *22310-4 Figueroa Street*	Completed
Updated Cumulative Projects		
11	Condos - 14 units *1028 W. 223rd Street*	Completed
12	Condos – 16 units *1010-1014 W. 223rd Street*	Completed
13	Condos – 225 Units *22433 S. Vermont Avenue*	Not Completed
14	Automotive Repair Shop Renovation *420 E. Carson Street*	Not Completed
15	Commercial Retail Center – 8,700 square feet *220th & Main, Southwest Corner*	Under construction

As shown in Table 1, several new cumulative projects have been identified in the study area. Based on the location of these projects and the intensity of uses, the development of these projects is not expected to affect the future traffic operations projected in the 2005 study.

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TRIP GENERATION COMPARISON

As described in the 2005 traffic study, the trip generation rates for hospitals are obtained from standard sources such as the Institute of Transportation Engineers and typically based on the number of hospital beds. The Surgery/Emergency Building project was intended to alleviate overcrowding and accommodate the projected increases in emergency visits and surgical procedures, resulting in no increase to the number of hospital beds. Therefore, the trip generation in the 2005 study was developed based on the projected increase in patient workloads that would be accommodated by the expanded facility. The Surgery/Emergency Building was projected to generate 250 daily trips, including approximately 28 trips during the weekday a.m. peak hour and 28 trips during the weekday p.m. peak hour.

The addition of the proposed 544-space parking structure is intended to increase the convenience of staff and visitors to the facility, but not increase the total beds or patient workloads. Therefore, vehicle trips generated by the facility would not increase due to the addition of the parking structure.

PARKING STRUCTURE ACCESS AND QUEUING ASSESSMENT

The proposed parking structure would provide 325 additional spaces for staff and visitors in the southeastern portion of the campus. Vehicles would access the garage at the existing driveway on 220th Street, and additional access would be provided to/from the north through internal campus roadway to Carson Street. 220th Street is a two-lane roadway with on-street parking adjacent to the campus. Based on traffic volume projections generated in the 2005 study, 220th Street is expected to serve a modest amount of traffic during the peak hour as follows:

- AM Peak Hour: Approximately 825 vehicles, 255 eastbound and 570 westbound, were projected to travel on 220th Street between Vermont Avenue and the proposed parking structure driveway under cumulative (2010) plus project conditions.

- PM Peak Hour: Approximately 545 vehicles, 400 eastbound and 145 westbound, were projected to travel on 220th Street between Vermont Avenue and the proposed parking structure driveway under cumulative (2010) plus project conditions.

A portion of vehicles traveling on 220th Street are already using the existing driveway that would provide access to the proposed parking structure. The potential rerouting of additional vehicle-trips generated by the Surgery/Emergency Building project (28 trips during the AM and PM peak hours) to the proposed parking structure would result in a minimal change in traffic volumes along 220th Street and the surrounding roadway network. Based on the traffic volumes along 220th Street, minimal delays and queuing are anticipated for vehicles traveling to/from the proposed parking structure. The availability of access to/from the north would serve to alleviate the potential for delays and queuing during peak hours.

The intersection of Vermont Avenue/220th Street is signalized and was projected to operate at LOS C during both peak hours under cumulative plus project conditions in the 2005 traffic study (volume-to-capacity ratio of 0.711 during the AM peak hour and 0.728 during the PM peak hour). Therefore, additional capacity is available at this intersection to serve vehicles traveling to/from the proposed parking structure, and the potential rerouting of vehicle-trips through this intersection would not result in a significant impact.

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PARKING SUPPLY ASSESSMENT

The 2005 study determined that the Surgery/Emergency Building project would reduce the existing parking supply by approximately 535 parking spaces, resulting in a total of 2,789 parking spaces on campus. The proposed 544-space parking structure would displace approximately 219 surface parking spaces, resulting in a net increase of approximately 325 parking spaces. Table 2 summarizes the parking supply with the Surgery/Emergency Building in place and the construction of the proposed parking structure.

Table 2
Parking Supply Summary

Changes with Surgery/Emergency Building & Parking Structure Projects			
Project	Existing Spaces to be Removed	Future Spaces With Project	Net Change
Approved Surgery/Emergency Building	992	457	-535
Proposed Parking Structure	219	544	325
Total	**1,211**	**1,001**	**-210**
Total Campus Parking Supply			
2005/Existing Conditions	3,324 spaces		
With Future Approved/Proposed Projects	**3,114 spaces**		
Parking Code vs. Supply			
Supply with Future Projects	3,114 spaces		
Required with Parking Code	2,709 spaces		
No. of Spaces Above Code	**405 spaces**		

As shown in Table 2, the campus would provide 3,114 parking spaces with the development of the Surgery/Emergency Building and the proposed parking structure, resulting in a surplus of 405 spaces relative to the Los Angeles County code requirement.

CONCLUSIONS

The key findings of this study are summarized below.

- The 2005 traffic impact study analyzed the Surgery/Emergency Building project on the Harbor-UCLA campus. The project was expected to generate approximately 250 daily trips, including 28 trips during the weekday AM peak hour and 28 trips during the weekday PM peak hour. An analysis of projected year 2010 conditions indicated that the proposed project would result in no significant traffic impacts based on the significance criteria established by the County of Los Angeles Department of Public Works.

- The proposed project consists of the construction of a 544-space parking structure in the southeastern area of the medical center campus. The site of the proposed structure is currently occupied by 219 surface parking spaces resulting in a net increase of 325 parking spaces.

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- A review of field observations, recent traffic counts, and updated cumulative projects in the study area indicated that traffic volumes and anticipated development levels are consistent with the findings from the previous study, and would not alter the traffic operations results reported in the 2005 traffic study.

- The addition of a 544-space parking structure is intended to increase the convenience of staff and visitors to the facility, but not increase the total beds or patient workloads. Therefore, the proposed parking structure would not generated any new vehicle-trips.

- Vehicles would access the garage at the existing campus driveway on 220th Street, and secondary access would be provided to/from the north through internal campus roadways to Carson Street. 220th Street is expected to serve a modest amount of traffic during the peak hours based on traffic volume projections generated in the 2005 study.

- The potential rerouting of additional vehicle-trips generated by the Surgery/Emergency Building project (28 trips during the AM and PM peak hours) to the proposed parking structure would result in minimal changes in traffic volumes along 220th Street and the surrounding roadway network.

- Based on the traffic volumes along 220th Street, minimal delays and queuing are anticipated for vehicles traveling to/from the proposed parking structure. The availability of access to/from the north through internal roadways and Carson Street would alleviate the potential for delays and queuing during peak hours.

- The campus would provide 3,114 parking spaces with the development of the Surgery/Emergency Building and parking structure, resulting in a surplus of 405 spaces relative to the Los Angeles County code requirement

Sincerely,

Fehr & Peers

Sarah Brandenberg, TE
Senior Associate

Netai Basu, AICP
Associate

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January 14, 2010 SP
N:\Jobs\Active\2300s\2384 - Harbor UCLA Parking Structure\Graphics\GIS\MXD\Figure 1 - Project Area.mxd

PROJECT AREA
FIGURE 1