3.8 Open Space
This section reviews the open space resources available to the SUMC users. The section will identify strategies for connection to nearby resources such as the Arboretum and San Francisquito Creek, as well as strategies for incorporating landscape elements like therapeutic gardens or reflective retreats in direct support of clinical or research programs. The traditions of incorporating landscape elements such as courtyards and ceremonial spaces into the campus and urban fabric will be expanded to incorporate objectives for incorporating local contemporary landscape resources.

Comprehensive Plan policies for the protection of distant open space views will be incorporated into building siting decisions. Policies and programs intended to protect and enhance the community forest will guide the planning for site and street tree protection, replacement, and planting.

**OUTLINE:**
- Objectives
  - Connect to and enhance nearby open space resources
  - Incorporate therapeutic gardens
  - Provide and protect sufficient active and passive open space resources
- Existing Considerations
  - Courtyard traditions
  - Integrated landscape
  - Cultural landscape resources
- Proposed Considerations
  - Ceremonial spaces
  - Sustainable landscapes
  - Increase accessibility to open space (within and adjacent)

### APPLICABLE COMP PLAN POLICIES, GOALS, AND PROGRAMS
#### OPEN SPACE

**Land Use**
- **Policy L-3:** Guide development to respect views of the foothills and East Bay hills from public streets in the developed portions of the City.
- **Policy L-76:** Require trees and other landscaping within parking lots.

**Natural Environment**
- **Policy N-4:** Preserve the foothills area as predominantly open space.
- **Policy N-16:** Continue to require replacement of trees, including street trees lost to new development, and establish a program to have replacement trees planted offsite when it is impractical to locate them onsite.

**Community Services and Facilities**
- **Policy C-26:** Maintain and enhance existing park facilities.
- **Policy C-27:** Seek opportunities to develop new parks and recreation facilities to meet the growing need of residents and employees of Palo Alto.
- **Policy C-29:** Strategically locate public facilities and parks to serve all neighborhoods in the City.
- **Policy C-30:** Facilitate access to parks and community facilities by a variety of transportation needs.
- **Program C-24:** Preserve El Camino Park as a recreational resource for the community.
- **Program C-25:** Consider new park sites when preparing coordinated area plans.
Program C-26: In conjunction with new development proposals, pursue creation of park, plaza, or other public gathering spaces that meet neighborhood needs.
3.9 Utilities and Public Infrastructure

This section identifies the infrastructure needed to support the SUMC. The infrastructure must be sized for adequate delivery of services and located to support land use, urban design, and open space objectives.

City Comp Plan policies call for compact utility structures located and screened appropriately, and, when needed, the possible use of artists to mitigate detrimental visual effects.

OUTLINE:
- Objectives
  - Plan for long-term demands
  - Plan for long-term locations
  - Emphasize conservation and sustainability
- Existing Considerations
  - City / Stanford sources
  - Jurisdiction: City / Office of State Hospital Planning and Design (OSHPD)
- Proposed Considerations
  - Corridors to support planning framework
  - Sustainable utility design and equipment
  - Conservation approaches

APPLICABLE COMP PLAN POLICIES, GOALS, AND PROGRAMS UTILITIES AND PUBLIC INFRASTRUCTURE

Land Use
Policy L-79: Design public infrastructure, including paving, signs, utility structures, parking garages and parking lots to meet high quality urban design standards. Look for opportunities to use art and artists in the design of public infrastructure. Remove or mitigate elements of existing infrastructure that are unsightly or visually disruptive.

Program L-80: Continue the citywide under grounding of utility wires. Minimize the impacts of under grounding on street tree root systems and planting areas.

Program L-81: Encourage the use of compact and well-designed utility elements, such as transformers, switching devices, and back flow preventers. Place these elements in locations that will minimize their visual intrusion.

Natural Resources
Program N-24: Improve storm drainage performance by constructing new system improvements where necessary and replacing undersized or otherwise inadequate lines with larger lines or parallel lines.
3.10 Sustainability and Green Building

Although neither the 2000 Area Analysis nor the 1998 Comp Plan included sustainability elements, it is a vital planning issue in this community and these times. The City continues to develop an aggressive sustainability and green building program, involving development review, utility requirements and incentives, and public outreach. Although no sustainability plan element exists in the Comp Plan, there are numerous established planning principles and policies that support sustainability. Also, many land use planning and community design, transportation, natural environment, and community facilities goals and policies strongly support planning for a compact, sustainable community and facilities.

For the last five years, Stanford has been intensively studying ways to make the campus more sustainable. Efforts include the Sustainable Building Guidelines, life-cycle costing, space utilization studies and guidelines, and energy and water conservation programs. There is also a major academic initiative to incorporate sustainable thinking into the curriculum. Beyond “Green” buildings, and the Woods Institute for the Environment, Stanford has convened a Sustainability Working Group to look at sustainable practices university wide and to consider the economic and social equity implications in concert with environmental benefits (the three E’s). Olmsted and Coolidge’s plan for the original campus was highly climate responsive. Those principles continue to guide Stanford planning. Stanford will consider all of these resources in developing the Area Plan and identifying sustainability objectives.

Sustainability issues to be addressed in the Area Plan include, but are not limited to: site drainage and management of runoff, high performance (beyond green) buildings, land use efficiency, transportation efficiency, energy efficiency, water conservation, and waste recution.

OUTLINE:

- Objectives
  - Informed choices
  - Balance “3 E's” (Environment, Economic, and Social Equity)
  - Optimize use of resources
- Existing Considerations
  - Founding Plan and Principles
  - SU Guidelines for Sustainable Building
  - Life Cycle Cost Analysis
  - Space Utilization Studies and Guidelines
- Proposed Considerations
  - Reuse of building and materials
  - Levels of water and energy use
APPLICABLE COMP PLAN POLICIES, GOALS, AND PROGRAMS
SUSTAINABILITY AND GREEN BUILDING

**Natural Environment**

<table>
<thead>
<tr>
<th>Policy N-20:</th>
<th>Maximize the conservation and efficient use of water in new and existing residences, businesses and industries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy N-21:</td>
<td>Reduce non-point source pollution in urban runoff from residential, commercial, industrial, municipal, and transportation land uses and activities.</td>
</tr>
<tr>
<td>Policy N-22:</td>
<td>Limit the amount of impervious surface in new development or public improvement projects to reduce urban runoff into storm drains, creeks, and San Francisco Bay.</td>
</tr>
<tr>
<td>Policy N-24:</td>
<td>Improve storm drainage performance by constructing new system improvements where necessary and replacing undersized or otherwise inadequate lines with larger lines or parallel lines.</td>
</tr>
<tr>
<td>Policy N-35:</td>
<td>Reduce solid waste generation through salvage and reuse of building materials, including architecturally and historically significant materials.</td>
</tr>
<tr>
<td>Policy N-47:</td>
<td>Optimize energy conservation and efficiency in new and existing residences, businesses, and industries in Palo Alto.</td>
</tr>
<tr>
<td>Program N-45:</td>
<td>Recommend revisions to proposed projects as needed to reduce air quality impacts, including improvements that reduce single occupant vehicle use.</td>
</tr>
</tbody>
</table>

**Transportation**

| Program T-5: | Work with private interests such as the Chamber of Commerce and major institutions to develop and coordinate trip reduction strategies. |
4.0 ZONING AND LAND USE REGULATIONS – EXISTING AND PROPOSED
NOTE: This section identifies the zoning changes that would be needed if the City of Palo Alto ultimately decides to approve Stanford’s proposal for renewal and replacement of its SUMC facilities. Stanford will request these zoning changes as part of its application. By including the zoning information in this draft plan update, the City is not endorsing the changes. Rather it is describing what changes would be needed were the project to be approved. Because Stanford’s proposal is conceptual at this time, this section is likely to be modified as the proposal continues to be developed and reviewed.

4.1 Existing Zoning
OUTLINE:
• Allowable uses in PF zone
• Development standards in PF zone
• MOR Zoning on portions of SUMC

4.2 Zoning Changes – Palo Alto
OUTLINE:
• Future Considerations
  o New Hospital Zone for current PF parcels
  o PF Combining Zone for current PF parcels
  o Rezone some of the MOR parcels
EXHIBITS:
• Zoning - Existing
• Zoning – Proposed

4.3 Stanford’s Proposed Changes to Development Standards
OUTLINE:
• Site Coverage
• FAR
• Setbacks / yards
• Building Heights
• Parking Requirements
• Open Space
ZONING-Existing

- Public Facilities - PF
- Medical Office Research - MOR
- High Density Residential - RM 40
- General Use / Academic Campus - A1 (SCC)

NOTE: Academic allows housing

DRAFT - 11Apr07
5.0 IMPLEMENTATION
This section is describes the overall process for implementation of Area Plan principles and objectives. Implementation will occur primarily through application and approval of specific SUMC projects. However, the City may also pursue initiatives for improvements to public infrastructure and the University could make improvements independent of Hospitals and Medical School proposals that implement elements controlled by campus land use regulations.

A complete list of steps and process affecting implementation will be developed with primary focus on a City process that has been described to include the following:
- Preliminary conceptual application
- Area Plan refinement
- Project development and application
- Project review (environmental assessment, mitigation)
- Development Agreement negotiation
- Project approval and conditioning
- Construction Permitting (w/ OSHPD)
- Project construction

6.0 APPENDICES
NOTE: To be developed at later date

7.0 ACKNOWLEDGMENTS
NOTE: To be developed at later date
PLANNING & TRANSPORTATION DIVISION

STAFF REPORT

TO: PLANNING & TRANSPORTATION COMMISSION

FROM: Steven Turner, Senior Planner
       Whitney McNair, Contract Planner

DEPARTMENT: Planning & Community Environment

DATE: January 24, 2007

SUBJECT: Study Session for the Stanford University Medical Center Modernization and Expansion Project.

PURPOSE OF THE STUDY SESSION
The purpose of the study session is to allow for early Planning and Transportation Commission (Commission) review and input regarding the benefits and challenges of the proposed project, information needs, public outreach efforts and the revision of the Stanford University Medical Center Land Use Area Plan for the Stanford Hospital expansion and modernization project.

BACKGROUND
On November 20, 2006 the City Council held a study session with representatives from the Stanford University Medical Center to discuss concepts for the expansion and the modernization of the existing Hospital and School of Medicine facilities. Stanford University proposes to demolish the existing Main Stanford Hospital at 300 Pasteur Drive and construct a new hospital building. The reconstruction of the Hospital is required to comply with State law mandate SB 1953 to meet seismic safety standards. The current hospital has a license to operate 613 beds; however the hospital currently utilizes only 456 beds. The proposal would add 144 beds for a total of 600 beds. The reconstruction and expansion would allow changes to the room configuration to increase the number of single rooms for privacy and patient comfort, increase the size and capacity of the Emergency Room and to allow room for advanced medical technologies. The proposed hospital design has a vertical organization of rooms and includes three nursing towers over a two-story platform housing the basic hospital functions. A total building height of 130 feet is proposed for the towers.

The project includes renovating and expanding Lucile Salter Packard Children’s Hospital and several Medical School buildings. The expansion of the Children’s Hospital includes an increase in the current license capacity by 104 private beds for a total of 361 beds. There are three School
of Medicine buildings that are proposed for redevelopment with a small increase in the amount of building square footage. The project also includes 200,000 square feet of new medical office space at the Hoover Pavilion, intended predominantly for use by community medical practitioners, as well as an expansion of the Lucile Packard Children’s Hospital.

The renovation and expansion project, which would be constructed over an approximate 20-year horizon, would result in a net increase of approximately 1.3 million square feet of floor area. Below is a table with the proposed approximate square footages:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Existing SF</th>
<th>Additional SF</th>
<th>Demolition SF</th>
<th>Net SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanford Hospital and Clinics</td>
<td>1,555,600</td>
<td>1,629,000</td>
<td>(705,000)</td>
<td>923,800</td>
</tr>
<tr>
<td>Lucile Packard Children’s Hospital</td>
<td>329,100</td>
<td>425,000</td>
<td>(23,500)</td>
<td>401,500</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>485,700</td>
<td>447,700</td>
<td>(433,500)</td>
<td>14,200</td>
</tr>
<tr>
<td>Total</td>
<td>2,370,400</td>
<td>2,501,700</td>
<td>(1,162,200)</td>
<td>1,339,500</td>
</tr>
</tbody>
</table>

At the November 20th study session, the City Council provided feedback on issues and project timing. On December 13, 2006, the Commission held a Study Session to review the process and timeline for this project. This feedback was then presented to the City Council at a meeting on December 18, 2006, at which time the City Council 1) authorized staff to commence the process for review of the project; 2) authorized the city manager to sign an agreement for Stanford to reimburse the City for costs incurred with processing the application, and 3) authorized the city manager and other senior staff to initiate discussions and negotiations of a Development Agreement.

The applicant has not submitted an application or plans for staff review. A conceptual application is expected to be filed in March, 2007.

**DISCUSSION**

The Stanford University Medical Center includes Stanford Hospital and Clinics, the Lucile Salter Packard Children’s Hospital and the Stanford School of Medicine. The Medical Center is located on approximately 85 acres of Stanford lands in the vicinity of Sand Hill Road and Pasteur Drive in Palo Alto and also includes several parcels located along Quarry Road that are within Santa Clara County connecting Hoover Pavilion with the main hospital area. A vicinity map is contained in Attachment A.

**City of Palo Alto Comprehensive Plan Policies and Programs**
The City’s Comprehensive Plan includes several policies and programs that will help shape the review of the Project. These include:
Policy B-32: Assist Stanford Medical Center in responding to changes in the delivery of health care services. Work with the center to plan for changing facility needs, but within the context of City of Palo Alto planning goals and policies, as well as the goals and policies of other relevant jurisdictions.

Policy L-2: Maintain an active cooperative working relationship with Santa Clara County and Stanford University regarding land use issues.

Policy L-45: Develop the Stanford Medical Center in a manner that recognizes the citywide goal of compact, pedestrian oriented development as well as the functional needs of the Medical Center.

Program L-46: Work with Stanford to prepare an area plan for the Stanford Medical Center. An area plan for the Medical Center should address building locations, floor area ratios, height limits, and parking requirements. It should discuss the preservation of historic and open space resources and the protection of views and view corridors. The plan should describe improvements to the streetscape and circulation pattern that will improve pedestrian, bicycle, transit, and auto connections.

Program L-2: City staff will monitor Stanford development proposals and traffic conditions within the Sand Hill Road corridor and annually report to the Planning Commission and City Council.

Policy T-26: Participate in the design and implementation of comprehensive solutions to traffic problems near Stanford Shopping Center and Stanford Medical Center.

Program T-35: Consider increased public transit, a shuttle, and other traffic and parking solutions to ensure safe convenient access to the Stanford Shopping Center/Medical Center area.

Program T-37: Provide safe, convenient pedestrian, bicycle, and shuttle connections between the Stanford Shopping Center and Medical Center areas and future housing along the Sand Hill Road corridor, the University Avenue Multi-Modal Transit Station, Downtown Palo Alto, and other primary destinations.

Key Issues and Information Needs

The City Council, the Commission and the community have voiced concerns at the previous study sessions that include:

a) Land Use/Intensity- What is the appropriate level of intensity to respond to health care delivery needs while maintaining compatibility with other campus buildings and the surrounding Palo Alto community?

b) Urban Design- How would the project contribute to a compact, pedestrian oriented development with a mix of uses that would reduce reliance on automobiles?
c) Height- How would the project maintain the scale and character of the City and avoid abrupt changes in scale and density between residential and non-residential areas? How would on-site views be protected?

d) Transportation/circulation/transit- How will the project promote and encourage walking, biking and public transit use? Analysis and findings should incorporate:
   - Traffic impacts and mitigation
   - Goal of "no net new trips"
   - Promotion of pedestrian and bicycle connections
   - Expansion of the shuttle and/or transit programs
   - Effective TDM program
   - Linkages to University, Shopping Center, Transit Center, and Downtown- clearly defined and designed connections between the project, adjacent uses and nearby public services for pedestrians, bicycles public transit and automobiles;

e) Housing- How much additional housing would be needed to serve the new facilities? Where would it be located?

f) Sustainability and Green Building- How would the project achieve specific sustainability and green-building goals that are consistent with the City’s sustainability policies?

g) Community medical practitioners- Will the project provide medical office space within for medical practitioners who serve the local population and are being displaced due to the project?

h) Effect on Ronald McDonald House services and impacts of expansion- How will the Medical Center expansion affect the service needs at this facility?

i) Surge Capacity- How would the project affect the hospital’s ability to accommodate a surge of patients during a disaster?

j) Open Space- How would the project impact open space and associated uses? Could additional hillside lands be protected as mitigation for the impact if the project is approved?

k) Public Services- How would the project address the increase in demand for water, gas and electric utilities, schools, parks and libraries?

Staff and City consultants are beginning to prepare information to address many of these issues, including:

a) Traffic counts at all affected intersections in Palo Alto and Menlo Park, with comparisons to projections made at the time of the Sand Hill Road Corridor Project and EIR;

b) Peer review of the hospital design parameters to determine whether the scope of the project is appropriate and necessary for enhanced health services;

c) Analysis of employment projections and potential housing demand;

d) Schematic options for enhanced connections to surrounding areas, including Stanford Shopping Center, Palo Alto Transit Center and downtown; and

e) Availability of utilities and other public services.

Many of these issues will be analyzed as part of the EIR. Staff expects to have preliminary traffic information and analysis at the next Commission meeting in March.
The Commission should provide comments on these and other issues of concern, as well as information needs that will be useful in the Commission’s future deliberations.

Stanford University Medical Center Land Use Area Plan

Program L-46 of the 1998 Palo Alto Comprehensive Plan directed the preparation of an area plan for this area:

*Work with Stanford to prepare an area plan for the Stanford Medical Center. An area plan for the Medical Center should address building locations, floor area ratios, height limits, and parking requirements. It should discuss the preservation of historic and open space resources and the protection of views and view corridors. The plan should describe improvements to the streetscape and circulation pattern that will improve pedestrian, bicycle, transit, and auto connections.*

In June 2000 a Stanford University Medical Center Land Use Area Analysis was prepared for the City of Palo Alto, Stanford University, Stanford Hospital and Clinics and Lucile Salter Packard Children’s Hospital (Attachment D). This Land Use Area Analysis addressed programming and infrastructure needs along with campus planning and community design principles and goals for the Stanford University Medical Center as were anticipated at the time the Cancer Treatment Center was proposed.

The June 2000 Area Analysis goal was to renovate, infill, and increase the density within the urbanizing Medical Center core, allowing the opportunity to preserve, enhance, and create linkages to adjacent residential areas and open space systems, housing, the campus, and regional transit.

The largest portion of the site area falls within the zoning jurisdiction of the City of Palo Alto. The majority of land is presently zoned Public Facilities (PF). There were, at the time, several parcels, including the site proposed for the Hospital, zoned Office Research OR. The Area Analysis recommended zone district changes and site development regulations that would support the Area Analysis’ principles. The June 2000 Area Analysis included three possible changes to the development standards: 1) consolidation of all non-residential zoning into the Public Facilities (PF) zoning category for consistency of all land use designations for the medical complex; 2) allowance for a 1.0 FAR on all parcels south and east of Welch Road that would yield an additional 400,000 SF of additional development capacity, including the Center for Cancer Treatment and Prevention/Ambulatory Care Pavilion (CCTC/ACP) at 220,000 gross square feet (completed in 2003); and 3) an increase in height from 50’ to 75’ to recognize the increasing floor-to-floor heights needed in hospitals and clinics required by code and/or contemporary engineering support systems.

The zone changes from OR to PF, including a floor area ratio of .5 to 1.0 for some properties south and east of Welch Road were completed in 2002. Zone changes for the OR zoned properties north and west of Welch Road resulted in renaming the district as Medical Office and Medical Research (MOR) District and were completed in October 2005. No changes have been made to the maximum height, which is currently 50 feet within these districts.
The 2000 Area Analysis also included information on existing City policies and direction. Any future increase in floor area ratio standards would be concentrated “inward” of Welch Road, including the proposed hospital site at 1101 Welch Road. The policy statements also stated that any future approved height increases above what is normally allowed under current zoning should be related to transit-oriented uses. Stanford was to demonstrate that an increase in height does not necessarily mean an increase in floor area and that there are no adverse impacts to surrounding land uses or buildings.

The 2000 Area Analysis was not approved or adopted, but was intended to provide context and framework for the subsequent project-specific reviews.

Proposed Area Plan Revisions
The June 2000 Area Analysis will be used as a baseline document for the updated Area Plan, but will be revised to address the project program, infrastructure needs, and design principles of the proposed modernization and expansion project. Revisions to the plan will focus on the geographical area identified by the existing analysis, but will also address key areas of influence such as linkages between the hospital, the university, the shopping center and the transit center. A joint EIR will be prepared for this project and the Stanford Shopping Center expansion, providing extensive analysis of most of these issues.

The revised Area Plan is expected to include the following sections:

I. Introduction:
   i. Medical Center history;
   ii. Area Plan purpose and background;
   iii. Governance between Stanford, County of Santa Clara and City of Palo Alto;
   iv. Comprehensive Plan and Zoning policies and regulations

II. Facilities Modernization and Expansion Needs for each component of the project

III. Area Plan Elements, including goals, land use issues, vehicular access and circulation, pedestrian, bicycle and transit circulation, urban design/character; open space; sustainability and “green-building”

IV. Zoning and Land Use Regulations, including zone changes, floor area, height, parking, and open space

V. Implementation, including preparation of plans, transportation, housing, sustainability and “green building” goals.

Attachment B includes a draft Table of Contents for the Area Plan revisions. Staff is seeking input from the Commission regarding the organization of and approach to the Area Plan.

Project Timeline
An updated project timeline is contained in Attachment C. Based on input from the City Council and the Commission the following changes have been incorporated:

- The initial Commission Study Session was moved forward to January 24, 2006;
• The number of Architectural Review meetings in Phase II has been reduced from three to two;
• An additional City Council Study Session (October 2007) was added prior to release of the draft EIR in Phase II, prior to the initiation of the development agreement negotiations; and
• Other wording changes were incorporated per Commission and Council direction.

Community Outreach
A community kickoff meeting is scheduled for February. The meeting would be a general meeting open to all members of the community and will include a project overview by the applicant, an overview of the timeline by City staff and an open period for questions and answers, and identification of issues.

NEXT STEPS
A request for proposals (RFP) has been sent to environmental consulting firms to solicit proposals to prepare a joint Environmental Impact Report (EIR). Representatives from Stanford Medical Center are expected to submit a conceptual application in February/March for this project, including proposed land use, zoning and Area Plan modifications. A Community Meeting is scheduled for February. A second Commission study session is tentatively scheduled for March and will include a project update, identification of specific Area Plan parameters, and available traffic and other relevant info for this project and the Stanford Shopping Center expansion.

ATTACHMENTS
A. Vicinity Map
B. Stanford University Medical Center Land Use Area Plan Draft Table of Contents
C. Updated Project Timeline
D. Stanford University Medical Center Land Use Area Analysis, June 2000 (Commissioners only)

COURTESY COPIES
City Council
William T. Phillips, Stanford Management Company
Jean McCown, Stanford University Public Relations Office
Charles Carter, Stanford University Planning Office
Art Spellmeyer, Simon Property Group
John Benvenuto, Simon Property Group
Geno Yun, ELS Architecture and Urban Design

PREPARED BY: Steven Turner, Senior Planner
Whitney McNair, Contract Planner

DEPARTMENT/DIVISION HEAD APPROVAL: _____________________________
Curtis Williams, Assistant Director
MEMORANDUM

To: Gayle Likens

FROM: Dennis A. Struecker, PE

DATE: April 19, 2007

SUBJECT: City of Palo Alto Traffic Monitoring

PROJECT NO. 60021394

INTRODUCTION

The City of Palo Alto has conducted Citywide intersection monitoring for intersections throughout the City and also into the neighboring jurisdictions of Menlo Park and East Palo Alto. The purpose of this intersection monitoring is as follows:

- Establish traffic volumes for Fall 2006 during typical counts times outside of holiday periods and inclement weather. Establishing the baseline during typical traffic volume periods removes the potential schedule conflicts for project specific analyses for which these volumes may be applied.

- Determine AM and PM peak hour levels of service based on Fall 2006 volumes. In addition to traffic volumes, levels of service are based on intersection geometrics and signal timing. Intersection geometrics were field reviewed to determine specifically how the intersections operate. For example, right turn lanes may not be striped with a right turn arrow; however, suitable shoulder area is available to allow right turns to occur independent of the through movements. Also, timing charts were reviewed and field observations made to determine signal timing and phasing during peak hours.

- The result is a consistent set of volumes and intersection operations for the current conditions. This data base can then form the basis of future project analyses.

ANALYSIS METHODOLOGY

The current procedures for intersection operational analysis in Santa Clara County are HCM 2000 from the Highway Capacity Manual. HCM 2000 is applied via the TRAFFIX software package per the requirements of the Congestion Management Agency. The following are term definitions from the traffic operations analysis. Level of service for signalized intersections is defined in terms of control delay. The definitions of level of service A through F are noted in
Table 1. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay. Average control delay weights the delay per movement according to the traffic volumes for that movement. The critical volume to capacity (v/c) ratio is an approximate indicator of the overall sufficiency of an intersection. The critical v/c ratio depends on the conflicting critical lane flow rates and the signal phasing. V/C ranges from 1.0 when the flow rate equals capacity and 0.0 when the flow rate is zero. Values above 1.0 indicate an excess of demand over capacity. Average critical delay weights the delay for the critical (conflicting) movements based on the traffic volume for that movement.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Description</th>
<th>Average Control Delay Per Vehicle (Seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Operations with very low delay occurring with favorable progression and/or short cycle lengths.</td>
<td>≤ 10.0</td>
</tr>
<tr>
<td>B+</td>
<td>Operations with low delay occurring with good progression and/or short cycle lengths.</td>
<td>10.1 to 12.0</td>
</tr>
<tr>
<td>B</td>
<td>12.1 to 18.0</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>18.1 to 20.0</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.</td>
<td>20.1 to 23.0</td>
</tr>
<tr>
<td>C</td>
<td>23.1 to 32.0</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>32.1 to 35.0</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.</td>
<td>35.1 to 39.0</td>
</tr>
<tr>
<td>D</td>
<td>39.1 to 51.0</td>
<td></td>
</tr>
<tr>
<td>D-</td>
<td>51.1 to 55.0</td>
<td></td>
</tr>
<tr>
<td>E+</td>
<td>Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.</td>
<td>55.1 to 60.0</td>
</tr>
<tr>
<td>E</td>
<td>60.1 to 75.0</td>
<td></td>
</tr>
<tr>
<td>E-</td>
<td>75.1 to 80.0</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Operation with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.</td>
<td>&gt; 80.0</td>
</tr>
</tbody>
</table>


All four components of signalized intersection operational analyses, level of service, average control delay, v/c, and average critical delay are used in determining potential impacts. Level of service serves as the initial determinate of a traffic impact. A change in level of service from D to E or F in Palo Alto is a significant impact. Level of service is based on average control delay. A significant impact can also occur for intersections already operating at level of service E or F if the average control delay for critical movements increases by four seconds or more and the critical v/c increases by 0.01 or more.

2006 MONITORING RESULTS

Table 2 shows the results of the 2006 monitoring. Traffic operations noted in Table 2 are based on the TRAFFIX software which is adapted from the 2000 Highway Capacity Manual. A total of 43 intersections were included in the monitoring, however, Table 2 only includes the 28 intersections in and around Stanford University. For most intersections traffic counts and
intersection operations are reported for both the AM and PM peak hours. However, traffic volumes were only collected for the PM peak hour for several intersections in the Sand Hill Road/Welch Road/Quarry Road area. Table 2 reports level of service, average vehicular delay through the intersection, critical volume to capacity ratio, and average critical delay. These terms have been defined above. Most intersections operate at acceptable levels today. There is one intersection that operates at unacceptable levels in the PM peak hour, Foothill Expressway/Page Mill Road. This intersection operates at level of service F.

### Table 2
Results of 2006 Monitoring

<table>
<thead>
<tr>
<th>Intersection</th>
<th>AM Peak</th>
<th></th>
<th>PM Peak</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOS</td>
<td>Avg Del</td>
<td>Crit (sec)</td>
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<tr>
<td>Welch Rd/Campus Dr West (S)</td>
<td>C</td>
<td>3.6</td>
<td>0.000</td>
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</tr>
</tbody>
</table>

Notes:
1. El Camino Real/University/Palm analyzed as a single intersection.
2. Quarry/El Camino was not studied in the 1996 Stanford EIR and therefore was not included in the 2006 Monitoring. However, counts at this intersection will be collected later this year.
HISTORICAL TRAFFIC OPERATIONS

Research has been undertaken to determine the degree that level of service has change over the past 10+ years. The Sand Hill Road EIR was used to provide the historical data.

The Sand Hill Road EIR established existing conditions for 1995. These are noted on Table 3. The level of service for the 1995 analysis was based on the adopted methodology CAPSSI, standing for Capacity Analysis Program for a Single Signalized Intersection. In addition, the intersections within Menlo Park were also analyzed with the current version of HCS, the Highway Capacity Manual software. Any time the level of service provided by CAPSSI was different than what HCS calculated is noted in Table 3. The HCS level of service is noted ( ).

The Sand Hill Road EIR also calculated project level of service for 2000 and 2010. These are also reported in Table 3. Again, the analysis was conducted via CAPSSI and also with HCS for the Menlo Park intersections.

Table 3 also includes the 2006 Monitoring information from Table 2. 2006 levels of service are shown between the 2000 Project and 2010 Project levels of service. In most instances the 2006 levels of service are better than the 2000 Project or 2010 Project levels of service. There are two locations where 2006 Monitoring levels of service are at least one full letter grade worse than the 2000 Project Condition. These locations, Campus Drive West/Welch Road in the PM peak hour and Juniper Serra/Foothill Expressway/Page Mill Road in the PM peak, are highlighted in Table 3.

A direct comparison between the Sand Hill Road EIR and the current monitoring cannot be made because of the differences between the assumptions in the EIR and what has actually been constructed since the EIR was certified. The project studied in the EIR included:

- A full 4-lane extension of Sand Hill Road to El Camino Real, whereas the approved project included a 4-lane Sand Hill Road west of Arboretum, but only a 2-lane extension from Arboretum to El Camino. (The intersection operations analysis from the EIR assumed the full 4-lane improvements.)

- Expansion of the shopping center by 160,000 square feet, whereas only 80,000 square feet of new development was approved. The amount of traffic from the shopping center expansion assumed in the EIR was greater than actually occurs as a result of reduced development.

- The EIR projected only limited improvements by the year 2000 at the Sand Hill/Santa Cruz/Junipero Serra and Junipero Serra/Alpine/Santa Cruz intersections because these improvements, while included in the City of Menlo Park’s General Plan, are not funded and therefore, were not included in the EIR analysis.
Table 3
Level of Service Comparison

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Peak Hour</th>
<th>1995 LOS</th>
<th>2000 With Project LOS</th>
<th>2006 Monitoring LOS</th>
<th>2010 With Project LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alma St./Churchill Ave.</td>
<td>AM</td>
<td>D</td>
<td>D</td>
<td>B-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>D</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Arboretum Rd./Galvez St.</td>
<td>AM</td>
<td>C</td>
<td>F</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>F</td>
<td>F</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Arboretum Rd./Palm Dr.</td>
<td>AM</td>
<td>D</td>
<td>D</td>
<td>C+</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>D</td>
<td>D</td>
<td>C+</td>
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</tr>
<tr>
<td>Campus Drive West/Welch Rd.</td>
<td>AM</td>
<td>A</td>
<td>A</td>
<td>C(B)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>A</td>
<td>A</td>
<td>C(B)</td>
<td></td>
</tr>
<tr>
<td>El Camino Real/Alma St./Sand Hill Rd.</td>
<td>AM</td>
<td>B</td>
<td>C</td>
<td>C-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>B</td>
<td>C</td>
<td>D+</td>
<td></td>
</tr>
<tr>
<td>El Camino Real/Cambridge Ave.</td>
<td>AM</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>B</td>
<td>B</td>
<td>B</td>
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<td>C</td>
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<td>C</td>
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</tr>
<tr>
<td></td>
<td>PM</td>
<td>C</td>
<td>C</td>
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</tr>
<tr>
<td>El Camino Real/Embarcadero Rd./Galvez St.</td>
<td>AM</td>
<td>D</td>
<td>E</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>D</td>
<td>D</td>
<td>D</td>
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<td>C</td>
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<tr>
<td></td>
<td>PM</td>
<td>C</td>
<td>C</td>
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<tr>
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<td>AM</td>
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<td>E</td>
<td>D-</td>
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</tr>
<tr>
<td></td>
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<td>E</td>
<td>F</td>
<td>D</td>
<td></td>
</tr>
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<td>El Camino Real/Palm Dr./University Ave.</td>
<td>AM</td>
<td>C</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
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<td>D</td>
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<td>PM</td>
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<td>C</td>
<td>C</td>
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<td>PM</td>
<td>C</td>
<td>C</td>
<td>C</td>
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<td>2006 Monitoring LOS</td>
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<td>(C)</td>
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<td>D+</td>
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<td>PM</td>
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<td>AM</td>
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</tr>
<tr>
<td></td>
<td>PM</td>
<td></td>
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</table>

Notes:
1) 1996, 2000 with Project, and 2010 With Project are analyzed with CAPSSI.
2) Menlo Park intersection analyzed with CAPSSI and HCS. Differences in LOS for HCS noted in ( ).
3) Campus Drive West/Welch Road is analyzed as two intersections in 2006 Monitoring X (Y), X = North Intersection, Y = South Intersection.
4) El Camino Real/Palm/University analyzed as a single intersection in 2006 Monitoring.
5) Highlighted cells represent locations where 2006 Monitoring level of service is at least one full letter grade worse than the 2000 Project condition.
6) Two intersections in Palo Alto were omitted from the 2006 Citywide monitoring, Quarry/El Camino Real and Sand Hill Rd./Oak Ave. Counts at these intersections will be collected in 2007. Other intersections outside of Palo Alto that were included in the Sand Hill Road EIR but for which traffic counts were not collected in 2006 include El Camino Real / Roble Ave., El Camino Real / Santa Cruz Ave., El Camino Real / Valparaiso Ave./ Glenwood Ave, Sand Hill Rd. / Oak Creek Dr., Sand Hill Rd. / Sand Hill Circle / I-280, Santa Cruz Ave. / University Drive, and Junipero Serra Blvd./Stanford Ave. Counts at these intersections outside of Palo Alto may also be collected in 2007 if these intersections are included in the Stanford EIR.
7) Some intersections were counted only in the PM peak hour in 2006. AM counts will be collected in 2007.
April 17, 2007

Steven Turner
CITY OF PALO ALTO
Planning Division
250 Hamilton Avenue
Palo Alto, CA  94301

Re:  Stanford University Medical Center Information Needs

Dear Steven,

We have discussed the additional information needs you identified on Friday and have provided responses below. As you’ve stated, the need for these responses is contextual and as such it should not blur the clear distinction that the expansion entitlements being sought are for the Stanford University Medical Center (SUMC) hospitals, which are entities separate from Stanford University and with their own leasehold development parcels and otherwise limited resources. The hospitals are not subject to many of the University’s internal guidelines and requirements, and they do not own or control other land in the Medical Center or county GUP area outside of their limited SUMC leaseholds.

1. **Sustainability/Green Building Statement** - A brief description of Stanford’s sustainability and green building programs. Applicability of these programs to the hospitals and medical school facilities. Examples of recent development incorporating these programs and efforts. Brief description of the Marguerite shuttle and commute alternatives programs. This was a topic Frank thought Stanford should promote as much as possible.

**Sustainability**

Stanford’s internal *Guidelines for Sustainable Buildings* have refined the Labs21 (co-sponsored partnership by the U.S. Environmental Protection Agency and U.S. Department of Energy) and the LEED rating systems for application to Stanford University. The Guidelines focus on the delivery of high performance buildings that minimize energy and water use and maximize user comfort. In addition, the University’s *Guidelines for Life Cycle Cost Analysis* aligns long-term value with front-end capital costs. Both sets of guidelines will be applied by Stanford University to School of Medicine construction within the SUMC.
The hospitals are not subject to Stanford’s internal guidelines, and instead are developing their own approach to sustainable design based on the Green Guide for Health Care and other available documentation as translated to healthcare facilities by the US Green Building Council (LEED). Robin Guenther, co-author of the Green Guide for Health Care, is a member of the hospitals’ design teams and is bringing her expertise to the projects as the hospitals are exploring appropriate methods to site buildings, minimize energy use, minimize water use, use recycled and reclaimed materials, and enhance the hospitals’ materials management recycling program.

Marguerite Shuttle and Commute Alternatives

Stanford University and both of the hospitals provide a robust trip reduction program on the campus and at the SUMC, and achieve substantial trip reductions as a result. The program provided by the hospitals is described below, and has also been provided to Gayle Likens, City staff leader for the Transportation Issue Team.

The 2005 SUMC TDM Monitoring Report shows that transit ridership to SUMC has more than doubled since 2000, and SUMC is currently surpassing its trip reduction goal of 120 trips (200 trips later adjusted to 120 trips) related to the Use Permit for the Center for Cancer Treatment and Prevention/Ambulatory Care Pavilion. This success is a direct result of the comprehensive set of commute mode alternative programs that the University and hospitals provide, which include the following programs used by both University and hospitals staff:

Commute Club (for individuals agreeing not to drive alone to work):
- Up to $216/year in Clean Air Cash or Carpool Credit
- Reserved parking spaces for all carpools/vanpools
- Complimentary daily parking passes for carpoolers
- Vanpool subsidies
- Online Stanford Ridematching Service
- Commuter Buddy Program
- Pretax payroll deduction for transit passes, Caltrain parking, and commuter checks
- Rewards for recruiting new members
- Guaranteed ride home
- 12 free hourly car rental vouchers
- Membership appreciation events
- Entries into regular prize drawings
- Members-only commuter gifts
- Ability to purchase up to eight daily parking permits per month and have them mailed to your home

Marguerite Shuttle:
- Free, comprehensive campus shuttle system, open to the public
- Connects with local transit and Caltrain, as well as shopping and dining
- Midnight Express night safety service
- Automated Transportation Management System, with real-time schedules viewable on the web

**Eco Pass:**
- Free use of VTA buses and light rails, Dumbarton Express, and Highway 17 Express

**Line U Stanford Express:**
- Free use of East Bay express bus that connects BART and ACE train to Stanford

**Bicycle Programs:**
- Bicycle registration
- Complimentary Mid-Peninsula Bike Map, as well as city and county bike maps
- Clothes and bike locker rental/shower information and maps
- Safety education program
- Commute planning/cycling information
- Campus Bike Shop
- Bike light giveaways

2. **Existing "Open Space" within and near the SUMC area** - Brief overview of the existing functional and useable open space areas. This would include El Camino Park, San Francisquito Creek open space and trails, existing usable landscaped gathering areas and landscaped pedestrian pathways and links within the Medical Center/School of Medicine areas, etc. Provide acreage or miles of trails if available.

The hospitals lease land from Stanford University that corresponds generally to the footprints of their structures; therefore the functional open space controlled by these entities is limited mostly to courtyard areas within the boundaries of the structures themselves.

Within the Area Plan boundaries, functional open space land that is not controlled by the hospitals includes the Pasteur median and the North Garden. Neither of these areas is designated “open space” by the City of Palo Alto Comprehensive Plan; however, these areas provide green, landscaped areas that have aesthetic value.

Other functional open space near the Area Plan and within the City of Palo Alto are El Camino Park and the streamside areas along San Francisquito Creek.

In addition, the Arboretum is located in unincorporated Santa Clara County and is designated by the County as Campus Open Space. The figure and table on the following page show the locations, size and use of the existing open spaces located within and near the SUMC Area Plan.
### Existing Open Space Areas Within and Near the Stanford University Medical Center Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Map Key</th>
<th>Location</th>
<th>Jurisdiction</th>
<th>Area (ac)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within Medical Center Area Plan</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Pasteur Median</td>
<td>Palo Alto</td>
<td>5.0</td>
<td>Private, accessible to public</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>North Garden</td>
<td>Palo Alto</td>
<td>1.4</td>
<td>Private, accessible to public</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Landscaped Gathering Areas</td>
<td>Palo Alto</td>
<td>Various small areas</td>
<td>Private, for SUMC</td>
</tr>
<tr>
<td><strong>Near Medical Center Area Plan</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>El Camino Park</td>
<td>Palo Alto</td>
<td>10.2</td>
<td>Public, recreational</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>San Francisquito Creek Streamside Open Space</td>
<td>Palo Alto</td>
<td>19.5</td>
<td>Private, public path</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Arboretum</td>
<td>Santa Clara Co.</td>
<td>183.0</td>
<td>Private, accessible to public</td>
</tr>
</tbody>
</table>

*Stanford University Land Use in Environmental Planning, Meeting Date: April 17, 2019*
3. **Existing Foothills "Open Space"** - *a summary of the protected open space areas on university lands, acreage, trails, etc. Include protection expiration date, if applicable. This is to provide context regarding the amount of open space the University currently protects.*

The hospitals do not own, lease or control any lands within the foothills areas of Palo Alto or Santa Clara County and no foothills lands are within the boundaries of the SUMC Area Plan. For general context, the following information describes the land use designations governing Stanford University's foothills lands in Santa Clara County.

Land use information concerning the Stanford "foothills" is presented in the Stanford Community Plan (2000) prepared by Santa Clara County. These lands are designated Open Space and Field Research (approximately 1,841 acres), and Special Conservation Areas (approximately 405 acres) as shown on the figure on the following page from the Community Plan. They are separated from the academic campus by an Academic Growth Boundary (AGB), which concentrates academic facilities on the central campus. The AGB will remain in its location for at least 25 years from approval of the Community Plan in December 2000 and until 5 million gsf of academic facilities have been added within the AGB. The Open Space and Field Research designation allows field study activities, utility infrastructure that is consistent with natural appearance of the foothill settings, and grazing. The Special Conservation Area designation allows conservation activities and habitat management, field environmental studies, and appropriate agricultural uses. New permanent structures are not allowed in either designation, with the exception of small, specialized facilities or installations that are necessary to support existing utilities or require a remote academic setting.
4. **Housing** - A brief overview of the housing requirements included in the GUP, the amount of housing that could be built on identified sites, and how those numbers might relate and satisfy City of Palo Alto requirements. We touched on this briefly at today’s meeting. Would the potential housing sites in the Area Plan (and future units on those sites) be used to satisfy the GUP or would these units be above and beyond what the GUP requires?

The SUMC Area includes a 4.3-acre parcel in Palo Alto that is zoned for high-density residential uses (RM-40). This RM-40 site presently is developed with 148 housing units. Adjacent to this site is a 2.42-acre site that is also zoned RM-40. Up to approximately 100 additional housing units could be accommodated on this site under the current zoning.

The SUMC Area also includes two significant housing sites that are located in unincorporated Santa Clara County. Stanford’s GUP, approved by Santa Clara County in 2000, allows development of 200 houses units for hospital residents and post-doctoral students at the Quarry/Arboretum site, and 150 additional housing units for hospital residents and post-doctoral students at the Quarry/El Camino site.

Overall, the GUP identifies 15 housing sites totaling 220 acres and authorizes development of approximately 3,000 new housing units. The housing units authorized by the GUP were requested by Stanford University in its initial development application. The GUP links the timing of housing and academic square footage by requiring that as Stanford University constructs specified amounts of academic square footage, it must construct specified amounts of housing. Under this linkage requirement, by full build-out of the academic square footage, Stanford will have constructed about 2,400 housing units. This is not a CEQA mitigation measure, but rather a condition of approval addressing phasing and timing of development. Stanford is allowed under the GUP to build about 600 more housing units than are required under the linkage condition.

Please call if you have any comments or questions.

Sincerely,

**LAND, BUILDINGS AND REAL ESTATE**

[Signature]

William T. Phillips  
Senior Associate Vice President

Charles Carter  
Director, Land Use and Environmental Planning
Attachment E

STANFORD UNIVERSITY MEDICAL CENTER
CONCEPTUAL PROJECT
SUBMITTAL

April 11, 2007