Architectural Review Board

Staff Report

Agenda Date: April 21, 2011

From: Steven Turner, Advance Planning Manager

Department: Planning and Community Environment

Subject: Stanford University Medical Center – Stanford Hospital [10PLN-00395]: Request by Stanford Hospital and Clinics on behalf of The Board of Trustees for the Leland Stanford Junior University for Final Architectural Review of a new Stanford Hospitals and Clinics main hospital building, consisting of approximately 1,100,000 square feet of new hospital area, 456 replacement hospital beds, the addition of 144 new hospital beds, surgical operating suites, diagnostic and treatment suites, emergency department, nursing and support space. The project also include development of an above grade/below grade parking facility of approximately 970 spaces, site re-development and a new landscaping plan. This project is a component of the Stanford University Medical Center Facilities Renewal and Replacement Project. Existing Zone District: PF (Public Facilities).

RECOMMENDATION
Staff requests that the Architectural Review Board (ARB) review the development plans, architectural review findings (Attachment A), draft conditions of approval (Attachment B) and recommend that the City Council approve the new Stanford Hospital and Clinics (SHC) main hospital building.

BACKGROUND
Stanford University Medical Center Facilities Renewal and Replacement Project
The Stanford University Medical Center (SUMC) comprises the general area between Sand Hill Road, Vineyard Lane, Quarry Road, Pasteur Drive, and including Welch Road and Blake Wilbur Drive. The area is zoned Medical Office and Medical Research (MOR) and Public Facilities (PF). The applicant is proposing the demolition of the existing Stanford Hospital and Clinics (SHC), construction of new hospital buildings, renovation and expansion of the Lucile Packard Children’s Hospital (LPCH), reconstruction of the School of Medicine (SoM) facilities, and construction of new medical office buildings and parking structure as well as the renovation of the Hoover Pavilion to meet State mandated seismic safety standards (SB 1953) and to address capacity issues, changing patient needs and modernization requirements. The renovation and expansion project, which would be constructed over a 20-year horizon, would result in a net increase of approximately 1.3 million square feet of hospital, clinic, and office space.
An application for the project described above was filed on August 13, 2007 with the City of Palo Alto (See Attachment F for an excerpt). In summary, the applicants have requested, among other entitlements, a zoning code amendment to establish a new “Hospital” district with development standards designed to accommodate the proposed project. The applicants have requested design approval for Stanford University Medical Center Campus Design Guidelines, SHC, LPCH, a new medical office building and parking garage as well as the renovation of the Hoover Pavilion, and the SoM’s Foundations in Medicine 1 (FIM1) building.

Over the course of the past two years, each of the SUMC Project components has been reviewed by the ARB through a series of study sessions and early preliminary review meetings. Each component of the SUMC Project has gone through preliminary ARB reviews and the ARB will be providing a final recommendation to the City Council for their consideration. This ARB meeting is the final review for the SHC project.

**PROJECT DESCRIPTION**

Rafael Vinoly Architects have designed the new Stanford Hospital and Clinics main hospital building. A detailed project description can be found in the February 17, 2011 ARB staff report (Attachment E).

**SUMMARY OF KEY ISSUES**

The applicants have requested that the ARB provide a formal review of the Stanford Hospital. The project plans that accompany this staff report (Attachment G) contain updated landscape and site plans, streetscape elevations, rendered elevations, floor plans, overall building sections, details of the entry and emergency department drop off, garage exterior detail, tree species diagram, paving patterns, details of the kiosk, plan for the garden of medicinal plants, perspective views, exterior lighting site plan, with its schedule, images of the lighting and further illustrations. These plans are to be reviewed as a supplement to the plans submitted earlier for the SHC to ARB for the formal meeting on February 17, 2011.

Since the previous ARB submittal, the following changes and additions were made in response to the comments made by the ARB members:

1. **West façade of garage**
   - The west façade of the garage has been set back further from Welch Road to lessen the impact of the building on the street frontage. Distance from the garage upper level face to the curb was a minimum of 22'-10" and is now set back an additional 9'-8".
   - Level 1 façade is 44'-6" from the curb.
   - Plans, sections and elevations have been updated to show west façade setback.

2. **Main drop-off plaza has been developed further:**
   - Paving pattern and color for plaza made more uniform to feel like a pedestrian plaza and de-emphasize prominence of vehicular drop-off.
   - Kiosk has been moved further south towards the Pasteur Drive to create a larger seating area to the north that has presence in the plaza, serves the food vending functions of the kiosk and addresses a potential future entrance to the Stone Building North Pavilion.
- Kiosk information has been included. Materials meant to be similar pre-cast concrete color and texture as to what is being used on New Hospital base for continuity of materials and language.
- More detail given for bench seating, paving materials, and lighting.
- Central water feature is shown having more activity and volume, something of the scale of an outdoor plaza.

3. Garden of Medicinal Plants
- City of Palo Alto electrical switch station has been incorporated into Garden to be as discreet as possible while still meeting the City of Palo Alto’s access requirements. Electrical gear enclosure has been indicated off of Emergency Department Drive but setback somewhat from Welch Road to provide some screening.
- More detail given for bench seating, paving materials, and lighting.

4. Site Lighting
- Site lighting plans, fixture cuts and schedules and details included. Lighting diagram shows approximation of site lighting including free standing landscape lighting and building lighting of paths.

Prior ARB Review
The ARB has held preliminary review meetings on the Stanford Hospital on November 20, 2008, June 17, 2010 and September 2, 2010; and study sessions on June 19, 2008, October 20, 2008 and February 18, 2010. In addition, the ARB held its first formal review of the SHC on February 17, 2011. Please see Attachment E for a detailed description of these prior meetings.

During the formal review on February 17, 2011, the ARB felt that the project had developed very well. The ARB liked the changes made by the architect, particularly those to the base of the building, and the manner in which the garage and hospital were tied together. The ARB spoke in support of the publicly accessible and interactive spaces, the translucent walls and the curved forms in contrast to more formal masses above. The ARB commented that further articulation was required for details of the ceiling, as well as various doors and exits. They also liked the changes to the landscaping, but made a few suggestions; that the entry plaza be made more interesting and vibrant, the tree pattern near the main entrance could continue further along Pasteur Drive so as to soften the street edge with landscaping, and that paving in certain areas could be reduced with more emphasis given to the lawn and contrasting oak trees. They also suggested that the Phase 3 expansion with the future pods include a pedestrian and bike connection to the campus.

Zoning Development Standards
The SHC building would be located in the new “Hospital” zone district. Although the site development regulations for the new “Hospital District” have not yet been approved, the Project’s conformance with the draft standards is described in Attachment C.

Summary of Issues Identified by Urban Design Consultant
The City’s urban design consultant, Bruce Fukuij, has provided comments on each of the Project components throughout this review process. His updated comments on the new Stanford
Hospital will be provided at the meeting.

Design Guidelines and the Stanford Hospital
The applicant has submitted under a separate cover the final Stanford University Medical Center Campus Design Guidelines. The document sections include discussion on Site Design, Building Design and Connective Elements. Attachment D provides a summary of how the final Guidelines relate to the proposed SHC.

Environmental Impact Report
The City has prepared an environmental impact report (EIR) for the SUMC Project. Please see Attachment E for a detailed discussion of the visual quality sections in the EIR.

The Final EIR for the SUMC Project was released on February 17, 2011. With this final review of the project, the ARB needs to find that the Project is consistent with the sixteen findings of approval. Staff’s recommended findings are contained in Attachment A. The ARB’s final recommendations will be forwarded to the Planning and Transportation Commission and City Council for their consideration.

The ARB review has resulted in changes from the originally proposed design that addresses the visual quality impacts identified in the EIR. Staff recommends that the ARB find that the projects are consistent with the Architectural Review Findings in Attachment A. In addition, if the ARB finds that the project is consistent with the Architectural Review Findings, then the mitigations applicable to the SHC project have been satisfied.

Conditions of Approval
Draft conditions of approval are contained in Attachment B. These conditions focus on the “standard” conditions that apply to development within Palo Alto, as well as specific requirements that address unique development aspects of the Project. In addition, the conditions would contain any design-related conditions that the ARB may recommend. Staff recommends that the ARB discuss appropriate conditions at the meeting. These conditions would be forwarded to the City Council for their review and decision. These conditions may be modified prior to final City Council review.

NEXT STEPS
The ARB has reviewed all the project components with this final meeting. The ARB’s recommendation on all of the project components will be forwarded to both the P&TC and City Council. The City Council will take action on these items after certification of the Final EIR, anticipated in June 2011.

ATTACHMENTS
Attachment A: Architectural Review Findings for Approval
Attachment B: Draft Conditions of Approval
Attachment C: Conformance with Proposed “Hospital District” Site Development Regulations
Attachment D: Summary of Design Guidelines related to SHC
Attachment E: ARB Staff Report, Stanford Hospitals and Clinics, February 17, 2011
Attachment F: SUMC Project Application Excerpt, including: Project Overview, Project Description, Comprehensive Plan Conformance, SUMC Design Intent, SUMC Applicant’s Objectives, Entitlements Request, Summary of the Tree Preservation Alternative, Fact Sheets and FAQ’s for the SUMC Project (previously distributed).

Attachment G: Supplemental Project Plans for the new Stanford Hospital - SHC (provided by Rafael Vinoly Architects, ARB members only)

COURTESY COPIES
William T. Phillips, Sr. Assoc. Vice President, Stanford University – Land, Buildings & Real Estate
Jean McCown, Director of Community Relations, Office of Government and Community Relations
Zach Pozner, Project Manager, Stanford University Medical Center, Facilities
Charles Carter, Director Land Use and Environmental Planning, Stanford University
Mark Tortorich, Vice President of Facilities and Design & Construction, Stanford Hospitals & Clinics / Lucile Packard Children’s Hospital
Catherine Palter, Assistant Director Land Use and Environmental Planning, Stanford University
Bruce Fukuji, Fukuji Planning & Design

Prepared by: Whitney McNair, Consulting Planner
Ruchita Kadakia, Consulting Planner
ATTACHMENT A
ARCHITECTURAL REVIEW BOARD
DRAFT FINDINGS FOR APPROVAL
New Stanford Hospital
10PLN-00395

(1) The design is consistent and compatible with applicable elements of the Palo Alto
Comprehensive Plan in that the project is consistent with the following significant
policies and programs:

L-1, L-2, L-3, L-4, L-5, L-6, L-7, L-8, L-45, L-46, L-48, L-49, L-51, L-70, L-74, L-
75, L-76, L-77, L-78, T-1, T-3, T-19, T-48, N-16, N-17, N-18, N-20, N-21, N-22, N-
23, N-24, N-28, N-29, N-35, N-39, N-40 and N-47; as described in Table 3.2-2 of the
Draft Environmental Impact Report and reproduced for this ARB review.

(2) The design is compatible with the immediate environment of the site in that the
New Stanford Hospital will continue and progress the quality of healthcare facilities on
the Stanford University Medical Campus. The location of the hospital expansion will be
along the Medical Center Promenade, linking it to the existing Stanford Hospital and
Clinics, the Lucile Packard Children's Hospital, the Stanford School of Medicine, the
Advanced Medicine Center and other SUMC buildings so that it has a close proximity for
patients, visitors, staff and resources. This can only be done by relocating existing
parking to the periphery of the medical campus, thereby allowing the expansion of the
hospital to have a relatively seamless connection. The building design engages the
exterior landscape with gardens, water features, roof gardens, and public program on the
south side facing Pasteur Mall and east side facing the Medical Center Promenade. The
design of the hospital has evolved in a manner that addresses the visual impacts identified
in the Environmental Impact Report (EIR). Specifically, the proposed design, as part of
the Tree Preservation Alternative, has resulted in a more compact building footprint and
hospital tower configuration, which reduces the overall massing of the buildings. As
described below, the towers have been designed with aluminum curtain walls and large
windows that provide a sense of transparency and light;

(3) The design is appropriate to the function of the project in that it establishes a
flexible modular framework for the rapidly evolving requirements of modern
healthcare. Over the lifespan of the building and as the hospital's needs grow, this
framework will be able to add future modules in a rational and consistent manner. The
modular system also establishes structural and mechanical, electrical and plumbing
systems that allow repurposing of spaces more easily without disruptive demolition and
new construction;

(4) In areas considered by the board as having a unified design character or historical
character, the design is compatible with such character by respecting the Stanford
character but reinterpreting it in a modern way with new construction methods and
materials. The tradition of Stanford courtyards, arcades and gardens are continued in the new design to promote a continuity of building aesthetic and quality of public space;

(5) The design promotes harmonious transitions in scale and character in areas between different designated land uses in that the massing and section of the building are meant to relate to the overall scale of adjacent buildings. The base of the building (Level 1 and 2) approximately aligns with the roofs of the surrounding buildings and uses similar solid materials and colors. The patient pavilions above (Levels 4-7) differentiate themselves by using more glass and lighter materials;

(6) The design is compatible with approved improvements both on and off the site by helping to define a clear and consistent edge to Pasteur Mall on all sides and improve the quality of space. Mirroring the School of Medicine developments on the south side of Pasteur Drive, the new hospital will help delineate Pasteur Mall as the entrance to the Medical Campus, analogous to Palm Drive for the University. A consistency in architectural language and materials is used on the School of Medicine buildings as well as the Lucile Packard Children's Hospital Expansion and new improvements to Hoover Pavilion;

(7) The planning and siting of the various functions and buildings on the site create an internal sense of order and provide a desirable environment for occupants, visitors and the general community by having a clear and rational organization to the building that is easily understood. The main drop-off continues to use the Pasteur Drive loop as the entrance for patients and visitors and is centrally located between the new and existing hospital. Large diagnostic and treatment areas such as the Emergency Department, Imaging and Surgery are on the lower portions of the building to form a base. The Emergency Department is at street level close to Welch Road and gives clear access for emergencies, separating ambulance traffic from public traffic. Patient rooms are elevated in pavilions on upper levels for privacy, views and light around the atrium provides clear orientation. The internal circulation of the building is organized around a central courtyard that acts as the focal point and orientation device;

(8) The amount and arrangement of open space are appropriate to the design and the function of the structures in that the Level 3 roof gardens are strategically located between the diagnostics and treatment base building and patient pavilions above to provide an easily accessible respite from the clinical environment for patients, visitors and staff. Cafeteria, meditation space and other public functions are also located on this floor to take advantage of the gardens. The new garage roof serves as an extension of this elevated garden plane. The Garden of Medicinal Plants provides an outdoor area for people using the ED waiting area. The main drop-off is designed as a pedestrian friendly plaza with program and seating areas, linking the new hospital with the existing hospital centered around the Medical Center Promenade;

(9) Sufficient ancillary functions are provided to support the main functions of the project and the same are compatible with the project's design concept in that the New Hospital will have multiple points of contact with the current hospital so that many of the
existing support functions will be able to support both buildings including the loading
dock. The new parking garage will meet parking demand from existing Parking Structure
3 to be demolished with a building quality compatible in design and accessibility to the
new hospital;

(10) Access to the property and circulation thereon is safe and convenient for
pedestrians, cyclists and vehicles in that the main drop-off will be located in close
proximity to both the new and existing hospitals for patients and visitors. Separation of
ED traffic directly off of Welch Road will keep these emergency vehicles away from
Pasteur Drive loop with a separate ambulance drive and ED drop-off. The New Hospital
emphasizes the Promenade as a link through the entire medical campus connecting
LPCH, SHC and School of Medicine buildings for pedestrian access for staff and
visitors. Bike lockers are throughout the site but staff bike lockers are located on the west
side of the garage for easy access from Welch Road, thereby lessening bicycle traffic in
and around garage. This gives staff entrance to the hospital safely on the Garden Level;

(11) Natural features are appropriately preserved and integrated with the project in that
the building and landscape design have progressed with the goal of preserving heritage
trees on and around the site. Other trees occupying the site will be transplanted if possible
or replaced with trees of like species. The existing Lawrence Halprin fountain will be
maintained and refurbished to signify the terminus of Governor’s Way;

(12) The materials, textures, colors and details of construction and plant material are
appropriate expression to the design and function and whether the same are compatible
with the adjacent and neighboring structures, landscape elements and functions in that
the material and color palettes have been selected in relation to SUMC Design Guidelines
and in concert with recent University projects. The diagnostic and treatment base will be
rendered in solid precast to reflect the technical and controlled atmosphere of these
spaces. Patient rooms will be mostly clad in aluminum curtain wall with large glass
windows to provide the requisite quality of light and views. Curved glass walls will be
used at Level 1 public functions to promote interest and activity along the pedestrian
arcades of the building;

(13) The landscape design concept for the site, as shown by the relationship of plant
masses, open space, scale, plant forms and foliage textures and colors create a desirable
and functional environment and whether the landscape concept depicts an appropriate
unity with the various buildings on the site in that the landscape design includes a Garden
of Medicinal Plants, linking the site to its agricultural history and uses medicinal fruit
baring trees such as loquat, olive and pepper to combine with existing ginko street trees
on site. An orchard-like arrangement relates to the sites origin as an apricot orchard while
giving an ordered, orthogonal design consistent to that of the hospital. The main drop-off
plaza uses carob trees with similar medicinal properties but in a more organic pattern
relating to the existing heritage oaks of the adjacent Kaplan Lawn. The line of existing
Chinese Elms that run parallel to the Church Fountain are continued along the Medical
Center Promenade to emphasize the continuity of the pedestrian walkway through the
entire campus;
(14) Plant material is suitable and adaptable to the site, capable of being properly maintained on the site, and is of a variety which would tend to be drought-resistant and to reduce consumption of water in its installation and maintenance in that the native planting is central to the landscape design and overall sustainability goals of the project. Tree types are native to the sites historical uses. The majority of green roofs are a combination of native planting, drought-resistant ground cover and artificial turf for inaccessible areas with a limited amount of green lawn for accessible areas;

(15) The design is energy efficient and incorporates renewable energy design elements including, but not limited to:

(A) Exterior energy design elements;

* Sealed cavity curtainwall with integrated, automated blinds for acute care patient rooms with south/east/west exposure to reduce direct solar gain,
* Large roof overhangs on south/east/west facing facades for shading of large glass walls at Level 3 pavilions, and
* Use of cool air from seismic isolator crawl space to cool computer server rooms located directly above on Ground Level.

(B) Internal lighting service and climatic control systems

* Displacement ventilation in 264 acute care patient rooms and other nursing areas reduce energy consumption with low velocity air supply,
* Energy efficient lighting fixtures with occupancy and daylighting controls, and
* Partitioning of computer server rooms to isolate temperature sensitive equipment requiring air conditioning from non-temperature sensitive areas.

(C) Building siting and landscape elements

* Level 3 roof gardens aid in storm water management, and
* Air handler unit condensation collected and used for landscape irrigation;

(16) The design is consistent and compatible with the purpose of architectural review as set forth in Palo Alto Municipal Code, section 18.76.020(a).
ATTACHMENT B

DRAFT CONDITIONS OF APPROVAL

A. GENERAL:

The project shall be subject to the mitigation measures as identified in the Final Environmental Impact Report’s Mitigation Monitoring Reporting Program (MMRP) adopted by the City Council. The MMRP is attached an exhibit to the CEQA resolution.

A.1 Planning Division

A.1.1 General Conditions

1. **Plan Conformance.** The plans submitted for permits shall be in substantial conformance with the following plans, except as modified to incorporate these conditions of approval:

   a. SUMC Main Hospital: February 17, 2011
   b. Lucile Packard Children’s Hospital: December 2, 2010
   c. Hoover Renovations: February 2, 2011
   d. Hoover Site Development (MoB and parking garage): October 14, 2010
   e. School of Medicine FIM1: February 24, 2011
   f. Design Guidelines: June 24, 2010

2. **Review, Oversight, and Inspections.** Due to the complexity and size of the Project and a phasing schedule that is anticipated to last approximately fifteen years, the City shall hire, at the expense of the applicant, an independent consulting firm or firms and/or contractors to perform activities including, but not limited to, plan review, condition compliance review, mitigation monitoring, inspections, and report preparation. Within XX-days of Project approval, the Project sponsors and the City of Palo Alto shall enter into a Memorandum of Understanding (MOU) that describes the initial deposit and subsequent payments, the types of contractors that could be retained, the scopes of work to be performed, procedures for amending the MOU, and reporting responsibilities, among other considerations. It is anticipated that consulting firms and contractors would be needed in the fields including, but not limited to, Planning, Building Review and Inspections, Public Works, Utilities, Fire, and Arborist.

3. **Mitigation and Condition Monitoring.** Within 30-days of Project approval, the Project sponsors shall meet with representatives from the Department of Planning and Community Environment to initiate a plan and process for mitigation and condition monitoring that is agreeable to all parties and is consistent with the provisions of the Development Agreement approved by City Council on ____.

4. **The Architectural Review resolution,** including all City of Palo Alto conditions of approval for the Project shall be printed on the plans submitted for permits.

5. A copy of all development plans prepared for review under the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD) shall be submitted to the City of Palo Alto Building Division for informational purposes only.
6. The proposed project shall comply with the requirements of the *Palo Alto Green Building Ordinance*, where applicable, prior to submittal for permits.

A.2 Fire Department

1. *Pay Fair Share towards OptiCom Installation.* The SUMC Project sponsors shall pay their fair-share financial contribution towards the City of Palo Alto, to assist with the installation and operation of emergency vehicle traffic signal priority (OptiCom) at all significantly impacted intersections.

2. *Develop a Work Plan for any Unknown Contaminated Sites.* During construction, if suspected contaminated soil, undocumented underground tanks, hazardous materials pipelines, or other evidence of potential hazardous materials are discovered in the soil, construction activities shall cease and the SUMC Project sponsors shall prepare a workplan to determine the potential risk to human and ecological health. The workplan shall be prepared by a Registered Environmental Assessor (REA) and in compliance with the San Francisco Bay Regional Water Quality Control Board (RWQCB), Department of Toxic Substances Control (DTSC) or the County Department of Environmental (DEH) guidelines and the National Oil and Hazardous Substances Contingency Plan (the "National Contingency Plan" [NCP]). Prior to starting the workplan contact the RWQCB at (510) 622-2300 for requirements or determination if the project will be under their jurisdiction or another regulatory agency.

The SUMC Project sponsors, or their representative, shall be responsible for submitting the workplan to the designated regulatory oversite agency for review and approval prior to implementing field activities. The workplan must include all information necessary for implementing field work. The workplan shall include a Site Safety Plan (SSP) and a Sampling Work Plan (SWP) at a minimum. The SSP must be submitted to the DTSC designated regulatory oversite agency in conjunction with the submittal of the SWP. The objective of the SSP is to ensure protection of the investigative team as well as the general public during sampling activities. If risk to human or ecological health is identified, the SUMC Project sponsors shall prepare and implement a Removal Action Workplan (SB 1706 Stats. 1994, Chapter 441) (non-emergency removal action or remedial action at a hazardous substance release site which is projected to cost less than $1,000,000) that is consistent with the NCP and to be consistent with the requirements of the regulatory oversite agency.

3. *Conduct Asbestos Survey at the SUMC Sites.* Prior to building renovation and/or demolition, an asbestos survey shall be performed on all areas of the building anticipated to be demolished and/or renovated. This survey shall be performed by a licensed asbestos abatement contractor. In the event that asbestos is identified in the buildings proposed to be demolished and/or renovated, all asbestos containing materials shall be removed and appropriately disposed of by a licensed asbestos abatement contractor. A site health and safety plan, to ensure worker safety, in compliance with OSHA requirements (8 CCR 5208) shall be developed by the SUMC Project sponsors and in place prior to commencing renovation or demolition work on portions of buildings containing asbestos. Any asbestos abatement project, prior to start of the project shall obtain a permit (when required) by the Bay Area Air Management District (BAAQMD).

4. *Perform a “Hazardous Materials Closure” with the PAFD for any buildings or facilities, areas or rooms within the project area that stored, used or handled hazardous materials.* This includes "permitted site" as well as "unpermitted sites" discovered during the project that have or had hazardous materials. For sites where a determination has been made that have or previously had
hazardous materials and has not been closed with PAFD, a hazardous materials closure permit is required prior to removal of related materials and prior to demolition. Additionally, prior to removal or modification of the site an inspection by the fire dept is required unless otherwise determined.

A hazardous materials closure includes the physical facility and soil below or associated with the facility. Per project specific determination, a complete Phase II ESA and/or soil sampling may be required. The Hazardous Materials Closure Application and Guidelines can be found at http://www.unidocs.org or is available from PAFD. Hazardous Materials closure of the facility includes removal or addressing any items or areas to the degree that maintenance of a hazardous materials permit is no longer required. Any building, room or area shall have hazardous materials or residuals removed to a level at or below state hazardous waste levels, as agreed at the project start. Clean up level within the building will determine if there is a deed restriction on the building use. At a minimum the hazardous materials closure of a facility room or area will include items listed in the Hazardous Materials Closure Guidelines and may include for example; sampling of residues on facility surfaces such as laboratory countertops, fume hoods as well as sampling of walls, equipment, sinks, sumps, floors, and drain lines. Testing for lead containing materials may be required for any facility that previously contained x-ray equipment.

When contamination of the soil suspected or determined, a Phase II ESA or soil sampling shall include sampling and analysis of soil and associated items; sinks, sumps, floors, and drain lines at a minimum. A post closure report shall be supplied to the PAFD. The PAFD and the County DEH shall be notified by the Project sponsors if contamination remains after the hazardous materials closure is completed with the Fire Department. If soil contamination is discovered, the project will be referred to the RWQCB. The RWQCB will determine appropriate action or referral to another agency for the project. The SUMC Project sponsors shall prepare a site remediation assessment that (a) specifies measures to protect workers and the public from exposure to potential site hazards and (b) certifies that the proposed remediation measures would clean up contaminants, dispose of the wastes, and protect public health in accordance with federal, State, and local requirements. Site excavation activities shall not proceed until the site remediation has been approved by the RWQCB and the designated regulatory oversite agency and implemented by the SUMC Project sponsors. Additionally, the site remediation assessment shall be subject to review and approval by the RWQCB. All appropriate agencies shall be notified.
(Note: 701 and 703 Welch Rd. are addressed separately in this report. Other known hazardous materials use storage and handling buildings, facilities, areas or rooms are not addressed separately – such as 1101 Welch Rd, multiple medical clinics / office buildings on Welch Rd, Stanford Hospital areas being remodeled or demolished, 211 Quarry Rd structures, as well as unpermitted or unknown buildings, facility areas or rooms with hazardous materials.)
A.3 Planning Arborist

General Conditions

1. The Project shall be consistent with the Hospital District (Palo Alto Municipal Code, Section 18.XX) tree regulations including, but not limited to tree retention, relocation and removal.

2. All required Biological Resource mitigations as described in the MMRP approved by City Council shall be completed to the satisfaction of the Director of Planning and Community Environment or his/her designee.

Prior to Demolition, Building or Grading permit issuance

1. Building Permit Submittal Review. Prior to submittal for staff review, the plans submitted for State or City of Palo Alto building permit shall be reviewed by the project site arborist to verify that all the arborist’s recommendations have been incorporated into the final plan set. The submittal set shall be accompanied by the project site arborist’s certification letter that the plans have incorporated the following information:
   a. Final Tree Protection Report (TPR) design changes and preservation measures as required in Mitigation Measure BR-4.1.
   b. Palo Alto Tree Technical Manual Standards, Section 2.00 and PAMC 8.10.080.
   c. Outstanding items: list of items not yet completed or resolved with reference to specific plan sheet pages where final completion or resolution will be provided, if applicable.
   d. Landscape and irrigation plans are consistent with CPA Tree Technical Manual, Section 5.45 and Appendix L, Landscaping under Native Oaks and PAMC 18.40.130.

2. Site Plan Requirements. The final Plans submitted for building permit shall include the following information and notes on the relevant plan sheets:
   a. Sheet T-1 _"Tree Protection-it's Part of the Plan” Applicant shall complete the following sections on Sheet T-1: Tree Disclosure Statement, Inspections, and Monthly Reporting.
   b. The Tree Preservation Report (TPR). All sheets of the TPR approved by the City shall be printed on numbered Sheet T-1 (T-2, T-3, etc) and added to the sheet index.
   c. Conditions of Approval- the final list of City Arborist Conditions of Approval shall be printed on the numbered Sheet T-1 (T-2, T-3, etc) and added to the sheet index.
   d. Protective Tree Fencing Type. Delineate on grading plans, irrigation plans, site plans and utility plans, Type II fencing around Street Trees and Type I fencing around Protected/Designated trees as a bold dashed line enclosing the Tree Protection Zone (per the approved Tree Preservation Report) per instructions on Detail #605, Sheet T-1, and the City Tree Technical Manual, Section 6.35-Site Plans.
   e. Site Plan Note- Apply to the site plan stating, "Note #1: All tree protection and inspection schedule measures, design recommendations, watering and construction scheduling shall be implemented in full by owner and contractor, as stated in the Tree Protection Report on Sheet T-1 and the approved plans".
3. **All Other Plan Notes.** All civil plans, grading plans, irrigation plans, site plans and utility plans and relevant sheets shall include the following notes applying to the trees to be protected, including neighboring trees:

a. "Note #1: Regulated Trees—before working in this area contact the Project Site Arborist at Tel. ___ ";

b. “Note #2: Soils Report and excavation instructions for basement construction within the TPZ of a protected tree shall specify a vertical cut (stitch piers may be necessary) in order to avoid over-excavating into the tree root zone. Any variance from this procedure requires City Arborist approval, please call (650) 329-2441.”

c. “Note #3: Utility trenching shall not occur within the TPZ of the protected tree. Contractor shall be responsible for ensuring that no trenching occurs within the TPZ of the protected tree by contractors, City crews or final landscape workers. See sheet T-1 for instructions.”

4. **Landscape Plans.**

a. Provide a detailed landscape and irrigation plan encompassing on-and off-site plantable areas out to the curb shall be approved by the Architectural Review Board. A Landscape Water Use statement, water use calculations and a statement of design intent shall be submitted for the project. A licensed landscape architect and qualified irrigation consultant will prepare these plans, to include:

i. All existing trees identified both to be retained and removed including street trees.

ii. Complete plant list indicating tree and plant species, quantity, size, and locations.

iii. Irrigation schedule and plan.

iv. Fence locations.

v. Lighting plan with photometric data.

vi. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

vii. Reduce heat islands—Parking lot shade tree plan. Provide a landscape sheet showing tree planting pursuant to the requirements of PAMC 18.XX.XXX)

viii. All new trees planted within the public right-of-way (public land) shall be installed per Public Works (PW) Standard Planting Diagram #603 or 604 (include on plans), and shall have a tree pit dug at least twice the diameter of the root ball.

ix. Landscape plan shall include planting preparation details for trees specifying digging the soil to at least 30-inches deep, backfilled with a quality topsoil and dressing with 2-inches of wood or bark mulch on top of the root ball keeping clear of the trunk by 1-inch.

x. Automatic irrigation shall be provided to all trees. For trees, PW Detail #513 shall be included on the irrigation plans and show two bubbler heads mounted on flexible tubing placed at the edge of the root ball. Bubblers shall not be mounted inside an aeration tube. The tree irrigation system shall be connected to a separate valve from other shrubbery and ground cover, pursuant to the City's Landscape Water Efficiency
b. Planting notes to include the following mandatory criteria:

i. Prior to any planting, all plantable areas shall be tilled to 12” depth, and all construction rubble and stones over 1” or larger shall be removed from the site.

ii. Note a turf-free zone around trees 36” diameter (18” radius) for best tree performance.

c. Mandatory Landscape Architect (LA) Inspection Verification to the City. The LA of record shall verify the performance measurements are achieved with a separate letter of verification to City Planning staff, in addition to owner’s representative for each of the following:

i. Percolation & drainage checks have been performed and is acceptable.

ii. Fine grading inspection of all plantable areas has been personally inspected for tilling depth, rubble removal, soil test amendments are mixed and irrigation trenching will not cut through any tree roots.

iii. Tree and Shrub Planting Specifications, including delivered stock, meets Standards in the CPA Tree Technical Manual, Section 3.30-3.50. Girdling roots and previously topped trees are subject to rejection.

5. Tree Relocation Feasibility Plan and Memorandum of Understanding. The Project Sponsors shall complete, to the satisfactory of the Director of Planning and Community Environment, the requirements of Mitigation Measure BR-4.3 and BR 4.4, prior to the issuance of building permits.

6. Tree Protection Verification. Prior to demolition, grading or building permit issuance, a written verification from the contractor that the required protective fencing is in place shall be submitted to the Building Inspections Division. The fencing shall contain required warning sign and remain in place until final inspection of the project.

During Construction

7. Excavation Restrictions Apply (TTM, Sec. 2.20 C & D). Any approved grading, digging or trenching beneath a tree canopy shall be performed using ‘air-spade’ method as a preference, with manual hand shovel as a backup. For utility trenching, including sewer line, roots exposed with diameter of 1.5 inches and greater shall remain intact and not be damaged. If directional boring method is used to tunnel beneath roots, then Table 2-1, Trenching and Tunneling Distance, shall be printed on the final plans.

8. Plan Changes. Revisions and/or changes to plans before or during construction shall be reviewed and responded to by the project site arborist, (name of certified arborist of record and phone #), with written letter of acceptance before submitting the revision to the city for review.
9. *Conditions.* All Planning Department conditions of approval for the project shall be printed on the plans submitted for building permit.

10. *Tree Protection Compliance.* The owner and contractor shall implement all protection and Contractor and Arborist Inspection Schedule measures, design recommendations and construction scheduling as stated in the TPR, and is subject to code compliance action pursuant to PAMC 8.10.080. The required protective fencing shall remain in place until final landscaping and inspection of the project. Project arborist approval must be obtained and documented in the monthly activity report sent to the City. A mandatory Monthly Tree Activity Report shall be sent monthly to the City beginning with the initial verification approval, using the template in the Tree Technical Manual, Addendum 11.

11. *Tree Damage.* Tree Damage, Injury Mitigation and Inspections apply to Contractor. Reporting, injury mitigation measures and arborist inspection schedule (1-5) apply pursuant to TTM, Section 2.20-2.30. Contractor shall be responsible for the repair or replacement of any publicly owned or protected trees that are damaged during the course of construction, pursuant to Title 8 of the Palo Alto Municipal Code, and city Tree Technical Manual, Section 2.25.

12. *General.* The following general tree preservation measures apply to all trees to be retained: No storage of material, topsoil, vehicles or equipment shall be permitted within the tree enclosure area. The ground under and around the tree canopy area shall not be altered. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

**Prior to Final Inspection by City Arborist**

13. *Landscape Inspection.* The Planning Department shall be in receipt of written verification that the Landscape Architect has inspected all trees, shrubs, planting and irrigation and that they are installed and functioning as specified in the approved plans.

14. *Tree Inspection.* The contractor shall call for an inspection by the Project Arborist and City Arborist. A final inspection and report by the project arborist shall evaluate all trees to be retained and protected, as indicated in the approved plans, the activity, health, welfare, mitigation remedies for injury, if any, and for the long term care of the trees for the new owner. The report shall provide written verification to the Planning Department that all trees, shrubs, planting and irrigation are installed and functioning as specified in the approved plans. The final arborist report shall be provided to the Planning Department prior to written request for temporary or final occupancy. The final report may be used to navigate the security guarantee return process, when applicable.

15. *Planning Inspection.* Prior to final sign off, contractor or owner shall contact the city planner (650-329-2441) to inspect and verify Special Conditions relating to the conditions for structures, fixtures, colors and site plan accessories.

**Post Construction**

16. *Maintenance.* All landscape and trees shall be maintained, watered, fertilized, and pruned according to Best Management Practices-Pruning (ANSI A300-2001 or current version). Any vegetation that dies shall be replaced or failed automatic irrigation repaired by the current property owner within 30 days of discovery.
A.4 Public Works

Prior to Submittal of Building Permit

1. *Construction Impact Minimization Plan.* Prior to issuance of any development permit (street work, grading, building, etc) for the SUMC project, the project sponsors shall prepare and receive approval of a Construction Impact Minimization Plan (CIMP), the minimum requirements of which are described in Mitigation Measure TR-1.8 of the Mitigation Monitoring and Reporting Plan (MMRP). Additional CIMP information not specifically described in MMRP TR-1.8 may be required. It is anticipated that a separate CIMP will be required for each of the project components. Please contact Public Works staff to initiate discussions on the development of the CIMP.

2. *The applicant is required to meet with Public Works Engineering (PWE) prior to final ARB submittal* to verify the basic design parameters affecting grading, drainage and surface water infiltration. The applicant is required to submit a conceptual site grading and drainage plan that conveys site runoff to the nearest adequate municipal storm drainage system. In order to address potential storm water quality impacts, the plan shall identify the Best Management Practices (BMP’s) to be incorporated into the Storm Water Pollution Prevention Plan (SWPPP) that will be required for the project. The SWPPP shall include permanent BMP’s to be incorporated into the project to protect storm water quality. (Resources and handouts are available from Public Works – Engineering. Specific reference is made to Palo Alto’s companion document to “Start at the Source”, entitled “Planning Your Land Development Project”). The elements of the PWE-approved conceptual grading and drainage plan shall be incorporated into the building permit plans.

3. *A Grading and Excavation Permit* issued by the CPA Building Inspection Division is required for the proposed project. Any grading permit issued in conjunction with a phased project implementation plan will only authorize grading and storm drain improvements. Other site utilities may be shown on the grading plan for reference only, and should be so noted. No utility infrastructure should be shown inside the building footprint. Installation of these other utilities will be approved as part of a subsequent Building Permit application.

4. *The applicant shall submit a final grading and drainage plan to Public Works Engineering.* This plan shall show spot elevations or contours of the site and demonstrate the proper conveyance of storm water to the nearest adequate municipal storm drainage system. Existing drainage patterns, including accommodation of runoff from adjacent properties, shall be maintained.

5. *The proposed development will result in a change in the impervious area of the property.* The applicant shall provide calculations showing the adjusted impervious area with the building permit application. A Storm Drainage Fee adjustment on the applicant’s monthly City utility bill will take place in the month following the final approval of the construction by the Building Inspection Division. The impervious area calculation sheets and instructions are available from Public Works Engineering.

6. *A detailed site-specific soil report* prepared by a licensed soils or geo-technical engineer must be submitted which includes information on water table and basement construction issues. This report shall identify the current groundwater level, if encountered, and by using this and other available information, as well as professional experience, the engineer shall estimate the highest projected ground-water level likely to be encountered in the future. If the proposed basement is reasonably above the projected highest water level, then the basement can be constructed in a conventional manner with a subsurface perimeter drainage system to relieve hydrostatic pressure. If not, measures must be undertaken to render the basement waterproof and able to withstand all projected hydrostatic and soil pressures. No pumping of ground water is allowed. In general, however, Public Works
Engineering recommends that structures be constructed in such a way that they do not penetrate existing or projected ground water levels.

7. **Storm water discharge associated with construction activity.** This proposed development will disturb more than one acre of land. The applicant must apply for coverage under the State Water Resources Control Board’s (SWRCB) NPDES general permit for storm water discharge associated with construction activity. A Notice of Intent (NOI) must be filed for this project with the SWRCB in order to obtain coverage under the permit. The General Permit requires the applicant to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The applicant is required to submit two copies of the NOI and the draft SWPPP to the Public Works Department for review and approval prior to issuance of the building permit. The SWPPP should include both permanent, post-development project design features and temporary measures employed during construction to control storm water pollution. Specific Best Management Practices (BMP’s) which apply to the work should be incorporated into the design.

8. **The applicant is required to paint the “No Dumping/Flows to San Franciscuito Creek” logo in blue color on a white background, adjacent to all storm drain inlets.** Stencils of the logo are available from the Public Works Environmental Compliance Division, which may be contacted at (650) 329-2598. A deposit may be required to secure the return of the stencil. Include the instruction to paint the logos on the construction grading and drainage plan. Include maintenance of these logos in the Hazardous Materials Management Plan, if such a plan is part of this project.

9. **Dumpster/recycling area.**

   a. The project includes the construction of dumpster and recycling areas as part of a food service facility. Regulations require that the dumpster/recycling area be adequately roofed or covered.

   b. The project includes the construction of dumpster and recycling areas. City guidelines recommend that this area be covered where feasible.

10. **Storm runoff from loading docks.** The plans include a loading dock. Storm runoff from loading docks where chemicals or hazardous materials may be handled shall not drain to a street, gutter, or storm drain. See 16.09.032(b)(4)(D). It is recommended that the loading dock(s) be covered to preclude the need for a drain.

11. **Dewatering:** The project excavations will require dewatering during construction. Public Works only allows groundwater drawdown well dewatering. Open pit groundwater dewatering is disallowed. Dewatering is only allowed from April through October due to inadequate capacity in our storm drain system. The geotechnical report for this site must list the highest anticipated groundwater level. We recommend a piezometer to be installed in the soil boring. The contractor must determine the depth to groundwater immediately prior to excavation by using the piezometer or by drilling an exploratory hole if the deepest excavation will be within 3 feet of the highest anticipated groundwater level. If groundwater is found within 2 feet of the deepest excavation, a drawdown well dewatering system must be used. Public Works will require the water to be tested for contaminants prior to initial discharge and at intervals during dewatering. The contractor must retain an independent testing firm to test the discharge water for the contaminants Public Works specifies and submit the results to Public Works.

12. **Storm Water Pollution Prevention Measures.** Per Palo Alto Municipal Code Chapter 16.11, the applicant must incorporate permanent storm water pollution prevention measures that treat storm water runoff prior to discharge. As of February 10, 2011, the prevention measures shall be reviewed
by a qualified third-party reviewer who needs to certify that it complies with the Palo Alto Municipal Code requirements. This is required prior to the issuance of a building permit. The third-party reviewer shall be acquired by the applicant and needs to be on the Santa Clara Valley Urban Runoff Pollution Prevention Program’s (Program) list of qualified consultants. (http://www.scvurppp-w2k.com/consultants.htm) Any consultant or contractor hired to design/and/or construct a storm water treatment system for the project cannot certify the project as a third-party reviewer.

13. *Basement Shoring*: Shoring for the basement excavation, including tiebacks, must not extend onto adjacent private property or into the City right-of-way without having first obtained written permission from the private property owners and/or an encroachment permit from Public Works.

**During Construction**

14. The contractor must contact the CPA Public Works Inspector at (650) 496-6929 prior to any work performed in the public right-of-way.

15. No storage of construction materials is permitted in the street or on the sidewalk without prior approval of Public Works Engineering.

16. The developer shall require its contractor to incorporate best management practices (BMP’s) for stormwater pollution prevention in all construction operations, in conformance with the Storm Water Pollution Prevention Plan prepared for the project. It is unlawful to discharge any construction debris (soil, asphalt, sawcut slurry, paint, chemicals, etc.) or other waste materials into gutters or storm drains. (PAMC Chapter 16.09).

17. All construction within the City right-of-way, easements or other property under City jurisdiction shall conform to Standard Specifications of the Public Works and Utility Departments.

**Prior to Finalization**

18. All sidewalks and curb and gutters bordering the project which have been damaged during construction shall be repaired and/or removed and replaced in compliance with Public Works approved standards. Sec. 12.08.010.

19. All unused driveways shall be removed and replaced with curb and gutter. Sec. 12.08.090.

20. The Public Works Inspector shall sign off the building permit prior to the finalization of this permit. All off-site improvements shall be finished prior to this sign-off. Similarly, all as-buils, on-site grading, drainage and post-developments BMP’s shall be completed prior to sign-off. As-Built drawings shall be drawn using NAD88 coordinates and submitted in digital format (ACAD) as well as 3 mil. Mylar.

**A.5 Public Works – Water Quality**

1. *PAMC 16.09.117(c) Discharge of Groundwater*. Prior approval shall be obtained from the city engineer or designee to discharge water pumped from construction sites to the storm drain. The city engineer or designee may require gravity settling and filtration upon a determination that either or both would improve the water quality of the discharge. Contaminated ground water or water that
exceeds state or federal requirements for discharge to navigable waters may not be discharged to the storm drain. Such water may be discharged to the sewer, provided that the requirements of Section 16.09.110 are met and the approval of the superintendent is obtained prior to discharge. The City shall be compensated for any costs it incurs in authorizing such discharge, at the rate set forth in the Municipal Fee Schedule.

2. **PAMC 16.09.080 Industrial Waste Discharge Permit.** Industrial dischargers must submit an application for an industrial waste discharge permit no later than sixty days in advance of commencing discharge. (This is likely to only apply to the hospital and labs/clinics buildings)

3. **PAMC 16.09.180(b)(9) Covered Parking.** Drain plumbing for parking garage floor drains must be connected to an oil/water separator with a minimum capacity of 100 gallons, and to the sanitary sewer system.

4. **PAMC 16.09.180(b)(10) Dumpsters for New and Remodeled Facilities.** New buildings and residential developments providing centralized solid waste collection, except for single-family and duplex residences, shall provide a covered area for a dumpster. The area shall be adequately sized for all waste streams and designed with grading or a berm system to prevent water runon and runoff from the area.

5. **PAMC 16.09.180(b)(14) Architectural Copper.** On and after January 1, 2003, copper metal roofing, copper metal gutters, copper metal downspouts, and copper granule containing asphalt shingles shall not be permitted for use on any residential, commercial or industrial building for which a building permit is required. Copper flashing for use under tiles or slates and small copper ornaments are exempt from this prohibition. Replacement roofing, gutters and downspouts on historic structures are exempt, provided that the roofing material used shall be prepatinated at the factory. For the purposes of this exemption, the definition of "historic" shall be limited to structures designated as Category 1 or Category 2 buildings in the current edition of the Palo Alto Historical and Architectural Resources Report and Inventory.

6. **PAMC 16.09.175(k) (2) Loading Docks**

   a. Loading dock drains to the storm drain system may be allowed if equipped with a fail-safe valve or equivalent device that is kept closed during the non-rainy season and during periods of loading dock operation.

   b. Where chemicals, hazardous materials, grease, oil, or waste products are handled or used within the loading dock area, a drain to the storm drain system shall not be allowed. A drain to the sanitary sewer system may be allowed if equipped with a fail-safe valve or equivalent device that is kept closed during the non-rainy season and during periods of loading dock operation. The area in which the drain is located shall be covered or protected from rainwater run-on by berms and/or grading. Appropriate wastewater treatment approved by the Superintendent shall be provided for all rainwater contacting the loading dock site.

7. **PAMC 16.09.180(b)(5) Condensate from HVAC.** Condensate lines shall not be connected or allowed to drain to the storm drain system.

8. **16.09.215 Silver Processing.** Facilities conducting silver processing (photographic or X-ray films) shall either submit a treatment application or waste hauler certification for all spent silver bearing solutions. 650-329-2421.
9. **PAMC 16.09.205 Cooling Towers.** No person shall discharge or add to the sanitary sewer system or storm drain system, or add to a cooling system, pool, spa, fountain, boiler or heat exchanger, any substance that contains any of the following:

- Copper in excess of 2.0 mg/liter;
- Any tri-butyl tin compound in excess of 0.10 mg/liter;
- Chromium in excess of 2.0 mg/liter.
- Zinc in excess of 2.0 mg/liter; or
- Molybdenum in excess of 2.0 mg/liter.

10. The above limits shall apply to any of the above-listed substances prior to dilution with the cooling system, pool, spa or fountain water.

11. A flow meter shall be installed to measure the volume of blowdown water from the new cooling tower. Cooling systems discharging greater than 2,000 gallons per day are required to meet a copper discharge limit of 0.25 milligrams per liter.

12. **PAMC 16.09.180(b)(b) Copper Piping.** Copper, copper alloys, lead and lead alloys, including brass, shall not be used in sewer lines, connectors, or seals coming in contact with sewage except for domestic waste sink traps and short lengths of associated connecting pipes where alternate materials are not practical. The plans must specify that copper piping will not be used for wastewater plumbing.

13. **PAMC 16.09.175(j) Traps Below Laboratory Sinks.** Sewer traps below laboratory sinks shall be made of glass or other approved transparent materials to allow inspection and to determine frequency of cleaning. Alternatively, a removable plug for cleaning the trap may be provided, in which case a cleaning frequency shall be established by the Superintendent. In establishing the cleaning frequency, the Superintendent shall consider the recommendations of the facility. The Superintendent will grant an exception to this requirement for areas where mercury will not be used; provided, that in the event such an exception is granted and mercury is subsequently used in the area, the sink trap shall be retrofitted to meet this requirement prior to use of the mercury.

14. **PAMC 16.09.175(a) Floor Drains.** Interior (indoor) floor drains to the sanitary sewer system may not be placed in areas where hazardous materials, hazardous wastes, industrial wastes, industrial process water, lubricating fluids, vehicle fluids or vehicle equipment cleaning wastewater are used or stored, unless secondary containment is provided for all such materials and equipment.

15. **PAMC 16.09.175(i) Laboratory Sinks.** Laboratory countertops and laboratory sinks shall be separated by a berm which prevents hazardous materials spilled on the countertop from draining to the sink.

16. **PAMC 16.09.180(b)(l) and 16.09.105 Segregated Plumbing and Sampling Locations.** The owner of every new commercial and industrial building or portion thereof shall cause the building to be constructed so that industrial waste is segregated, by means of separate plumbing, from domestic waste prior to converging with other waste streams in the sanitary sewer system. For the purposes of this section only, the term "new" shall also include change to a use that requires plumbing for industrial waste.

Establishments from which industrial wastes are discharged to the sanitary sewer system shall provide and maintain one or more sampling locations or metering devices or volume and flow measuring methodologies or other sampling and measuring points approved by the Superintendent which will allow the separate measuring and sampling of industrial and domestic wastes. Unless otherwise approved by the Superintendent, domestic and industrial waste shall be kept completely separated.
upstream of such sampling locations and/or measuring points. Establishments that are billed for sewer service on the basis of sewage effluent constituents shall provide a suitable means for sampling and/or measurement of flow to determine billing constituents in accordance with the utilities rules and requirements. Sampling locations shall be so located that they are safe and accessible to the Superintendent at any reasonable time during which discharge is occurring. (This is likely to only apply to the hospital and labs/clinics buildings)

17. **16.09.180(12) Mercury Switches.** Mercury switches shall not be installed in sewer or storm drain sumps.

18. **PAMC 16.09.205(a) Cooling Systems, Pools, Spas, Fountains, Boilers and Heat Exchangers.** It shall be unlawful to discharge water from cooling systems, pools, spas, fountains boilers and heat exchangers to the storm drain system.

19. **PAMC 16.09.165(h) Storm Drain Labeling.** Storm drain inlets shall be clearly marked with the words "No dumping - Flows to Bay," or equivalent.

20. **Designated Food Service Establishment (FSE) Project:**

   A. **Grease Control Device (GCD) Requirements, PAMC Section 16.09.075 & cited Bldg/Plumbing Codes**
      
      i. The plans shall specify the manufacturer details and installation details of all proposed GCDs. (CBC 1009.2)
      
      ii. GCD(s) shall be sized in accordance with the 2007 California Plumbing Code.
      
      iii. GCD(s) shall be installed with a minimum capacity of 500 gallons.
      
      iv. GCD sizing calculations shall be included on the plans. See a sizing calculation example below.
      
      v. The size of all GCDs installed shall be equal to or larger than what is specified on the plans.
      
     vi. GCDs larger than 50 gallons (100 pounds) shall not be installed in food preparation and storage areas. Santa Clara County Department of Environmental Health prefers GCDs to be installed outside. GCDs shall be installed such that all access points or manholes are readily accessible for inspection, cleaning and removal of all contents. GCDs located outdoors shall be installed in such a manner so as to exclude the entrance of surface and stormwater. (CPC 1009.5)

     vii. All large, in-ground interceptors shall have a minimum of three manholes to allow visibility of each inlet piping, baffle (divider) wall, baffle piping and outlet piping. The plans shall clearly indicate the number of proposed manholes on the GCD. The Environmental Compliance Division of Public Works Department may authorize variances which allow GCDs with less than three manholes due to manufacture available options or adequate visibility.

     viii. Sample boxes shall be installed downstream of all GCDs.

     ix. All GCDs shall be fitted with relief vent(s). (CPC 1002.2 & 1004)

     x. GCD(s) installed in vehicle traffic areas shall be rated and indicated on plans.
B. Drainage Fixture Requirements, PAMC Section 16.09.075 & cited Bldg/Plumbing Codes

i. To ensure all FSE drainage fixtures are connected to the correct drain lines, each drainage fixture shall be clearly labeled on the plans. A list of all fixtures and their discharge connection, i.e. sanitary sewer or grease waste line, shall be included on the plans.

ii. A list indicating all connections to each proposed GCD shall be included on the plans. This can be incorporated into the sizing calculation.

iii. All grease generating drainage fixtures shall connect to a GCD. These include but are not limited to:

iv. Pre-rinse (scullery) sinks (direct connection)

v. Three compartment sinks (pot sinks) (direct connection)

vi. Drainage fixtures in dishwashing room except for dishwashers shall connect to a GCD (direct connection)

vii. Examples: trough drains (small drains prior to entering a dishwasher), small drains on busing counters adjacent to pre-rinse sinks or silverware soaking sinks

viii. Floor drains in dishwashing area and kitchens

ix. Prep sinks (indirect connection)

x. Mop (janitor) sinks

xi. Outside areas designated for equipment washing shall be covered and any drains contained therein shall connect to a GCD.

xii. Drains in trash/recycling enclosures

xiii. Wok stoves, rotisserie ovens/broilers or other grease generating cooking equipment with drip lines (indirect connection)

xiv. Kettles and tilt/braiising pans and associated floor drains/sinks

xv. The connection of any high temperature discharge lines and non-grease generating drainage fixtures to a GCD is prohibited. The following shall not be connected to a GCD:

xvi. Dishwashers (direct connection)

xvii. Steamers (indirect connection)

xviii. Pasta cookers (indirect connection)

xix. Hot lines from buffet counters and kitchens (indirect connection)

xx. Hand sinks (direct connection)

xxi. Ice machine drip lines (indirect connection)

xxii. Soda machine drip lines (indirect connection)
xxiii. Drainage lines in bar areas (indirect connection)

xxiv. No garbage disposers (grinders) shall be installed in a FSE. (PAMC 16.09.075(d)).

xxv. Plumbing lines shall not be installed above any cooking, food preparation and storage areas.

xxvi. Each drainage fixture discharging into a GCD shall be individually trapped and vented. (CPC 1014.5)

C. Covered Dumpsters, Recycling and Tallow Bin Areas PAMC, 16.09.075(q)(2)

i. New buildings constructed to house FSEs shall include a covered area for all dumpsters, bins, carts or container used for the collection of trash, recycling, food scraps and waste cooking fats, oils and grease (FOG) or tallow.

ii. The area shall be designed and shown on plans to prevent water run-on to the area and runoff from the area.

iii. Drains that are installed within the enclosure for recycle and waste bins, dumpsters and tallow bins serving FSEs are optional. Any such drain installed shall be connected to a GCD.

iv. If tallow is to be stored outside then an adequately sized, segregated space for a tallow bin shall be included in the covered area.

D. Large Item Cleaning Sink, PAMC 16.09.075(m)(2)(B)

i. FSEs shall have a sink or other area drain which is connected to a GCD and large enough for cleaning the largest kitchen equipment such as floor mats, containers, carts, etc. Recommendation: Generally, sinks or cleaning areas larger than a typical mop/janitor sink are more useful.

E. GCD sizing criteria and an example of a GCD sizing calculation (2007 CPC)

<table>
<thead>
<tr>
<th>Sizing Criteria:</th>
<th>GCD Sizing:</th>
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<tbody>
<tr>
<td>Drain Fixtures</td>
<td>Total DFUs</td>
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<td>Pre-rinse sink</td>
<td>8</td>
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<tr>
<td>3 compartment sink</td>
<td>21</td>
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<tr>
<td>2 compartment sink</td>
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<tr>
<td>Prep sink</td>
<td>90</td>
</tr>
<tr>
<td>Mop/Janitorial sink</td>
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</tr>
<tr>
<td>Floor drain</td>
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<td>Floor sink</td>
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SUMC Project: Conditions of Approval – General - DRAFT
Example GCD Sizing Calculation:

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<th>Quantity</th>
<th>Drainage Fixture &amp; Item Number</th>
<th>DFUs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-rinse sink, Item 1</td>
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<td>4</td>
</tr>
<tr>
<td>1</td>
<td>3 compartment sink, Item 2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Prep sinks, Item 3 &amp; Floor sink, Item 4</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>Mop sink, Item 5</td>
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<td>3</td>
</tr>
<tr>
<td>1</td>
<td>Floor trough, Item 6 &amp; tilt skillet, Item 7</td>
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<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Floor sink, Item 4 &amp; wok stove, Item 9</td>
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</tr>
<tr>
<td>4</td>
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</tr>
<tr>
<td></td>
<td>1,000 gallon GCD minimum sized</td>
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<td>Total: 30</td>
</tr>
</tbody>
</table>

Note:

- All resubmitted plans to Building Department which include FSE projects shall be resubmitted to Water Quality.
- It is frequently to the FSE’s advantage to install the next size larger GCD to allow for more efficient grease discharge prevention and may allow for longer times between cleaning. There are many manufacturers of GCDs which are available in different shapes, sizes and materials (plastic, reinforced fiberglass, reinforced concrete and metal)
- The requirements will assist FSEs with FOG discharge prevention to the sanitary sewer and storm drain pollution prevention. The FSE at all times shall comply with the Sewer Use Ordinance of the Palo Alto Municipal Code. The ordinances include requirements for GCDs, GCD maintenance, drainage fixtures, record keeping and construction projects.

A.6 Transportation Division

1. TDM Monitoring Report. SUMC shall prepare and submit to the City an Annual TDM Monitoring Report as required by TR-2.3 – Enhance Stanford University Transportation Demand Management Program. The report shall include reporting on TDM projects and programs required within the Project Development Agreement including an Annual Traffic Monitoring Element to measure employee, visitor, and patients trips to the Project in relation to estimated prepared during the Project EIR.

2. Bicycle Parking Plan. Prior to the issuance of a building permit for each project component, the project sponsors shall review the bicycle parking plan and layout with the Transportation Division. Bicycle parking shall be consistent with all applicable codes.

3. Bicycle Parking During Construction. As part of the Construction Impact Minimization Plan (CIMP), the project sponsors shall include the installation of temporary bicycle parking facilities if existing facilities would be affected by construction work including bike racks, bike lockers, and covered bike racks. Prior to the submittal of the draft CIMP, please contact Transportation staff to discuss the layout, type, duration and number of spaces to be provided.

4. Transit Facilities During Construction. As part of the CIMP, the project sponsors shall include the installation of temporary transit facilities if existing facilities would be affected by construction work.

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Prior to the submittal of the draft CIMP, please contact Transportation Division staff to discuss the transit stops that would be affected and the design of temporary facilities, which may include the placement of temporary shelters, furniture, informational signage, etc.

5. **Wayfinding Signage Plan**

a. *During Construction.* As part of the CIMP, the project sponsors shall include the installation of temporary pedestrian wayfinding/directional signage to improve the flow and circulation of pedestrian and bicyclists around construction areas. Prior to the submittal of the draft CIMP, please contact Transportation staff to discuss the design and placement and duration of the temporary signage.

b. *Permanent Signs.* Prior to issuance of permits, the project sponsors shall submit plans for installation of permanent pedestrian wayfinding/directional signage to improve the flow and circulation of pedestrian and bicyclists around the medical center complex and at Hoover Pavilion. Please contact Transportation staff to discuss the design and placement and duration of the temporary signage.

6. **Onsite Improvement Plans.** Prior to the submittal of building permit plans, the project sponsors shall review with Transportation Division staff the automobile and pedestrian circulations plans for each of the project components, including the interface between the driveways, walkways, parking garages, private streets and the public right-of-way.
A.7 Utilities

A.7.1 Utilities Electric

1. Applicant/developer/owner shall supply/increase the Public Utility Easement at Quarry Substation which will be used for the installation of equipment due to new electrical load demands as a result of on-going construction in the Stanford Hospital/LPCH/Welch Road area. This easement shall be required no later than December 31, 2012. The City’s electrical engineering department shall supply the dimensions of the new easement upon request from the applicant.

2. Applicant shall adhere to the requirements listed in City of Palo Alto’s Electric Service Requirements and the City of Palo Alto’s Electric Rules and Regulations.

3. Where CPAU primary electrical facilities enter private property, the applicant/developer/owner shall supply a Public Utility Easement which shall be approved by the Electric Utilities Department.

4. Only one electric service lateral is permitted per parcel.

5. The applicant/developer/owner shall provide space for installing padmount equipment (i.e. transformers, switches, and interrupters) and associated substructure as required by the City.

6. The customer shall install all electrical substructures (conduits, boxes and pads) required from the service point to the customer’s switchgear. The design and installation shall be according to the City standards and shown on plans.

7. The applicant shall be responsible to relocate and/or upgrade all CPAU electric facilities which are impacted by the projects listed under review.

8. Location of the electric panel/switchboard shall be shown on the site plan and approved by the Architectural Review Board and Utilities Department.

9. All utility meters, lines, transformers, backflow preventers, and any other required equipment shall be shown on the landscape and irrigation plans and shall show that no conflict will occur between the utilities and landscape materials. In addition, all aboveground equipment shall be screened in a manner that is consistent with the building design and setback requirements.

10. For services larger than 1600 amps, the customer will be required to provide a transition cabinet as the interconnection point between the utility’s padmount transformer and the customer’s main switchgear. The cabinet design drawings must be submitted to the Electric Utility Engineering Department for review and approval. See Drawing SR-XF-E-1020.

11. For underground services, no more than four (4) 750 MCM conductors per phase can be connected to the transformer secondary terminals; otherwise, bus duct must be used for connections to padmount transformers. If customer installs a bus duct directly between the transformer secondary terminals and the main switchgear, the installation of a transition cabinet will not be required. See Drawings SR-XF-E-1020 and DT-SE-U-1032.

12. The customer is responsible for sizing the service conductors and other required equipment according to the National Electric Code requirements and the City standards. See Drawing DT-SE-U-1032.
13. Any additional facilities and services requested by the Applicant that are beyond what the utility deems standard facilities will be subject to Special Facilities charges. The Special Facilities charges include the cost of installing the additional facilities as well as the cost of ownership.

14. The customer is responsible for installing all on-site substructures (conduits, boxes and pads) required for the electric service. No more than 270 degrees of bends are allowed in a secondary conduit run. All conduits must be sized according to National Electric Code requirements and no 1/2 – inch size conduits are permitted. All off-site substructure work will be constructed by the City at the customer’s expense. Where mutually agreed upon by the City and the Applicant, all or part of the off-site substructure work may be constructed by the Applicant.

15. All primary electric conduits shall be concrete encased with the top of the encasement at the depth of 30 inches. No more than 180 degrees of bends are allowed in a primary conduit run. Conduit runs over 500 feet in length require additional pull boxes.

16. All new underground conduits and substructures shall be installed per City standards and shall be inspected by the Electrical Underground Inspector before backfilling.

17. The customer is responsible for installing all underground electric service conductors, bus duct, transition cabinets, and other required equipment. The installation shall meet the National Electric Code and the City Standards.

18. Meter and switchboard requirements shall be in accordance with Electric Utility Service Equipment Requirements Committee (EUSERC) drawings accepted by Utility and CPA standards for meter installations.

19. Shop/factory drawings for switchboards (400A and greater) and associated hardware must be submitted for review and approval prior to installing the switchgear.

20. All new underground electric services shall be inspected and approved by both the Building Inspection Division and the Electrical Underground Inspector before energizing.

21. The Applicant shall be responsible for identification and location of all utilities, both public and private, within the work area. Prior to any excavation work at the site, the Applicant shall contact Underground Service Alert (USA) at 1-800-227-2600, at least 48 hours prior to beginning work.

22. All electrical utility installations shall meet the specifications listed in the City of Palo Alto’s Electric Service Requirement Manual.

23. Applicant shall maintain required spacing between electric facilities and all other utilities. See CPAU engineering drawing DT-SS-U-1003 for spacing requirements.

24. All conduit installation shall be in accordance with CPAU engineering drawing DT-SS-U-1003.

25. All vault and box installations shall be in accordance with CPAU engineering drawing DT-SS-U-1002.

26. Projects that require the extension of high voltage primary distribution lines or reinforcement of offsite electric facilities will be at the customer’s expense and must be coordinated with the Electric Utility.
A.7.2 Utilities Marketing

1. *Outdoor Water Efficiency and Conservation Requirements.* Please be advised that as of January 1, 2011, the City of Palo Alto is enforcing the new State Green Building Code (CALGreen) with local amendments for Palo Alto. Compliance with the tier 2 requirements for outdoor water efficiency is required for landscapes of any size when the project is a new construction, rebuild, or addition with greater than 1,000 square feet of building area. All other projects need to meet the tier 1 requirements if a landscape area included in the scope of the project is greater than 1,000 square feet. Prior to issuance of either a Building Permit or Grading Permit, the applicant will need to demonstrate compliance by providing the following documentation when applying for a Building and/or Grading Permit:

   - Landscape Water Use Statement
   - Water Use Calculations
   - Irrigation Plan
   - Grading Plan
   - Landscape Design and Planting Plan

Applicants will need to provide this documentation to the City at the Building Permit Review stage. All landscape worksheets and Green Building Permit Applications can be found on the City’s website at [www.cityofpaloalto.org/greenbuilding](http://www.cityofpaloalto.org/greenbuilding). Please contact Catherine Elvert in Utilities Marketing Services at (650) 329-2417 catherine.elvert@cityofpaloalto.org or Kristin Parineh in Planning and Community Environment at (650) 329-2189 or kristin.parineh@cityofpaloalto.org for more information.

2. *Recycled Water.* The City of Palo Alto’s Recycled Water Ordinance (Ordinance No. 5002) became effective on June 12, 2008. This ordinance has requirements for irrigation and dual plumbing that are effective immediately for certain types of projects in Palo Alto. For most projects, this requires a separate irrigation system utilizing purple irrigation pipe, appropriate fittings and the installation of an approved backflow prevention device. Please see Palo Alto Municipal Code 16.12 for more information on the recycled water ordinance.

A.8 Water, Gas and Wastewater Utilities Department

*No General Conditions of Approval at this time. Please see project specific conditions.*

A.9 Building Department

*Pending receipt of Draft Conditions of Approval.*
B. CONDITIONS OF APPROVAL AS PER PROJECTS

For the SUMC Projects, these conditions of approval are intended to be followed in addition to Section A. General Conditions of Approval.

B.1. SHC

B.1.1. Planning Arborist

1. Kaplan Lawn Area. Prior to the submittal of Stanford Medical Center, Main Hospital building permit plans for State or City of Palo Alto review, the Project Sponsors shall provide a construction plan for the road design through the Kaplan Lawn Area. The plans shall employ a “no-cut” road design, limited to a cut no more than 4-inches from grade as feasible. This plan shall be prepared in consultation with the Project and City Arborist to preserve the root area of trees 33, 34, 35, 36, 37, 38, 39, 40, and 41.

B.1.2. Water, Gas & Wastewater Utilities Department

Prior to Issuance of Demolition Permit

1. Prior to demolition, the applicant shall submit the existing water/wastewater fixture unit loads (and building as-built plans to verify the existing loads) to determine the capacity fee credit for the existing load (for all buildings to be demolished). If the applicant does not submit loads and plans they may not receive credit for the existing water/wastewater fixtures.

2. The applicant shall submit a request to disconnect all utility services and/or meters including a signed affidavit of vacancy. Utilities will be disconnected or removed within 10 working days after receipt of request. The demolition permit will be issued by the building inspection division after all utility services and/or meters have been disconnected and removed.

Prior to Submittal For Building Permit

3. The applicant shall submit a completed water-gas-wastewater service connection application - load sheet for each set of meters (the load and location for each water and gas meter shall be separately detailed on one or more utility applications) to City of Palo Alto Utilities. The applicant must provide all the information requested for utility service demands (water in fixture units/g.p.m., gas in b.t.u.p.h, and sewer in fixture units/g.p.d.).

4. The applicant shall submit improvement plans for utility construction. The plans must show the size and location of all underground utilities within the development and the public right of way including meters, backflow preventers, fire service requirements, sewer mains, sewer cleanouts, sewer lift stations and any other required utilities.

5. Utility vaults, transformers, utility cabinets, concrete bases, or other structures can not be placed over existing water, gas or wastewater mains/services. Maintain 1’ horizontal clear separation from the vault/cabinet/concrete base to existing utilities as found in the field. If there is a conflict with existing utilities, Cabinets/vaults/bases shall be relocated from the plan location as needed to meet field conditions.
6. The applicant must show on the site plan the existence of any auxiliary water supply, (i.e. water well, gray water, recycled water, rain catchment, water storage tank, etc).

7. The applicant shall be responsible for installing and upgrading the existing utility mains and/or services as necessary to handle anticipated peak loads. This responsibility includes all costs associated with the design and construction for the installation/upgrade of the utility mains and/or services.

8. Sewer drainage piping serving fixtures located less than one foot above the next upstream sewer main manhole cover shall be protected by an approved backwater valve per California Plumbing Code 710.0. The upstream sewer main manhole rim elevation shall be shown on the plans.

9. Flushing of the fire system to sanitary sewer shall not exceed 30 GPM. Higher flushing rates shall be diverted to a detention tank to achieve the 30 GPM flow to sewer.

10. Sewage ejector pumps shall meet the following conditions:
   
a. The pump(s) be limited to a total 100 GPM capacity or less.

b. The sewage line changes to a 4” gravity flow line at least 20’ from the City clean out.

c. The tank and float is set up such that the pump run time not exceed 20 seconds each cycle.

Prior to Issuance of Building Permit

11. The applicant's engineer shall submit flow calculations and system capacity study showing that the on-site and off-site water and sanitary sewer mains and services will provide the domestic, irrigation, fire flows, and wastewater capacity needed to service the development and adjacent properties during anticipated peak flow demands. Field testing may be required to determined current flows and water pressures on existing water main. Calculations must be signed and stamped by a registered civil engineer. The applicant is required to perform, at his/her expense, a flow monitoring study of the existing sewer main to determine the remaining capacity. The report must include existing peak flows or depth of flow based on a minimum monitoring period of seven continuous days or as determined by the senior wastewater engineer. The study shall meet the requirements and the approval of the WGW engineering section. No downstream overloading of existing sewer main will be permitted.

12. For contractor installed water and wastewater mains or services, the applicant shall submit to the WGW engineering section of the Utilities Department four copies of the installation of water and wastewater utilities off-site improvement plans in accordance with the utilities department design criteria. All utility work within the public right-of-way shall be clearly shown on the plans that are prepared, signed and stamped by a registered civil engineer. The contractor shall also submit a complete schedule of work, method of construction and the manufacture's literature on the materials to be used for approval by the utilities engineering section. The applicant's contractor will not be allowed to begin work until the improvement plan and other submittals have been approved by the water, gas and wastewater engineering section. After the work is complete but prior to sign off, the applicant shall provide record drawings (as-builts) of the contractor installed water and wastewater mains and services per City of Palo Alto Utilities record drawing procedures.
13. Existing wastewater laterals to new or remodeled buildings that are not plastic (ABS, PVC, or PE) shall be replaced at the applicant’s expense.

14. The applicant shall pay the capacity fees, connection and inspection fees associated with the installation of the new water, gas or wastewater utility services, or additional load to existing services. The approved relocation of services, meters, hydrants, or other facilities will be performed at the cost of the person/entity requesting the relocation.

15. Each unit or place of business shall have its own water and gas meter shown on the plans. An approved reduce pressure principle assembly (RPPA backflow preventer device) is required for all existing and new water connections from Palo Alto Utilities to comply with requirements of California administrative code, title 17, sections 7583 through 7605 inclusive. The RPPA shall be installed on the owner’s property and directly behind the water meter, within 5’ of the property line. Show the location of the RPPA on the plans. Inspection by the utilities cross connection inspector is required for the supply pipe between the meter and the assembly. The applicant shall provide the City with current test certificates for all backflows.

16. An approved reduced pressure detector assembly is required for the existing or new water connection for the fire system to comply with requirements of California administrative code, title 17, sections 7583 through 7605 inclusive. Reduced pressure detector assemblies shall be installed on the owner's property adjacent to the property line, within 5’ of the property line. Show the location of the reduced pressure detector assembly on the plans. Inspection by the utilities cross connection inspector is required for the supply pipe between the City connection and the assembly.

17. The applicant shall secure a public utilities easement for City of Palo Alto Utilities facilities installed in private property. The applicant's engineer shall obtain, prepare, record with the county of Santa Clara, and provide the utilities engineering section with copies of the public utilities easement across the adjacent parcels as is necessary to serve the development. Where public mains are in private streets/PUEs the service agreement shall include the statement: “Public Utility Easements: If the City’s reasonable use of the Public Utility Easements, which are shown as P.U.E on the Map, results in any damage to the Common Area, then it shall be the responsibility of the Association, and not of the City, to Restore the affected portion(s) of the Common Area. This Section may not be amended without the prior written consent of the City”.

18. All existing water and wastewater services that will not be reused shall be abandoned at the main per WGW Utilities procedures before any new utility services are installed.

19. All utility installations shall be in accordance with the City of Palo Alto utility standards for water, gas & wastewater.

**During Construction**

20. For contractor installed water and wastewater mains or services, the applicant shall prepare and submit to the WGW engineering section of the Utilities Department as-built drawings of the installation of water and wastewater utilities to be owned and maintained by the City in accordance with:

   a. Two sets of as-built drawings (hard copies).
b. As-built drawings in 2008 or 2010 AutoCAD format.

c. As-built drawings in .tif format.

d. Survey points in .csv format for all new utility features.

Note: All survey data shall be collected by a California Licensed Land Surveyor. The surveyor is responsible to setup all control points needed to perform the survey work. The accuracy for all survey data shall be +/- 1cm.

Survey data to be collected (what's applicable):

I. Collect horizontal and vertical data for:
   1. Sanitary sewer manholes (rim and invert elevations and depth)
   2. Storm drain manholes and catch basins (rim and invert elevations and depth)
   3. Water valves (cover and stem elevations)

II. Collect horizontal data only for:
   1. Service or lateral connection points at the main
   2. Fire hydrants
   3. Water meters
   4. Sanitary sewer cleanout boxes

Use CPAU WGW Engineering's "feature codes" for naming convention available from CPAU WGW Engineering 1007 Elwell Ct, Palo Alto, CA 94303 (650) 566-4501. All drawings and survey data shall be on the California State Plane Coordinate System - Zone 3 in units of feet. The horizontal datum shall be the North American Datum of 1983 (NAD83) and the vertical datum shall be based on Bestor 93.
B.2. Hoover Pavilion Site

B.2.1. Fire Department

1. Conduct a Soil Excavation Program at the Hoover Pavilion Site. A qualified consultant, under the SUMC Project sponsors’ direction, shall undertake the following activities:

   • Remove all buried underground storage tanks from the property after sheds and storage buildings on the Hoover Pavilion Site have been demolished;

   • To the extent necessary, additional soil sampling shall be collected to determine health risks and to develop disposal criteria;

   • If warranted based on soil sampling, contaminated soil shall be excavated, removed, and transported to an approved disposal facility in compliance with OSHA and the Dept of Toxic Substances control and 22 CCR (Title 22) requirements;

   • To the extent required based upon the results of soil sampling and the results of a health risk assessment, a Site Health and Safety Plan to ensure worker safety in compliance with OSHA requirements shall be developed by the Project sponsors, and in places prior to commencing work on any contaminated site; and

   • The SUMC Project sponsors shall submit documents to the County DEH to proceed with subsurface closure of the Hoover Pavilion Site.

   • Note: This site’s soil contamination issues are currently under the County DEH’s jurisdiction due to issues with previous leaking underground storage tanks (County DEH - LOP program) and will remain under their jurisdiction during this project unless otherwise notified.

   • Note: Any aboveground building, facility, room or area with or previously containing hazardous materials shall have a hazardous materials closure permit completed with the PAFD unless otherwise determined, prior to the “soil excavation plan” to occur for that particular location.

2. Develop a Site Management Plan for the Hoover Pavilion Site. The SUMC Project sponsors shall prepare a site remediation assessment that (a) specifies measures to protect workers and the public from exposure to potential site hazards, including hazards from remediation itself, and (b) certifies that the proposed remediation measures would clean up contaminants, dispose of the wastes, and protect public health in accordance with federal, State, and local requirements. Site excavation activities shall not proceed until the site remediation has been approved by the County DEH and implemented by the SUMC Project sponsors. Additionally, the site remediation assessment shall be subject to review and approval by the RWQCB. All appropriate agencies shall be notified. Note: Any aboveground building, facility, room or area with or previously containing hazardous materials shall have a hazardous materials closure permit completed with the PAFD unless otherwise determined, prior to the “site remediation assessment” to occur for that particular location.
B.2.2. Water, Gas & Wastewater Utilities Department

**For Building Permit**

1. The applicant shall submit a completed water-gas-wastewater service connection application - load sheet for City of Palo Alto Utilities. The applicant must provide all the information requested for utility service demands (water in fixture units/g.p.m., gas in b.t.u.p.h, and sewer in fixture units/g.p.d.).

2. The applicant shall submit improvement plans for utility construction. The plans must show the size and location of all underground utilities within the development and the public right of way including meters, backflow preventers, fire service requirements, sewer mains, sewer cleanouts, sewer lift stations and any other required utilities.

3. Utility vaults, transformers, utility cabinets, concrete bases, or other structures cannot be placed over existing water, gas or wastewater mains/services. Maintain 1’ horizontal clear separation from the vault/cabinet/concrete base to existing utilities as found in the field. If there is a conflict with existing utilities, Cabinets/vaults/bases shall be relocated from the plan location as needed to meet field conditions.

4. The applicant must show on the site plan the existence of any auxiliary water supply, (i.e. water well, gray water, recycled water, rain catchment, water storage tank, etc).

5. The applicant shall be responsible for installing and upgrading the existing utility mains and/or services as necessary to handle anticipated peak loads. This responsibility includes all costs associated with the design and construction for the installation/upgrade of the utility mains and/or services.

6. Sewer drainage piping serving fixtures located less than one foot above the next upstream sewer main manhole cover shall be protected by an approved backwater valve per California Plumbing Code 710.0. The upstream sewer main manhole rim elevation shall be shown on the plans.

7. Flushing of the fire system to sanitary sewer shall not exceed 30 GPM. Higher flushing rates shall be diverted to a detention tank to achieve the 30 GPM flow to sewer.

8. Sewage ejector pumps shall meet the following conditions:
   
   d. The pump(s) be limited to a total 100 GPM capacity or less.

   e. The sewage line changes to a 4” gravity flow line at least 20’ from the City clean out.

   f. The tank and float is set up such that the pump run time not exceed 20 seconds each cycle. The applicant's engineer may be required to submit flow calculations and system capacity study showing that the on-site and off-site water and sanitary sewer mains and services will provide the domestic, irrigation, fire flows, and wastewater capacity needed to service the development and adjacent properties during anticipated peak flow demands. Field testing may be required to determined current water and wastewater flows and water pressures on existing water and wastewater mains. Calculations must be signed and stamped by a registered civil engineer.

9. Existing wastewater laterals that are not plastic (ABS, PVC, or PE) shall be replaced at the applicant’s expense.
10. The applicant shall pay the capacity fees and connection fees associated with the installation of the new utility service/s to be installed by the City of Palo Alto Utilities or increased demand on existing water or wastewater services. The approved relocation of services, meters, hydrants, or other facilities will be performed at the cost of the person/entity requesting the relocation.

11. A separate water meter and backflow preventer is required to irrigate the approved landscape plan. Show the location of the irrigation meter on the plans. This meter shall be designated as an irrigation account and no other water service will be billed on the account. The irrigation and landscape plans submitted with the application for a grading or building permit shall conform to the City of Palo Alto water efficiency standards. An approved reduce pressure principle assembly (RPPA backflow preventer device) is required for all existing and new water connections from Palo Alto Utilities to comply with requirements of California administrative code, title 17, sections 7583 through 7605 inclusive. The RPPA shall be installed on the owner’s property and directly behind the water meter, within 5’ of the property line. **Show the location of the RPPA on the plans.** Inspection by the utilities cross connection inspector is required for the supply pipe between the meter and the assembly. The applicant shall provide the City with current test certificates for all backflows.

12. An approved reduced pressure detector assembly is required for the existing or new water connection for the fire system to comply with requirements of California administrative code, title 17, sections 7583 through 7605 inclusive. Reduced pressure detector assemblies shall be installed on the owner’s property adjacent to the property line, within 5’ of the property line. **Show the location of the reduced pressure detector assembly on the plans.** Inspection by the utilities cross connection inspector is required for the supply pipe between the City connection and the assembly.

13. As part of this project the applicant is required to relocate the gas meter out of the breezeway to the front of the building. Show the new gas meter location on the plans. The gas meter location must conform to utilities standard details.

14. The applicant shall secure a public utilities easement for facilities installed in private property (including the existing water meters). The applicant’s engineer shall obtain, prepare, record with the county of Santa Clara, and provide the utilities engineering section with copies of the public utilities easement across the adjacent parcels as is necessary to serve the development.

15. All existing water and wastewater services that will not be reused shall be abandoned at the main per WGW utilities procedures before any new utility services are installed.

16. All utility installations shall be in accordance with the City of Palo Alto utility standards for water, gas & wastewater.

**B.2.3 Utilities Electric**

1. Applicant/developer/owner shall supply/increase the Public Utility Easement at Quarry Substation which will be used for the installation of equipment due to new electrical load demands as a result of on-going construction in the Stanford Hospital/LPCH/Welch Road area. This easement shall be required no later than December 31, 2012. The City’s electrical engineering department shall supply the dimensions of the new easement upon request from the applicant.
B.3. LPCH

B.3.1. Fire Department

1. *Perform a hazardous materials closure with the Palo Alto Fire Department (PAFD) for the 701 Welch Site.* A hazardous materials closure plan for this site shall include the building hazardous materials storage, use and handling areas and soil sampling. A hazardous materials closure permit is required prior to removal of related materials and prior to demolition. Additionally, prior to removal or modification of the site an inspection by the fire dept is required unless otherwise determined. The Hazardous Materials Closure Application and Guidelines can be found at http://www.unidocs.org or is available from PAFD.

A Phase II ESA shall be performed at 701 Welch Site Building B. The hazardous materials closure and Phase II ESA shall include sampling and analysis of soil, groundwater, wastewater, and residues on surfaces such as laboratories countertops, fume hoods, sinks, sumps, floors, and drain lines. A post closure report shall be supplied to the Palo Alto Fire Department. The PAFD and the DEH shall be notified by the Project sponsors if contamination remains after the hazardous materials closure is completed with the Fire Department.

If soil contamination is discovered, the project will be referred to the RWQCB. The RWQCB will determine appropriate action or referral to another agency for appropriate action. Additionally if soil contamination is discovered, the SUMC Project sponsors shall prepare a site remediation assessment that (a) specifies measures to protect workers and the public from exposure to potential site hazards and (b) certifies that the proposed remediation measures would clean up contaminants, dispose of the wastes, and protect public health in accordance with federal, State, and local requirements. Site excavation activities shall not proceed until the site remediation has been approved by the RWQCB or the designated regulatory oversite agency and implemented by the SUMC Project sponsors. Additionally, the final site remediation assessment shall be subject to review and approval by the RWQCB. All appropriate agencies shall be notified.

2. *Perform a hazardous materials closure with the PAFD for the 703 Welch Site.* A hazardous materials closure plan for this site shall including the building hazardous materials storage, use and handling areas and soil sampling. A hazardous materials closure permit is required prior to removal of related materials and prior to demolition. Additionally, prior to removal or modification of the site an inspection by the fire dept is required unless otherwise determined. The Hazardous Materials Closure Application and Guidelines can be found at http://www.unidocs.org or is available from PAFD. A Phase II ESA shall be performed at 703 Welch Site. Of particular concern for soil sampling is crawl space where piping joins and amalgam separators are located as well as the discharge points from the buildings.

The hazardous materials closure and Phase II ESA shall include sampling and analysis of soil, groundwater, wastewater, and residues on surfaces such as laboratories countertops, fume hoods, sinks, sumps, floors, and drain lines. A post closure report shall be supplied to the Palo Alto Fire Department. The PAFD and the County DEH shall be notified by the Project sponsors if contamination remains after the hazardous materials closure is completed with the Fire Department. If soil contamination is discovered, the project will be referred to the RWQCB. The RWQCB will determine appropriate action or referral to another agency for appropriate action.
Additionally if soil contamination is discovered, the SUMC Project sponsors shall prepare a site remediation assessment that (a) specifies measures to protect workers and the public from exposure to potential site hazards and (b) certifies that the proposed remediation measures would clean up contaminants, dispose of the wastes, and protect public health in accordance with federal, State, and local requirements. Site excavation activities shall not proceed until the site remediation has been approved by the RWQCB or the designated regulatory oversite agency and implemented by the SUMC Project sponsors. The final site remediation assessment shall be subject to review and approval by the RWQCB. All appropriate agencies shall be notified.
B.4. Welch Road / Durand Way

B.4.1. Transportation Division

1. **Durand Way.** Durand Way shall be constructed at the earliest opportunity to improve automobile circulation from the medical center complex in the vicinity of Welch Road and Sand Hill Road. At a minimum, to the extent feasible, the Durand Way intersection apron shall be constructed with the Welch Road improvements.

2. **Welch Road.** Welch Road shall be constructed per improvements plans approved by the City and shall include, but not be limited to: new median island that extend from key intersections to channelize left turn vehicles and restrict driveway movements near intersections; installation of pedestrian-activated flashing beacon systems with enhanced roadway markings & signage; installation of new retro-reflective signage throughout the project corridor; traffic signal improvements including intersection safety lighting enhancements; and miscellaneous roadway improvements.

3. **Quarry Road.** Improvements to the Quarry Road public street shall be reviewed by Transportation Division staff prior to the submittal for permits.

B.5. FIM1

*Note: No project specific conditions.*
ATTACHMENT C

PROJECT DATA AND “HOSPITAL” DISTRICT DEVELOPMENT REGULATIONS CONFORMANCE

New Stanford Hospital
10PLN-000395

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<td>Welch Road, Pasteur Drive</td>
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<tr>
<td>Existing buildings floor area</td>
<td>SHC Inpatient Hospital- 788,232 square feet</td>
</tr>
<tr>
<td></td>
<td>SHC Clinics/Office- 606,112 square feet</td>
</tr>
<tr>
<td>Building setbacks</td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>±70-feet from Pasteur Drive</td>
</tr>
<tr>
<td>Street Side</td>
<td>±70-feet from Welch Road</td>
</tr>
<tr>
<td>Floor Area Ratio, PF Parcel</td>
<td>1.00</td>
</tr>
<tr>
<td>Site coverage, building, PF Parcel</td>
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<tr>
<td>Height of existing building(s)</td>
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<td>Existing parking facilities</td>
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<tr>
<td>Landscape features</td>
<td>Perimeter landscaping, interior plantings, native trees</td>
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<table>
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<th>PROPOSED PROJECT</th>
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<tr>
<td>SHC new construction</td>
<td>±1,529,000 square feet</td>
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<td>SHC demolition</td>
<td>±705,200 square feet</td>
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<td>SHC Net</td>
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<td>Setbacks</td>
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<td>Front</td>
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<td>±25-feet at Welch Road</td>
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<td>Parking facilities</td>
<td>970 spaces at facility at adjacent garage</td>
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<td>Feature</td>
<td>Regulation</td>
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<td>-------------------------------</td>
<td>------------</td>
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<tr>
<td>Floor Area Ratio</td>
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<tr>
<td>(Entire SUMC Site)</td>
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<td>Street Setback</td>
<td>10-feet</td>
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<tr>
<td>Building Height</td>
<td>130-feet</td>
</tr>
</tbody>
</table>
ATTACHMENT D

SUMC Design Guidelines – the New Stanford Hospital (SHC)
(Reference: Stanford University Medical Center Campus Design Guidelines – June 24, 2010)

a) Within the Site Design section, the applicant presents specific guidelines for the open spaces for the proposed site.

Site design shall organize the flow of traffic to minimize conflicts between pedestrians, cars, buses, and open space. This objective is especially important on the Medical Campus – where patient transportation is by car and emergency care is provided on a 24-hour basis.

Garage design shall incorporate features that maximize passive security such as increased lighting levels, visibility, elimination of dark corners and confined spaces. Parking structures shall be designed to be visually integrated with the other types of buildings on the campus. Special attention shall be given to massing and articulation to ensure parking structures do not dominate any particular open space or street edge. Similarly, special attention shall be given to underground garages to ensure the entrance ramps are integrated into site design and are not disruptive to circulation patterns and objectives.

The typical plans and street sections for the Welch and Quarry Corridors express a desire to separate pedestrian, bicycle and vehicular traffic, embellish the character of these streets with consistent standards of “connective elements” – such as street trees, lighting, open space setbacks, medians and enhanced paving – and consolidate street crossings into safe and “designed experiences”.

It is important that the street tree selection accommodates visibility, and that some sunlight will reach the sidewalks between the trees, but also that the spacing is large enough to encourage full canopy growth and that the tree species selected are appropriate in scale to the width of the street.

At campus entry points or major new buildings – such as LPCH expansion and/or SHC – the street tree planting pattern shall be broken to emphasize the featured facility. The proposed improvements for Welch Road will widen the roadway to a three lane cross-section, with bicycle lanes, from Quarry Road to Pasteur Drive.

Design Guidelines: Open Spaces (Page 31, 32, 40 and 44 of the Guidelines)
The Olmsted Plan has been used as a format for the formal open spaces where in it creates nodes of interest and drama around important intersections of the master plan. The Pasteur Mall has earlier served as a formal open space for the SUMC, which has reduced its intensity over the years due to the increase in development
around it. The position of the replacement hospital re-purposes the Pasteur Mall from its original role to that of the processional axis to that of a less formal ‘front yard’ for the hospital and clinics. In doing so, the new role becomes that of linking a series of entry points and experiences. This concept is predicated on enhancing the landscaping over the underground garage to better relate to the new hospital, and adding street trees to emphasize the visual connection to Roth Way. This concept also provides multiple benefits like the following:

- Establishes a ‘front yard’ appropriately scaled to the SHC, and uses aspects of formal open space scaled to enhance the new SHC.
- Lessens vehicular traffic in center of campus.
- Focuses on the “front door” of the campus.
- Helps establish a new distinct identity for the SHC and LPCH as well as the SOM.
- Brings in-patient environment in close proximity to outer Welch out-patient components.

_Pasteur Mall_ - The position of the new SHC on Pasteur Mall re-purposes the Mall from its original role as that of a processional axis to a singular institution, to that of a less formal ‘front yard’ for the hospital and clinics. Hence the new Pasteur Mall presents an array of possible fronts – linking a series of entry points and experiences – leading to the SHC courtyard. This concept is predicated on enhancing the landscaping over the underground garage at the entry of the site, and adding street trees to emphasize the visual connection to Roth Way.

_The Promenade_ is the main pedestrian open space that connects the districts of the SUMC, and continues off-site to link up with the Central Promenade of the Shopping Center. The space of the Promenade shall be visually enhanced with the use of enhanced paving, planting, and passage lighting. Additionally, the new projects fronting the Promenade shall be programmed to activate this space with pedestrian friendly uses – such as meeting rooms, cafeteria and shops, and secondary entries. Also, the new planting of the Promenade shall be of a scale to benefit and engage the roof terrace of the new SHC.

_The SHC Courtyard_ is located where the original entry court to the Stone Building is located. This intimate open space is positioned at the intersection of the two main circulation structures organizing the layout of the campus plan. This open space shall be designed to enhance its character as a unique destination as the ‘hub’ – adjacent to the intersection of the two main pedestrian and vehicular spines. This may include the implementation of a dramatic, yet more environmentally sustainable, landscape feature to take place of the original fountain.
b) Within the **Building Design** section, the applicant presents specific guideline categories that describe the approaches to visual hierarchy, density, pattern & context, massing & building composition, materials palette, and entry expression.

The institutional identity and image of this district is established by the scale and position of the new SHC as the central figure of the medical center, as well as by the large formal open spaces and the new buildings. Within the SHC itself, visual hierarchies emphasize towards the center due to the modular massing, and the massing creates a stepped figure rising towards the center which shapes a series of internal courtyards and roof terraces, fronting large formal and axial outdoor spaces. This stepped massing allows for a visual connection of Pasteur Mall with the SoM buildings and SHC.

The Pasteur Mall District is anchored by the new replacement hospital for the SHC. The modular planning concept produces a composition of building forms that break down the overall scale of the complex. This alternating density pattern of building modules will accommodate a patient unit which is an ideal size from an operational perspective. This pattern is also reminiscent of the Main Quad – with its axial geometry fronting Pasteur Mall. The basic building module is arranged to enhance the following planning and open space directives:

- Reduced scale using a modular density pattern
- Clearly identifiable entrances facing key open spaces
- Structure major and minor open space to balance denser development
- Concentrate height toward the center to reduce impact on adjacent properties
- Minimize height as necessary to respect existing campus buildings
- Intermingle building and courtyard landscape
- Provide courtyards to allow natural light and landscape to penetrate density

The Pasteur District is anchored by the Stanford Hospital and Clinics. The modular planning scheme for the SHC pursues a massing that is a composition of the legible building forms and is used to reduce the overall scale of the complex. The massing utilizes staggering and terracing to create private courtyards and roof decks to provide a greater visual setback while integrating the new SHC into the surrounding context and open space. Other massing strategies such as cantilevering will create a walkable and protected, human-scaled condition at the base, and also a grand entry canopy to provide hierarchy, visibility, and shelter for patient pick-up and drop off. The large building’s scale is further mitigated through the expression of its circulation towers and mechanical equipment screening, which is setback at the roof of each of the nursing units.
Design Guidelines: Material Palette (Pages 83 and 86 of the Guidelines)
The proposed new buildings of the SUMC shall use a variety of materials to extend the existing palette: Walls that are substantially solid shall be clad in stone, tile or expressed as exposed concrete – that has a color and texture compatible with existing buildings to create a cohesive base condition. More open areas such as the office floors, in-patient, or research floors, are configured to be highly responsive to natural light, and solar control. The lighter, more open areas of the buildings might be composed with glass, GFRC, metal panel, and/or ceramic tile.

The modular planning scheme for the SHC will be articulated to enhance the building’s overall massing objectives and further break down overall scale. Differentiated base material and modulation will emphasize human scale at the ground level. Glass wall and shading components are used to express human scale and sensitivity to environmental control for the body of the inpatient and medical office modules. The building’s massing is further articulated by the vertical juxtaposition of circulation towers to the base and body of the building modules – these elements will be constructed of primary materials. Mechanical equipment screening is gathered within a setback penthouse to clear top to the architectural composition of the building modules. Feasible roof terraces and green roofs shall be employed to further differentiate high and low volumes and optimize integration of building, landscape and sustainable goals.

Design Guidelines: Entry Expression (Page 95 of the Guidelines)
Recognizing the need for a revitalized grand entry to service the new hospital, the design of the SHC shall position its Primary Entrance adjacent the formal open space of Pasteur Mall. This ensures the most in terms of visibility, provides an opportunity to redesign the open space image of Pasteur Drive, and moves the drop off and pick-up locations closer to the primary public access point from Welch onto Pasteur Drive.

The new SHC shall utilize the Entry Canopy approach to delineate a vast area for the shelter and protection of patient arrival. This approach being similar but grander in comparison to the existing E.D. Stone hospital preserves the existing entry court and fountain at the Stone Building for a more intimate secondary expression.
ARCHITECTURAL REVIEW BOARD

STAFF REPORT

Agenda Date: February 17, 2011

From: Steven Turner, Advance Planning Manager

Department: Planning and Community Environment

Subject: Stanford University Medical Center – Stanford Hospital [10PLN-00395]: Request by Stanford Hospital and Clinics on behalf of The Board of Trustees for the Leland Stanford Junior University for Architectural Review of a new Stanford Hospitals and Clinics main hospital building, consisting of approximately 1,100,000 square feet of new hospital area, 456 replacement hospital beds, the addition of 144 new hospital beds, surgical operating suites, diagnostic and treatment suites, emergency department, nursing and support space. The project also include development of an above grade/below grade parking facility of approximately 970 spaces, site re-development and a new landscaping plan. This project is a component of the Stanford University Medical Center Facilities Renewal and Replacement Project. Existing Zone District: PF (Public Facilities).

RECOMMENDATION

Staff requests that the Architectural Review Board (ARB) review the development plans, draft architectural review findings, provide comments to the applicant and staff and continue the review until after the release of the Final Environmental Impact Report. Recommended conditions of approval will be provided at the final review meeting.

BACKGROUND

Stanford University Medical Center Facilities Renewal and Replacement Project

The Stanford University Medical Center (SUMC) comprises the general area between Sand Hill Road, Vineyard Lane, Quarry Road, Pasteur Drive, and including Welch Road and Blake Wilbur Drive. The area is zoned Medical Office and Medical Research (MOR) and Public Facilities (PF). The applicant is proposing the demolition of the existing Stanford Hospital and Clinics (SHC), construction of new hospital buildings, renovation and expansion of the Lucile Packard Children’s Hospital (LPCH), reconstruction of the School of Medicine (SoM) facilities, and construction of new medical office buildings and parking structure as well as the renovation of the Hoover Pavilion to meet State mandated seismic safety standards (SB 1953) and to address capacity issues, changing patient needs and modernization requirements. The renovation and expansion project, which would be constructed over a 20-year horizon, would result in a net increase of approximately 1.3 million square feet of hospital, clinic, and office space.
An application for the project described above was filed on August 21, 2007 with the City of Palo Alto (See Attachment D for an excerpt). In summary, the applicants have requested, among other entitlements, a zoning code amendment to establish a new “Hospital” district with development standards designed to accommodate the proposed project. The applicants have requested design approval for Stanford University Medical Center Campus Design Guidelines, SHC, LPCH, a new medical office building and parking garage as well as the renovation of the Hoover Pavilion, and the SoM’s Foundations in Medicine 1 (FIM1) building.

Over the course of the past two years, each of the SUMC Project components has been reviewed by the ARB through a series of study sessions and early preliminary review meetings. The intention of this meeting is to present to the ARB the final design for the proposed project. Once the EIR is published, the ARB will take action on all of the SUMC Project components and forward recommendations to the City Council for action.

**PROJECT DESCRIPTION**

Rafael Vinoly Architects have designed the new Stanford Hospital. Stanford Hospital is currently licensed by the State of California to operate 613 beds, but is currently operating at a 456 bed level. In order to viably meet current and future demand, its projected need requires an increase of 144 beds. The application materials describe the SHC as follows:

- The new SHC will build approximately 1,100,000 gross square feet of facilities, which will include surgical operating suites, new diagnostic and treatment suites, new emergency department and associated nursing and support space.
- There will be a new addition of 429,000 gross square feet to house clinics, medical offices, and administrative offices on the Main SUMC site.
- The existing D, E and F nursing units will be renovated and reused; as will the remaining 1989 Hospital Modernization Project (HMP) building to house diagnostic and treatment space and other supporting functions such as materials management, clinical laboratory, and physician and administrative offices.
- Demolition of the existing facilities on the site includes 441,201 gsf of the original medical center complex, commonly referred to as the Stone Building (East Building, West Building, Core Building and Boswell Clinics Building); 223,850 gsf of the existing Core Expansion Building and 40,100 gsf of the 1101 Welch Road structures.

The applicant has stated that the goals of the new Stanford Hospital are to redefine the model of the healing environment for quality patient care, practitioner and staff productivity, and responsibility to the community in a sustainable environment.

During the course of the application review, project refinements have been developed which are discussed in the EIR under the Tree Protection Alternative. These refinements minimize tree impacts, provide more compact building footprints and expand gardens and open space. The applicants’ preferred project is the Tree Preservation Alternative. This design is reflected in the material submitted for this review.

*Prior ARB Review*

The ARB has held a preliminary review meetings on the Stanford Hospital on November 20,
2008, June 17, 2010 and September 2, 2010; and study sessions on June 19, 2008, October 20, 2008 and February 18, 2010. As a result of these design meetings, the project site and buildings have evolved. During the preliminary review meetings held on June 17, 2010 and September 2, 2010, the ARB reviewed revisions to the design of the SHC as depicted in the Tree Preservation Alternative. The ARB was generally supportive of the new design as well as the scale and size of the new Hospital. They felt that the building design required further articulation of human scale; the architects required to develop more details of the structure and needed more clarity in the expression of the function.

The architects incorporated these points and additionally presented the landscape plans to the ARB on September 2, 2010. The architects revised the design and materials at the base of the structure to break the scale and massing. The ARB members liked the revisions to the building design, and suggested that there be continued evolution of the humanisation of scale in all areas connected to pedestrian access. They felt that the building façade was well worked out but needed more articulation, and that the sun control elements had more opportunity. The ARB members also generally liked the landscape design with the medicinal gardens concept, the way Kaplan Lawn was being used, and thus, felt that the landscaping was well thought out. They requested further details regarding the visibility of the Emergency Department entrance, and requested that the landscape architects provide details of the hierarchy of the trees. They also requested that details of the materials used for the Hospital should be included for the next review. These items are incorporated into the submittal package.

**SUMMARY OF KEY ISSUES**

The applicants have requested that the ARB provide a formal review of the Stanford Hospital. The project plans that accompany this staff report contain a site plan and illustrative landscape plan, rendered elevations, floor plans, main drop off plan, emergency department drop off plan, tree preservation diagram, perspectives, wall sections and exterior details, signage and expansion phasing (Attachment E). Excerpts from the project application materials including the applicant’s entitlement requests, project objectives, project description, design intent, text for the tree preservation alternative, compliance to the comprehensive plan and project fact sheets are contained in Attachment D.

Since the last ARB review on September 2, 2010, the following design changes have been made to the hospital design:

- The Level 1 exterior arcades have added curved glass walls at public functions such as the café, gift shop, and family resource center. The new program and articulation reduces depth of overhang areas making arcades more welcoming and pedestrian friendly. Curved vocabulary helps to identify public functions and the main entrance.

- The exterior of Level 2 was redesigned to have a horizontal ribbed profile in precast concrete panels. This accentuates the solidity of the base at the foundation of the building, and reflects the highly technical and controlled activities in this portion of the building.

- The garage exterior has been refined to continue the solid base expression of the
Hospital, featuring a horizontal ribbed pattern in precast concrete panels with a similar profile.

- Simplification of materials and heights of rooftop elevator and mechanical penthouses.

- The main drop-off has been redesigned to be more pedestrian friendly. The drop-off area is part of a larger public plaza with seating and program around it. The Paving materials are conducive to pedestrian traffic and slower vehicular traffic. The plaza is expressed as a continuation of the Medical Center Promenade.

- The main drop-off planting will use carob trees, continuing the theme of trees with medicinal fruit. The pattern here will be more informal than the Garden of Medicinal Plants, similar to the tree patterns of the adjacent Kaplan Lawn.

- The Clinics Expansion Building has been reconfigured in order to better relate to the axial quality of Pasteur Mall, by centering two future modules on axis. This creates two entrances, relating to Pasteur Drive as well as Quarry Road Extension.

- The description of site signage depicts Stanford red pylons for vehicular and pedestrian circulation. Similar signage will continue into the building to provide continuity for wayfinding.

_Zoning Development Standards_

The current zoning for the Stanford Hospital is the Public Facilities (PF) zone, and the SHC buildings would be located in the new “Hospital” zone district. As proposed by the applicant, the land within this district would be considered as one large parcel for the purposes of determining gross floor area and site coverage. As proposed, the new Hospital Zone would have a maximum floor area ratio of 1.5 to 1 and maximum site coverage of 40 percent. The requirements for parking would be performance-based (based upon projected needs). The new zone would also include regulations for building heights with a proposed maximum height of 130-feet.

As proposed, the gross building area is 1,529,000 square feet. The building height is 130-feet above the proposed first floor elevation and the setbacks from Welch Road and Pasteur Drive are 25-feet and approximately 10-feet respectively. The impervious coverage for the projects in the new Hospital District is approximately 33%. There are a total of approximately 1,035 parking spaces in both structured and surface parking.

Although the site development regulations for the new “Hospital District” have not yet been approved, the Project’s conformance with the draft regulations is described in Attachment B.

_Building Height_

The proposed new Stanford Hospital is 130’ to the top of the parapet. The Hospital’s design includes two platform levels that are a total of 38’. Level 3 contains mechanical equipment, cafeteria, lounge and garden areas and is approximately 27’ floor to floor. Levels 4 through 7 contain the patient rooms and each is approximately 16’ floor to floor. The total height of the hospital is 130’. Above each of the patient room modules, there is additional mechanical
equipment that is similar in height to Level 3. The top of roof screen measures 153'4\". The roof screens are clad with metal panels and continuous architectural louvers similar in design to Level 3. On top of the mechanical enclosure of the tower that is cited above the emergency room, sits the helipad. The elevator tower that serves the helipad rises an additional 27' for a total height of 180'4\" for this one feature. The elevator tower is also clad with a metal panel.

The parking structure would be approximately 40 feet tall. This height would match the height of the base pavilion for the new SHC Hospital building, enabling access to the parking structure roof from the base pavilion and enhancing the cohesiveness of the overall Hospital design.

**Automobile and Bicycle Parking**
Automobile parking at SUMC has historically been addressed on a regional basis; parking lots at SUMC have been made available to both hospital and university employees. For the SUMC project, the parking requirements are proposed to be “performance based” meaning that the required parking is based upon automobile parking counts rather than the strict ratios described in the municipal code. The total number of parking spaces proposed for the SUMC project is 2,985 spaces distributed in four parking structures within the SUMC project area. This number of parking spaces is greater than the requirements of the municipal code, which would require a minimum of 1,948 spaces.

At SHC, automobile parking is available in a parking structure at the Welch Road/Pasteur Drive intersection with three levels underground and four levels aboveground, along Welch Road. A total of 970 parking spaces would be provided in this facility. Access would be from Welch Road and Pasteur Drive. The Emergency Department entrance/parking would be along Pasteur Drive side of the new SHC Hospital building.

**Protected Trees**
There are 23 protected trees within the Stanford Hospital Site portion of the SUMC Project. Of those 23 trees, four will be removed and replaced, 16 trees will be transplanted to other locations around the site and the remaining three trees will be preserved in the existing locations. The project plans that accompany this staff report indicate two trees located near the emergency drop off entrance from Welch Road which might be temporarily relocated during construction, and then will be placed in the same location.

As part of the new “Hospital” district regulations, there would be specific regulations for tree protection, removal and replacement. The intent of these new tree regulations is to acknowledge the unique conditions of the SUMC site and the proposed project, to protect unique tree specimens, and to permit removal, replacement and/or transplantation of trees that would be protected in other zone districts.

The four trees to be removed would be required to be replaced, as proposed, in accordance with the ratios set forth in Table 3-1 of the City of Palo Alto Tree Technical Manual (TTM) in order to maintain the appropriate landscape approach at the SUMC. The difference between the required tree replacement and the number of trees planted at SUMC would be mitigated through contribution to the Forestry Fund in the City of Palo Alto. Payment to the Forestry Fund would be in the amount representing the value of the replacement trees that would be required under the
TTM standard if appropriate replacement tree locations cannot be identified within the proposed "Hospital" district.

Design Guidelines and the Stanford Hospital
The applicant has submitted proposed Stanford University Medical Center Campus Design Guidelines. The document sections include discussion on Site Design, Building Design and Connective Elements. The ARB will review the Design Guidelines in early 2011. Attachment C provides a summary of how the draft Guidelines relate to the proposed SHC.

Environmental Impact Report
The City has prepared an environmental impact report (EIR) for the SUMC Project. The Draft EIR includes an analysis of how development of the SUMC Project would affect the existing visual quality of the SUMC Sites and the vicinity. Visual quality pertains to how people see and experience the environment, particularly its visual character. The EIR identifies the following significant environmental impacts related to visual quality:

- VQ-2: Permanent Degradation of Visual Character Post Construction. The SUMC Project as a whole would have a significant impact pertaining to degradation of the existing visual character or quality of the SUMC Sites and their surroundings, in that 1.3 million square feet of building floor area would be added to the medical center site and the overall height limit would be raised to 130 feet.

- VQ-3: Alteration of Public Viewsheds, View Corridors, or Scenic Resources. The SUMC Project as a whole would result in significant impacts on views, in that the additional floor area, massing and height could impact viewsheds protected under the Compressive Plan, such as the Santa Cruz Mountains, and view corridors such as Sand Hill Road and views from other public streets.

- VQ-5: New Sources of Light and Glare. The SUMC Project as a whole could increase light and glare nuisance from exterior lighting, resulting in a significant impact.

Implementation of Mitigation Measure VQ-2.1 from the Draft EIR would reduce Impacts VQ-2, VQ-3 and VQ-5 to a less-than-significant level. This mitigation measure requires compliance with ARB recommendations for final design.

VQ-2.1 Adhere to City's Architectural Review Process and Recommendations. The SUMC Project sponsors shall submit final building and site plans to the ARB prior to issuance of any development permits. Architectural Review shall assess the appropriateness of proposed demolitions, proposed building heights and massing, siting of buildings and structures, architecture and façade treatments, landscaping, circulation plans, and parking. The ARB may require alterations to any of the above project features, or the ARB may suggest new features, such as new landscaping or public art, to improve the proposed SUMC Project design. Any recommendations made by the ARB with respect to the design of the SUMC Project shall be implemented by the SUMC Project sponsors.
The Project applicant has submitted design drawings submitted for ARB review respond to each of the impacts identified in the Draft EIR:

- VQ-2: Permanent Degradation of Visual Character Post Construction. Compliance with VQ-2.1 would ensure that impact on on-site visual character and quality would be less than significant because the ARB’s recommendations, through the Architectural Review process, would address massing, layout, landscaping, and architectural design impacts from the SUMC Project.

The new proposed SHC has evolved through the preliminary review process to address building massing, site planning and layout, and landscaping concerns raised by the ARB. The draft Architectural Review findings in Attachment A describe how the project is appropriately designed to address the visual character impacts.

- VQ-3: Alteration of Public Viewsheds, View Corridors, or Scenic Resources. Compliance with VQ-2.1 would reduce impacts on views from the proposed buildings under the SUMC Project. The Architectural Review of the SUMC Project would consider, among other factors, whether the SUMC Project has a coherent composition and that its bulk and mass are harmonious with surrounding development.

As stated above for VQ-2, the SHC project has evolved through the preliminary review process to improve the composition of the massing elements, to ensure that existing natural features and significant landscape elements are preserved, that there is a harmonious transition in scale and character between land uses; and that there is an internal sense of order to create a desirable environment for patients, visitors and employees to the SHC.

- VQ-5: New Sources of Light and Glare The mitigation measure requires compliance with ARB recommendations for final design and would reduce light and glare impacts from the proposed buildings under the SUMC Project. The Architectural Review of the SUMC Project would consider, among other factors, whether the SUMC Project incorporates quality materials, harmonious colors, appropriate ancillary features, a cohesive design with a coherent composition, and an appropriate lighting plan.

As stated above for VQ-2, the SHC project has evolved to address exterior finishes, treatments, colors, and materials. The choice of exterior materials to be used throughout the façade would minimize excessive glare and reflectivity. The ARB would have an opportunity to review a detailed exterior lighting plan for SHC at the point when it is more fully developed to determine consistency with the Architectural Review findings.

The preliminary review and study session process has resulted in changes from the originally proposed design that addresses the visual quality impacts identified in the EIR and summarized above. The staff recommends that the ARB find that the projects are consistent with the Architectural Review Findings in Attachment A. In addition, if the ARB finds that the project is consistent with the Architectural Review Findings, then the mitigations applicable to the SHC project have been satisfied.
Under the California Environmental Quality Act (CEQA), the City of Palo Alto is required to respond to all comments raised during the public review period for the Draft EIR. The Final EIR is made up of the Responses to Comments document and any proposed edits to the language provided in the Draft EIR. The emphasis in the Responses to Comments document will be to provide clarification and further substantiation for the analysis and conclusions presented in the Draft EIR. Additionally, the responses shall seek to correct and remedy minor technical mistakes or errors identified in the Draft EIR.

With the final review of the project, the ARB will need to find that the Project is consistent with the sixteen findings of approval. Staff’s recommended draft findings are contained in Attachment A. After the ARB has completed their preliminary review of each Project component, the ARB’s final recommendations will be forwarded to the City Council for their consideration.

**Summary of Issues Identified by Urban Design Consultant**
The City’s urban design consultant, Bruce Fukuji, has provided comments on each of the Project components throughout this review process. His comments on the SHC will be provided at the meeting.

**Green Building**
The new Stanford Hospital Project is targeting LEED for New Construction (LEED-NC) Silver certification equivalency. LEED for New Construction and Major Renovations is designed to guide and distinguish high-performance commercial and institutional projects. Information regarding LEED for New Construction may be found at the U.S. Green Building Council’s website: www.usgbc.org.

Both the Stanford Hospital and Clinics and the LPCH have been tracking 15 “big sustainability ideas” throughout the design process, which include:

1. Alternative System Approaches to Reduce Energy Demand (Displacement Ventilation)
2. Passive Design Elements to Reduce Energy Demand
3. Maximize Daylight and Views
4. Healthy Materials - Develop Material “Precautionary List”
5. Site as Therapeutic & Restorative Tool
6. Restore the Landscape & Create Habitat
7. Rainwater Harvesting to Provide 100% Irrigation
8. Reduce Potable Water Use by at least 30% from BAU
9. Alternative Transportation & Active Living
10. Renewable Energy Sources
11. Local Materials - Regional Materials Sourcing
12. Sustainability Sourced Materials with Low Embodied Energy
13. Minimize Construction Waste
14. Optimize Indoor Air Quality
15. Learning - educate visitors by integrating sustainable design features into the patient experience

During the final review, the applicants will highlight the sustainable design aspects of the exterior façade, and explain how the skin system is integral to the Displacement Ventilation