



PLANNING DIVISION

STAFF REPORT

TO: PLANNING & TRANSPORTATION COMMISSION

FROM: Christopher Riordan, AICP
Senior Planner

DEPARTMENT:
Planning and
Community Environment

AGENDA DATE: October 11, 2006

SUBJECT: 712 Los Trancos Road [06PLN-00178]: Application by Barbara Chambers on behalf of the William & Flora Hewlett Foundation for Site and Design Review of the construction of a new single family residence on approximately 4.96 acres within the Open Space Zoning District. The 12,365 square feet of impervious surface includes a 7,605 square-foot building footprint and related site assessments.

RECOMMENDATION

Staff recommends that the Planning and Transportation Commission (PT&C) conduct a preliminary review of the proposed project and provide comments on the proposed design and siting of the proposed residence to the staff and the applicant. No formal action may be taken at a preliminary review; comments made at a preliminary review are not binding on the City or the applicant.

BACKGROUND

Site Information

The project site is designated on the Comprehensive Plan land use map as Open Space/Controlled Development and is located within the Open Space (OS) zoning district. In 1972, the City of Palo Alto created the OS zoning district to protect and preserve open space land as a limited and valuable resource and to permit the reasonable use of open space (PAMC Section 18.71.010).

The project site is located on an approximately five acre vacant lot within the Hewlett Subdivision that received approval in August, 1980. That subdivision created twelve (12) lots out of the original 129 acres that was then known as the Hewlett Property. The subdivision was created on the cluster concept, with 10 lots on approximately 59 acres, and two lots on 22 acres, with 11.5 acres being dedicated to the City to connect the City's Arastra property with Foothills

Park. The resulting lots are smaller than the 10 acre minimum required in the Open Space (OS) zone district. However, the development regulations are the same as if each lot was ten acres in size. A design objective of the subdivision was to create lots that offered the opportunity to construct homes that would minimize the aesthetic impact as viewed from Foothills Park, Vista Point, and surrounding properties.

The triangular-shaped site is steeply sloped towards the street, with bay views towards the northeast. The proposed residence would be located in the middle of the vacant lot that is covered in native grasses, scattered brush and a cluster of mature oak trees. The northeastern one-third of the lot is completely covered with mature trees. The site is accessed from a steep asphalt driveway in relatively poor condition located along a portion of the southwestern and western boundary of the lot.

The widest portion of the lot is at the southwest end along Los Trancos Road where the elevation ranges from approximately 790 feet to 820 feet. The middle of the lot, where the house is proposed, is dominated by an east-west oriented ridge with the highest elevation at 882 feet; the ridge slopes relatively steeply downwards toward the north, south and western portions of the lot. The cluster of oak trees is located near the crest of the ridge. A relatively flat area is located on the northwest side of the lot in the grassy area about 20 feet in elevation below the highest point on the ridge top. At the tree line north of the proposed building site (an elevation at around 850 feet), the site slopes downward more steeply to the northwest at about 2:1 for approximately 400 feet horizontal through a heavily forested ravine. The slope continues to the northeast until it reaches Arastradero Creek.

The adjoining properties are developed single family residential parcels that are also zoned and designated as Open Space.

Project Description

The applicant proposes 12,365 square feet impervious coverage where 16,303 square feet of impervious area would be allowed. The impervious area would include a 7,838 square foot building footprint for the residence and related site improvements including a 908 square foot pool house. The 8,721 square foot driveway would be constructed of permeable concrete and is therefore not included in the total impervious coverage. A swimming pool is also proposed but does not count towards impervious coverage. Living areas are proposed on the main and upper level (illustrated on pages A3-A4 of the Development Plans, Attachment D). The maximum height of the main residence as measured from the midpoint of the roof would be 25 feet above finished grade.

The applicant's project description (Attachment B) describes the proposed home as being "reminiscent of an Italian Villa incorporating traditional Italian details." Authentic clay tile would be used as a roofing material. The exterior of the house would be covered in integral colored, smooth finished plaster. Stone would be used for the chimneys and the base of the building. Copper is proposed for the gutters, downspouts, and chimney caps. The use of copper as an exterior building material is prohibited in the City of Palo Alto, so an alternative material must be proposed. A color

and materials board will be displayed at the meeting. The plant materials in the landscape plan were selected for their deer resistance, water conservation, and low maintenance characteristics. Special consideration was placed on the preservation of the existing oak trees and the natural grassland areas.

DISCUSSION

Zoning Requirements

The Open Space (OS) zoning district contains the following regulations for individual properties: (1) a minimum required lot area of ten acres, (2) a maximum impervious area and building coverage of 3.5 percent, and (3) a maximum height limit of 25-feet. The project would meet all applicable zoning code requirements, as demonstrated in the following Table (Table 1):

**TABLE 1
PROPOSED PROJECT & CURRENT ZONING STANDARDS
712 Los Trancos Road**

Standard	Zoning Code total site	Proposed	Conformance
impervious area & maximum site coverage	3.5% of 10 acres (15,246 sq. ft.)	12,365 square feet	conforms
size of site	4.96 acres (assumed to be 10 acres)	4.96 acres	conforms
maximum height*	25 feet	25 feet	conforms
standard setbacks	front - 30 feet side - 30 feet rear - 30 feet	greater than 30' greater than 30' greater than 30'	conforms
parking	3 spaces (2 covered, 1 uncovered)	4 covered	conforms

* The definition of height is the vertical distance above grade (elevation of finished or existing grade, whichever is lower) to the average height of the highest gable of a pitched or hipped roof. The height of a stepped or terraces building is the maximum height of any segment of the building.

Site and Design Review Findings

Approval of the project also requires the following site and design findings to be made (PAMC 18.82.055):

- 1. The project will be constructed and operated in a manner that will be orderly, harmonious, and compatible with existing or potential uses of adjoining or nearby sites.*

The project is located in an area of other single-family homes. The project introduces

development to a previously undeveloped site. The project is proposed to be located on top of the ridge so as to take advantage of views to the north and northwest. Due to the project's location and the second story element on the top of the ridge line, it would also be visible offsite from the Portola Ranch and the Blue Oaks Development in Portola Valley as well as properties to the north, such as the Arastradero Preserve and the "Stanford Dish." To help mitigate this visibility, earth tone building materials were selected to blend with the surroundings. The materials include natural stone, integral color plaster walls, and a natural clay tile roof. A grouping of native oak trees would assist in screening the project as viewed from the south.

The plantings on the site include an irrigated lawn area on the north and east sides of the site, providing a transition between the development and native grass areas. The landscaped area immediately around the proposed residence would consist of both native and non-native plant species. Both native and non-native trees and shrubs located farther away from the house in the open area would be informally spaced to mimic the natural setting. The proposed building and pathway lighting would be low voltage, and all light sources would need to be screened to not be visible from off site.

- 2. The project is designed in such a way as to ensure the desirability of investment, or the conduct of business, research of educational activities, or other authorized occupations, in the same or adjacent area.*

The proposed design and size of the residence and related site improvements are generally consistent with the existing residences on Los Trancos Road, and the construction of all improvements would be governed by the regulations of the current Zoning Ordinance, the Uniform Building Code, and other applicable codes to assure safety and a high quality of development.

- 3. Sound principles of environmental design and ecological balance will be observed in construction of the project.*

The project has been designed to minimize the impact on existing vegetation. Mitigation measures and conditions of approval would be incorporated into the project and would be implemented to mitigate impacts on biological resources, protected trees, and geotechnical stability. The use of permeable materials would help reduce rainwater flows across the land.

- 4. The project is in accord with the Palo Alto Comprehensive Plan.*

The P&TC should discuss the project's compliance with the Open Space Criteria (Policy N-7) located in the City of Palo Alto Comprehensive Plan. These issues are discussed in the Policy Implications section of this report.

POLICY IMPLICATIONS

1998-2010 Comprehensive Plan

Policy L-1 of the 1998-2010 Palo Alto Comprehensive Plan encourages the City of Palo Alto to retain undeveloped land west of the Foothill Expressway and Junipero Serra as open space, with allowances made for very low-intensity development consistent with the open space character of the area. The project site is west of Interstate 280, and is located within the City's Urban Service Area (map L-2 of the Comprehensive Plan). The Palo Alto Comprehensive Plan land use designation for the project site is Open Space/Controlled Development and one residence is permitted on the project site.

Comprehensive Plan Open Space Policies N-1, N-3, N-4, N-6; N-7 are applicable to this project. Program N-6 requires the installation of "story poles" for development that exceed 6,500 square feet. Story poles have been installed to allow decision makers to view the approximate height and building footprint location of the proposed home.

Comprehensive Plan Open Space Development Criteria

The Comprehensive Plan Open Space Development Criteria are to be used by the P&TC and City Council to evaluate the proposed project. These criteria are set forth below, followed by analyses of the project's compliance with them:

- 1. The development should not be visually intrusive from public roadways and public parklands. As much as possible, development should be sited so it is hidden from view.* The project would not be visible from Los Trancos Road. Proposed to be located on top of the ridge so as to take advantage of views to the north and northwest, the project would be visible from areas such as the Portola Ranch and the Blue Oaks Development in Portola Valley, from public parkland (Arastradero Preserve), and the "Stanford Dish". To help mitigate this visibility, earth tone building materials were selected to blend with the surroundings. The materials include natural stone, integral color plaster walls, and a natural clay tile roof. A grouping of native oak trees would assist in screening the project as viewed from the south. The model and story poles will assist in a visual determination by the Planning Commission and City Council as to the impact of the proposed development and to determine if, as much as possible, the proposed house would be sited so it is hidden from view.
- 2. Development should be located away from hilltops and designed to not extend above the nearest ridgeline.* The proposed building would be located on a hilltop and would extend above the ridge line. The installed story poles will assist members of the Planning Commission and City Council in their evaluation.
- 3. Site and structure design should take into consideration impacts on privacy and views of neighboring properties.* The project would not have an impact on privacy of the adjacent neighbors.

4. *Development should be clustered, or closely grouped, in relation to the area surrounding it to make it less conspicuous, minimize access roads, and reduce fragmentation of natural habitats.* The site improvements are generally clustered together. The pool and pool house and are set apart from the other improvements. The driveway and vehicle turnaround would be constructed of permeable concrete and the auto courtyard in front of the garage would be finished with compacted gravel.
5. *Built forms and landscape forms should mimic the natural topography. Building lines should follow the lines of the terrain, and trees and bushes should appear natural from a distance.* The existing elevation of the top of the ridge is 882 feet. The building lines of the project would not follow the lines of the natural terrain as the proposed project would include the lowering of the top of the ridge by six feet to create a relatively flat building pad. With the exception of the living room, the entire main level would have a finished floor elevation of 876.5 and the garage would have a finished floor elevation of 863.5. A 25-foot tall, two story element would be placed at the highest point on the site. Another two story element would be located above the garage. Fill would be used to raise the pool and pool house by an average of four feet. A series of landscaped terraces would be used to step down to natural grade. The landscape plan (Attachment D sheet L2) indicates that the area immediately around the proposed residence would be heavily landscaped in a relatively formal pattern with a combination of both native and non-native plant species. Both native and non-native trees and shrubs located farther away from the house in the open area would be informally spaced to mimic the natural setting. The City's Planning Arborist stated that the proposed formality of the overall landscape plan to be located in an existing Oak Woodland environment would not look natural as viewed from a distance.
6. *Existing trees with a circumference of 37.5 inches, measured 4.5 feet above the ground level, should be preserved and integrated into the site design. Existing vegetation should be retained as much as possible.* No healthy trees are to be removed from the site. The Arborist Report has been evaluated by the City's Planning Arborist, who has recommended the removal of two diseased oak trees; to be replaced by six 36-inch box valley oak trees as mitigation for the removed trees.
7. *Cut is encouraged when it is necessary for geotechnical stability and to enable the development to blend into the natural topography. Fill is generally discouraged and should never be distributed within the driplines of existing trees. Locate development to minimize the need for grading.* The top of the site is being cut by six feet to create a relatively level building pad for the structure. Fill is proposed to create level outdoor recreation areas around the pool and pool house. No dirt is expected to be exported off site. Fill would not be placed in the dripline of any existing tree.
8. *To reduce the need for cut and fill and to reduce potential runoff, large, flat expanses of impervious surfaces should be avoided.* Impervious surfaces have been minimized,

limited to the building footprint, retaining walls and small areas of the patio and landscaped areas and would remain below the 3.5% allowed.

9. *Buildings should use natural materials and earthtone or subdued colors. Natural building materials in earthtones are proposed.* All proposed building materials are natural, in earth tone colors that would blend with the surroundings. A color and materials board would be present at the meeting of the Planning and Transportation Commission for their review and recommendation.
10. *Landscaping should be native species that require little or no irrigation. Immediately adjacent to structures, fire retardant plants should be used as a fire prevention technique.* An extensive native planting plan and irrigation plan is proposed with about one half being native species. The Planning Arborist has recommended that, prior to formal Commission review of the project, the project landscape architect consult with the Planning Arborist on the selection of appropriate native plant species for the site that are both drought tolerant and fire resistant.
11. *Exterior lighting should be low-intensity and shielded from view so it is not directly visible from off-site.* The hardscape and landscape plans submitted with the application indicate these policies would be observed. The residences would create additional light and glare, but window coverings would minimize light spill from the rooms to the outside at night. Any landscape lights would be required to be directed down to avoid any impact upon surrounding property and open space lands.
12. *Access roads should be of a rural rather than urban character. (Standard curb, gutter, and concrete sidewalk are usually inconsistent with the foothills environment).* The existing asphalt driveway would be removed. The relocated driveway would be made of permeable concrete. No curb and gutters are proposed.
13. *For development in unincorporated areas, ground coverage should be in general conformance with Palo Alto's Open Space District regulations.* The project is within the City limits and meets the O-S (Open Space) District zoning regulations.

PUBLIC NOTICE

Public notice of the PT&C hearing of this project proposal was provided by publication of the agenda in a local newspaper of general circulation. In addition, property owners and residents within 600 feet of the project site were mailed a hearing notice card.

ENVIRONMENTAL REVIEW

No environmental review has been prepared for this Preliminary Review. An Environmental Assessment would be prepared for the PT&C's formal review of the project.

ATTACHMENTS/EXHIBITS:

Attachment A: Location Map

Attachment B: Applicant Project Description

Attachment C: Draft Department Comments

Attachment D: Preliminary Development Plans (Commissioners only)


COURTESY COPIES:

Chambers & Chambers

Richard Dewey

William and Flora Hewlett Foundation

Prepared by: Christopher Alan Riordan, AICP, Senior Planner 

Reviewed by: Amy French, AICP, Manager of Current Planning 

Department/Division Head Approval: 
Curtis Williams, AICP
Chief Planning and Transportation Official



The City of
Palo Alto



ATTACHMENT A

712 Los Trancos Road

This map is a product of the
City of Palo Alto GIS



ATTACHMENT B

18 June 2006

City of Palo Alto
 Department of Planning and Community Environment
 Fifth Floor
 Palo Alto City Hall
 250 Hamilton Avenue
 Palo Alto, CA 94301
 415-329-2441

Re: Private Residence
 712 Los Trancos Road
 Letter of Application

Dear Planning Department,

Below please find the project information as it relates to 712 Los Trancos Road.

Project Description

Located in open space this new home is reminiscent of an Italian Villa, it incorporates traditional Italian details, extensive use of stucco, a tile roof and a stone base. It is placed on a hillside adjacent to a beautiful cluster of oak trees in the center of the property. The house is overlooking the valley and has longer views to San Francisco.

See attached square footage on sheet A2 for additional details.

Lower Floor	710 SF
Main Floor	6,430 SF
Upper Floor	1,775 SF
Sub Total	8,915 SF
Garage	1,175 SF
Total	10,090 SF

Impervious Coverage	11,074 SF
Pervious Coverage	11,261 SF

Zoning – Open Space

Lot Size – 172,226 SF or 3.96 Acres



City of Palo Alto Open Space Development Criteria

1. The development is not visually intrusive from the public roadways and public parklands. It is set back a distance from the street and hidden by a large clump of existing oak trees in the center of the property.
2. Development is away from the hilltop and well below the existing ridge lines.
3. Site and structure design is taken into consideration and has no impact on privacy and views of neighboring properties. The adjacent properties are quite a distance away.
4. Development is clustered or closely grouped, in relation to the property area surrounding the house it takes up very little space.
5. The building form is a natural rolling shape which mimics the natural topography of the site. Building lines follow the lines of the terrain, and the trees and bushes in the foreground of the house are to remain natural.
6. All existing trees are to remain. The large cluster of oak trees is a focal point of the house. Existing vegetation on the hillside toward the house is to remain in its natural state.
7. Cut and fill on the site are held to a minimum.
8. Flat impervious surfaces have been avoided – see site plan for more information.
9. Building colors are earth tone – see color board.
10. Landscape is generally native and will be updated as the project is further developed. Irrigation (if necessary) will be decided at a later point.
11. Exterior lighting to be determined at a later date.
12. Access road is per the fire department and is to be done in an approved impervious surface.
13. Not applicable.

PROGRAM N-6:

As part of the design review process for proposed development in the Open Space zone district that exceeds 6,500 square feet, require that "story poles" be erected with outlining tape depicting the building's location, bulk and height to aid in assessing the potential visual impacts of the proposed project.

POLICY N-7:

All development in the foothill portion of the Planning Area (i.e., above Junipero Serra Boulevard) should be consistent with the following criteria:

City of Palo Alto Open Space Development Criteria

1. The development should not be visually intrusive from public roadways and public parklands. As much as possible, development should be sited so it is hidden from view.
2. Development should be located away from hilltops and designed to not extend above the nearest ridge line.
3. Site and structure design should take into consideration impacts on privacy and views of neighboring properties.
4. Development should be clustered, or closely grouped, in relation to the area surrounding it to make it less conspicuous, minimize access roads, and reduce fragmentation of natural habitats.
5. Built forms and landscape forms should mimic the natural topography. Building lines should follow the lines of the terrain, and trees and bushes should appear natural from a distance.
6. Existing trees with a circumference of 37.5 inches, measured 4.5 feet above the ground level, should be preserved and integrated into the site design. Existing vegetation should be retained as much as possible.
7. Cut is encouraged when it is necessary for geotechnical stability and to enable the development to blend into the natural topography. Fill is generally discouraged and should never be distributed within the driplines of existing trees. Locate development to minimize the need for grading.
8. To reduce the need for cut and fill and to reduce potential runoff, large, flat expanses of impervious surfaces should be avoided.
9. Buildings should use natural materials and earthtone or subdued colors.
10. Landscaping should be native species that require little or no irrigation. Immediately adjacent to structures, fire retardant plants should be used as a fire prevention technique.
11. Exterior lighting should be low-intensity and shielded from view so it is not directly visible from off-site.
12. Access roads should be of a rural rather than urban character. (Standard curb, gutter, and concrete sidewalk are usually inconsistent with the foothills environment.)
13. For development in unincorporated areas, ground coverage should be in general conformance with Palo Alto's Open Space District regulations.

**712 Los Trancos
Palo Alto, CA
Potential "Green Building" Item**

1. Garage walls to be constructed out of ICF blocks. ICF provides an extraordinary high degree of insulation (in comparison to concrete masonry units (CMU) or poured in-place concrete walls.)
2. On southwest, extend loggia with flat roof to include use of solar panels for electrical consumption (10' x 35' ±).
3. Windows shall be double glazed using low-E gas for heat deflection in summer and heat retention in winter.
4. Slab ongrade construction for portion of first floor will minimize heat gain in summer and thereby reduce A.C. usage.
5. Roof tile is recycled/salvaged from another older building.
6. Heat system contemplated is one of the most energy efficient in world.
7. Structural engineer is evaluating usage of SIPS wall panels. SIPS provides high insulation value and uses less interior framing members (vs. traditional wood frame walls) and has degree of sheer value.

**Department Comments
712 Los Trancos Road
06PLN-00178**

Planning and Community Environment

Planning Division

1. All proposed lighting shall be minimal and shall direct light down and shield light away from the surrounding residences and open space lands.
2. All new windows and glass doors shall be of a non-reflective material.
3. The project will be reviewed by the Planning Commission and City Council to ensure that the potential aesthetic impacts will be mitigated by the project's screening features.
4. The two removed oak trees shall be replaced with six 36" box Valley Oak trees. The location of these trees shall be reviewed and approved by the Planning Arborist.
5. Copper is not an approved building material.

Building

6. No woodburning fireplaces shall be constructed except as provided in PAMC Section 9.06.
7. A separate grading permit shall be required if the volume of cut and/or fill grading exceeds 100 cubic yards.
8. Separate building permits would be required for each independent building or structure.

Fire Department

9. Applicant shall provide one-hour construction throughout, in conjunction with Fire Sprinklers in accordance with NFPA 13, 1999 Edition. Applicant shall provide on site water supply of not less than 20,000 gallons, and a hydrant within 100 feet of the structure. If a swimming pool is used as the supply, hard suction lines capable of interfacing with Palo Alto Fire Department pumper vehicles shall be maintained on site.
10. Tree Limbs and other vegetation shall be kept clear of the structure in accordance with Appendix II-A of the 1998 California Fire Code. NOTE: No tree should be planted closer than 10 feet to any point on the exterior of the building.
11. Entry Gate (if provided) shall be either keyed for Fire Department access or a Key Box shall be provided. Contact the Fire Prevention Bureau at 329-2184 for details.

Public Works Department

Public Works Engineering

12. GRADING PERMIT: This project triggers a Grading & Excavation Permit. Upon submittal for a building permit, the applicant will be required to apply for a grading permit, too. Grading is generally prohibited in the wet season: October 1 through April 15.
13. GRADING & DRAINAGE PLAN: The plan set must include a grading & drainage plan prepared by a licensed professional that includes existing and proposed spot elevations and drainage flow arrows to demonstrate proper drainage of the site. Adjacent grades must slope away from the house a minimum of 2%. Downspouts and splashblocks should be shown on this plan, as well as any site drainage features. New development is not allowed to increase drainage onto, nor block existing drainage from, neighboring properties. Public Works encourages developers to keep rainwater onsite as much as feasible by directing runoff to landscaped and other pervious areas of the site. See the Grading & Drainage Plan Guidelines for New Single Family Residences on our website.
14. EASEMENT: There is a 15-ft wide sanitary sewer easement traversing the site. The applicant must not install any structure on an easement. If the new driveway is constructed on top of this easement, the applicant shall demonstrate that the vehicle loads will not damage the pipes in the easement.
15. STORM WATER POLLUTION PREVENTION: The City's full-sized "Pollution Prevention - It's Part of the Plan" sheet must be included in the plan set. Copies are available from Public Works at the Development Center or on our website.
16. SWPPP: The applicant will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes both construction and long-term best management practices (BMP's) for treatment of storm water. If more than one acre of the site will be disturbed during construction, then the SWPPP must be prepared per the State's requirements and a Notice of Intent must be sent to the State. The applicant must provide a calculation on the Site Plan that shows the amount of disturbed area. The City will review and comment on the SWPPP. Public Works prefers natural long-term BMP's, like bio-swales, as compared to high maintenance mechanical BMP's.
17. WORK IN THE RIGHT-OF-WAY: The plans must clearly indicate any work that is proposed in the public right-of-way, such as driveway approach or utility lateral work. The plans must include notes that the work must be done per Public Works' standards and that the contractor performing this work must first obtain a *Permit for Construction in the Public Street* from Public Works at the Development Center.
18. IMPERVIOUS SURFACE AREA: The project will be creating or replacing 500 square feet or more of impervious surface. Accordingly, the applicant shall provide calculations of the existing and proposed impervious surface areas with the building permit application. The *Impervious Area Worksheet for Land*

Developments form and instructions are available at the Development Center or on our website.

Utilities

Electric

19. 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.
20. A completed Electric Load Sheet and a full set of plans must be included with all building permit applications involving electrical work. The load sheet must be included with the preliminary submittal.
21. Only one electric lateral is permitted per parcel.
22. This project requires a padmount transformer unless otherwise approved in writing by the Electric Utility Engineering Department. The location of the padmount transformer shall be shown on the site plan and approved by the Utilities Department.
23. The applicant shall provide space for installing padmount equipment and associated substructure as required by the City. In addition, the owner shall grant a Public Utilities Easement for facilities installed on private property as required by the City.
24. The applicant shall install all electrical substructures required from the service point to the customer's switchgear. All conduits must be sized according to National Electric Code requirements and no ½ inch size conduits are permitted. Conduit runs over 500 feet in length require additional pull boxes. The design and installation shall also be according to the City standards.
25. All utility meters, lines, transformers, backflow preventers, and any other required equipment shall be shown on the landscape plan and irrigation plans and shall show that no conflict will occur between the utilities and landscape materials. In addition, all above ground equipment shall be screened in a manner that is consistent with the building design and setback requirements.
26. No more than four 750MCM conductors per phase can be connected to the transformer secondary terminals; otherwise, bus duct must be used for connections to padmount transformers. If customer install a duct directly between the transformer secondary terminals and the main switchgear, the installation of transition cabinet will not be required.
27. The applicant is responsible for sizing the service conductors and other required equipment according to the National Electric Code requirements and the City standards.
28. Projects that require the extension of high voltage primary distribution lines must be coordinated with the Electric Utility. Additional fees may be assessed for the reinforcement of offsite electric utilities.
29. 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.

Prior to Issuance of building permit

30. The applicant shall comply with all the Electric Utility Department service requirements noted during plan review.

During Construction

31. Contractors and developers shall obtain a street opening permit from the Department of Public Works before digging in the street right-of-way. This includes sidewalks, driveways, and planter strips.
32. A least 48 hours prior to starting any excavation, the applicant must call Underground Service Alert to have existing underground utilities located and marked. The areas to be checked by USA shall be delineated with white paint. All USA markings shall be removed by the applicant when construction is complete.
33. The applicant is responsible for installing on-site substructure 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 ½ inch size conduits are permitted. All off site substructure work will be constructed by the City at the applicant'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.
34. All primary electric conduits shall be encased with the top of the encasement at a depth of 30 inches. No more than 180 degrees of bends are allowed in a primary conduit run. Conduits run over 500 feet in length require additional pull boxes.
35. All new underground conduits and substructures shall be installed per City standards and shall be inspected by the Electrical Underground Inspector before backfilling.
36. The applicant 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 requirements and the City Standards.
37. Prior to fabrication of electric swithboards and metering enclosures, the customer must submit switchboard drawings to the Electric Metering Department at 3201 East Bayshore Road. The City requires compliance with all applicable EUSERC standards for metering and switchgear.
38. All new underground electric services shall be inspected and approved by the both the Building Inspection Division and the Electrical Underground Inspector before energizing.

After Construction

39. The applicant shall provide as-built drawing showing the location of all

switchboards, conduits, conductors, splice boxes, vaults, and switch/transformer pads.

Prior to Issuance of Occupancy Permit

40. The applicant shall secure a Public Facilities Easement for facilities installed on private property for City use.
41. All required inspections have been completed and approved by the both the Building Inspections Division and the Electrical Underground Inspector.
42. All fees must be paid.
43. All Special Facilities contracts or other agreements need to be signed by the City and applicant.

Water-Gas-Wastewater

PRIOR TO ISSUANCE OF DEMOLITION PERMIT

44. 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

45. 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 g.p.m., gas in b.t.u.p.h, and sewer in g.p.d.).
46. 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.
47. The applicant must show on the site plan the existence of any water well or auxiliary water supply.
48. 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.
49. Sewer drainage piping serving fixtures located below 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.

PRIOR TO ISSUANCE OF BUILDING PERMIT

50. 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 determine 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.
51. For contractor installed water and wastewater mains or services, the applicant shall submit to the WGW engineering section of the Utilities Department four (4) 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 manufacturer'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.
52. Existing wastewater laterals that are not plastic (ABS, PVC, or PE) shall be replaced at the applicant's expense.
53. 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. The approved relocation of services, meters, hydrants, or other facilities will be performed at the cost of the person/entity requesting the relocation.
54. Each unit, parcel or place of business shall have its own water service, gas meter and sewer lateral connection shown on the plans.
55. A separate water meter and backflow preventer shall be installed 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.
56. A new water service line installation for domestic usage is required. For service connections of 4-inch through 8-inch sizes, the applicant's contractor must provide and install a concrete vault with meter reading lid covers for water meter and other required control equipment in accordance with the utilities standard detail. Show the location of the new water service and meter on the plans.
57. A new water service line installation for irrigation usage is required. Show the

- location of the new water service and meter on the plans.
58. A new water service line installation for fire system usage is required. Show the location of the new water service on the plans. The applicant shall provide to the engineering department a copy of the plans for fire system including all fire department's requirements.
 59. An approved reduce pressure principle assembly (RPPA backflow preventer device) shall be installed 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. 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.
 60. An approved double detector check valve shall be installed for the existing or new water connections for the fire system to comply with requirements of California administrative code, title 17, sections 7583 through 7605 inclusive. Double check detector check valves shall be installed on the owner's property adjacent to the property line. Show the location of the double detector check assembly on the plans. Inspection by the utilities cross connection inspector is required for the supply pipe between the City connection and the assembly.
 61. A new gas service line installation is required. Show the new gas meter location on the plans. The gas meter location must conform with utilities standard details.
 62. A new sewer lateral installation per lot is required. Show the location of the new sewer lateral on the plans
 63. New sewer manhole on the main is required to be installed per the WGW Standards. Show the new manhole on the plans
 64. The applicant shall secure a public utilities easement for 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.
 65. All existing water and wastewater services that will not be reused shall be abandoned at the main per WGW utilities procedures.
 66. All utility installations shall be in accordance with the City of Palo Alto utility standards for water, gas & wastewater.

DURING CONSTRUCTION

67. The applicant shall obtain an encroachment permit from Caltrans for all utility work in the El Camino Real right-of-way. The applicant must provide a copy of the permit to the WGW engineering section.
68. The applicant shall obtain an encroachment permit from Santa Clara county department of transportation for all utility work in the county road right-of-way. The applicant must provide a copy of the permit to the WGW engineering section.
69. The applicant shall obtain a construction permit from Santa Clara county valley water district for the utility service line to be installed by the City of Palo Alto Utilities.

70. The contractor shall contact underground service alert (800) 227-2600 one week in advance of starting excavation to provide for marking of underground utilities.
71. The applicant shall provide protection for utility lines subject to damage. Utility lines within a pit or trench shall be adequately supported. All exposed water, gas, and sewer lines shall be inspected by the WGW Utilities Inspector prior to backfilling.
72. The contractor shall maintain 12" clear, above and below, from the existing utilities to new underground facilities. The applicant shall be responsible for relocating the existing utility mains and/or services as necessary to accommodate new storm drains, with the prior approval of the Utility Department. This responsibility includes all costs associated with the design and construction for the relocation of the utility mains and/or services. Sanitary sewer laterals will need to be replaced for the full length of the lateral (if possible) per the Utility Standards. Sanitary sewer mains can not be relocated.
73. If the Contractor elects to bore new pipes or conduits, the pilot bore hole shall be 24" clear from any existing utility pipes and all existing utility crossings shall be potholed prior to starting work.
74. Utility service connections will be installed between 30 and 40 days following receipt of full payment. Large developments must allow sufficient lead time (6 weeks minimum) for utility construction performed by the City of Palo Alto Utilities. Utility billings are good for 90 days from issuance of billing, after the 90 days the billings will be updated when the applicant comes in to pay for the new utilities.
75. All utility work shall be inspected and approved by the WGW utilities inspector. Inspection costs shall be paid by the applicant's contractor. Schedule WGW utilities inspections at 650/566-4504 five working days before start of constructions.
76. The applicant's contractor shall immediately notify the Utilities Department (650) 496-6982 or 650/329-2413 if the existing water or gas mains are disturbed or damaged.
77. All backflow preventer devices shall be approved by the WGW engineering division, inspected by the utilities cross connection inspector and tested by a licensed tester prior to activation of the water service.
78. No water valves or other facilities owned by Utilities Department shall be operated for any purpose by the applicant's contractor. All required operation will only be performed by authorized utilities department personnel. The applicant's contractor shall notify the Utilities Department not less than forty-eight (48) hours in advance of the time that such operation is required.
79. The contractor shall not disconnect any part of the existing water main except by expressed permission of the utilities chief inspector and shall submit a schedule of the estimated shutdown time to obtain said permission.
80. The water main shall not be turned on until the service installation and the performance of chlorination and bacteriological testing have been completed. The contractor's testing method shall be in conformance with ANSI/AWWA C651-latest edition.
81. The applicant's contractor shall install the following to comply with gas meter

requirements: by-pass connection on the customer's gas line; concrete meter pad; concrete walkway for Access to meter; bollards.

82. All improvements to the gas system will be performed by the City of Palo Alto Utilities.
83. All customer gas piping shall be inspected and approved by the building inspection division before gas service is instituted. Gas meters will be installed within five working days after the building piping passes final inspection and the building inspection division sends the set tag to the Utilities Department provided that the customer's piping conforms to the Utility Standards.
84. Changes from the utility standards or approved submittals will require new submittals, as specified above, showing the changes. The new submittals must be approved by the utilities engineering section before making any change.

