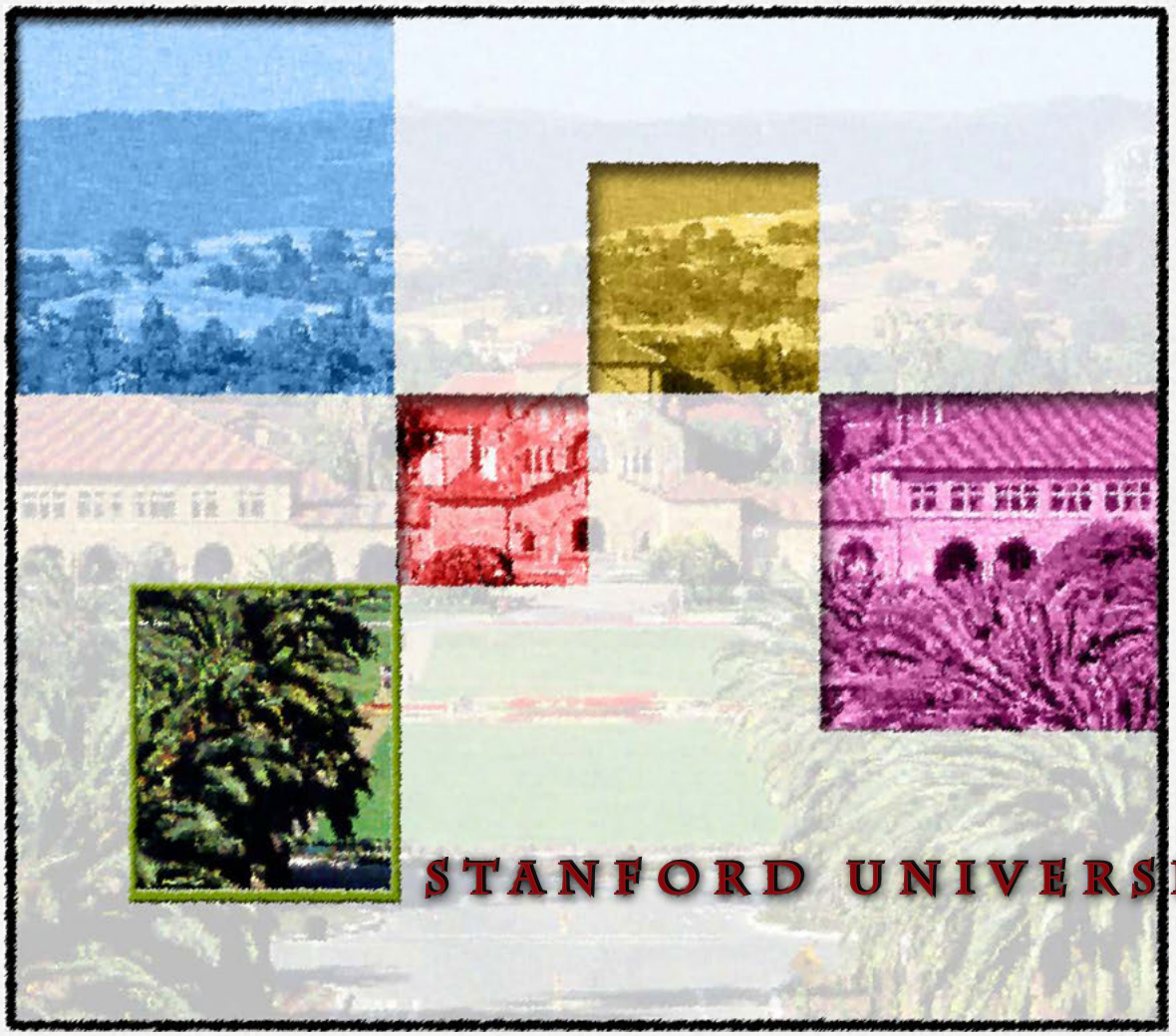
GENERAL USE PERMIT 2000

ANNUAL REPORT No. 13



COUNTY OF SANTA CLARA
PLANNING OFFICE

July 2014

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The Stanford University, General Use Permit (GUP) 2000 Thirteenth Annual Report (AR 13) provides public documentation that summarizes development at Stanford University and required environmental mitigation activity within the unincorporated Santa Clara County, for the monitoring period from September 1, 2012, through August 31, 2013. This report documents both new projects approved during the reporting period and the status of ongoing projects. Section I provides an introduction and context to the AR 13. Information on project status and a summary of development through the AR 13 reporting period is provided in Section II. Section III provides a summary of GUP compliance. Details and illustrations of projects that received Architecture and Site Approval (ASA) during this reporting period are provided in Section IV. Section V describes anticipated development, Section VI provides information on other significant information in the reporting period, and Section VII provides information on references and the project team.

Appendices A, B, C, D, E, and F contain information on campus maps, GUP conditions and additional compliance details, summaries of cumulative development on campus, traffic monitoring results, sustainable activities initiated and ongoing by Stanford University and a summary of Stanford's approved Alternate Means Program to the County Green Building Ordinance, respectively.

The production team for this annual report endeavored to make this report user friendly. If you have comments or questions about the format, you may forward your comments to the Santa Clara County Planning Office. For the 13th annual reporting period, Kavitha Kumar, Associate Planner, was the Project Manager for the Santa Clara County Planning Office for the Stanford University environmental mitigation monitoring and reporting program.

Specific questions regarding this report or the Stanford Community Plan, General Use Permit or the Environmental Impact Report may be directed to Kavitha Kumar, Stanford Planner/Associate Planner, kavitha.kumar@pln.sccgov.org.

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Stanford University owns 8,180 acres of land, including 4,017 acres within unincorporated Santa Clara County that are subject to the land use jurisdiction and regulatory authority of the County. Please see Map 1 in Appendix A, which shows governmental jurisdiction on Stanford lands. Stanford University is a private institution and is subject to local zoning controls and project approval procedures. Stanford University land in Santa Clara County includes the academic campus, residential areas, and most of the foothills east of Alpine Road.

Figure 1 Regional Location

Santa Clara County guides future use of these lands through (1) the General Plan, (2) the Stanford Community Plan (CP), (3) County Zoning Ordinance, (4) other County ordinances and policies, and (5) the 2000 General Use Permit (GUP).

In November 1999, Stanford University submitted a Draft CP/GUP Application to Santa Clara County. As a result of an extensive public review process, significant changes were made in the proposed CP/GUP. Santa Clara County, the lead agency under the California Environmental Quality Act (CEQA), prepared a Program Environmental Impact Report (EIR) to disclose the

significant environmental effects of development pursuant to the CP/GUP. In December 2000, the County Board of Supervisors certified the EIR and approved the Final CP/GUP (2000 GUP).

The 2000 GUP replaced the 1989 GUP. It is the permit under which Stanford continues its academic and support uses, and authorizes the University to develop the following facilities:

- Academic and academic support facilities (an additional 2,035,000 net square feet (sq. ft.) plus the square footage remaining under the 1989 GUP)
- Childcare or community centers (an additional 40,000 sq. ft.)
- Temporary trailers and surge space (up to 50,000 sq. ft.)
- Parking structures and lots (2,300 net new parking spaces)
- Housing (3,018 housing units)

The Board approval of the 2000 GUP and the EIR resulted in mitigation measures. The EIR identified mitigation measures, which were formally adopted in the Mitigation Monitoring and Reporting Program (MMRP).

GUP Condition D.2 requires Stanford to implement the identified MMRP mitigation requirements as follows:

> "If at any time the County Planning Commission determines that Stanford is not in compliance with one or more conditions of the General Use Permit, it may take corrective action as provided in the County Ordinance Code including, but not limited to, suspension of any future development approvals until such time as the conditions are met. Failure of Stanford to comply with aspects of the Mitigation Monitoring and Reporting Program adopted for the GUP or any specific projects approved under the GUP for which Stanford is responsible shall also constitute a violation of these GUP conditions for which corrective action may be taken as described above."

This Thirteenth Annual Report (AR 13) documents Stanford's development activity and compliance with both the conditions of the 2000 GUP and any specific conditions associated with proposed building projects. It covers the period from September 1, 2012, to August 31, 2013. Activities or projects that occurred after August 31, 2013, are beyond the scope of this Annual Report, but will be presented in the next Annual Report that will cover activities between September 1, 2013, and August 31, 2014.

I. Introduction

This report is organized into seven primary sections and six appendices:

I. Introduction - presents the background and overall requirements of the 2000 GUP, the reporting period and organization of the Annual Report, and provides a glossary of terms used in this report.

II. Development Overview - presents major statistics on certain 2000 GUP provisions, including the academic building area cap, the distribution of development, development projects that do not count toward the building area cap, housing, and parking.

III. Overview of Monitoring During Thirteenth Year - summarizes Stanford's activities and status of compliance with 2000 GUP conditions.

IV. Project Summaries - provides summaries of major Stanford projects that received Architectural and Site Approval (ASA) within this Annual Report's reporting period.

V. Anticipated Future Development - lists projects anticipated for submittal/approval during the next Annual Report period. Includes a map showing proposed locations.

VI. Other Significant Activities – summarizes activities that occurred during the report period that are not GUP-related, but are otherwise relevant to development at Stanford.

VII. Other Information - presents references for the information used in this Annual Report and the persons involved in its preparation.

Appendix A - provides maps to illustrate the general orientation of Stanford University lands and campus.

Appendix B - presents the complete list of 2000 GUP conditions and associated activities in the reporting period.

Appendix C - provides cumulative tables and location maps for building projects, housing projects, parking projects, and grading projects.

Appendix D - provides a summary of the result of traffic monitoring at the Stanford University campus between 2001 and 2013.

Appendix E – presents the Stanford Sustainability Annual Report.

Appendix F – provides a summary of Stanford's approved Alternate Means Program for the Santa Clara County Green Building Ordinance.

Glossary of Terms

The following terms and acronyms are used in this Annual Report:

AR **Annual Report:** "AR 13" refers to Stanford's 13th annual report on development and compliance with GUP conditions.

ASA **Architectural and Site Approval:** A procedure established by the County of Santa Clara Zoning Ordinance to review the quality of site and architectural design associated with a proposed project. ASA may establish conditions of approval that change and improve development design.

ASX **Small Project Exemption from ASA:** Projects that are below a certain threshold due to their minimal impact are exempt from the full ASA process and public hearing. ASX is a discretionary staff approval process. ASX may establish conditions of approval that change and improve development design.

CEQA **California Environmental Quality Act:** The overarching California law under which environmental reviews are conducted.

CP **Stanford Community Plan:** Plan that refines the policies of the Santa Clara County's 1995 General Plan as they apply to Stanford lands under County jurisdiction.

EIR **Environmental Impact Report:** Documents the result of environmental analyses conducted under CEQA.

GUP **2000 General Use Permit:** Permit issued to Stanford by the County of Santa Clara, which describes the allowable distribution of additional building area, and establishes procedures under which construction may occur and associated measures that must be accomplished before, during and after construction as conditions of approval for development.

NPS **Non-point source:** Refers to pollution of runoff by diffuse sources, such as vehicle traffic on parking lots or streets.

NSF **Net square feet:** Total "net" or overall change in square footage. This category designates a total amount of positive or negative square footage for a project, based on square footage of total construction ("gross square footage") less any credits for demolition.

SDS **Sustainable Development Study:** A Study required under GUP Condition E.5 that was submitted by Stanford and approved by the Board of Supervisors in 2009.

GUP Building Area Cap

The 2000 GUP (GUP Condition A.1.b) establishes a 2,035,000-net-square-foot building area cap for new academic and academic support uses. The limit applies to most nonresidential development that Stanford proposes to build during the time that this GUP is in effect. Because the exact amount of square footage may change due to design refinements that occur between initial ASA application and subsequent issuance of a building permit, the County requires that the actual square footage deducted from the building area cap be documented at the time a building permit is issued. The cumulative total building area authorized during the reporting period is provided in this annual report for those projects that received building permits between September 1, 2012 and August 31, 2013.

The GUP generally distributes the 2,035,000 sq. ft. of additional academic and academic support facilities among 11 development districts on the Stanford Campus. Map 2 in Appendix A shows the development districts. The majority of 2000 GUP academic building area is allocated to the Campus Center. The allocation of square footage between the development districts can deviate from the GUP's general allocation as long as the GUP procedures are followed (see GUP Condition E.2). For example, during the AR 8 reporting period, the allocation for Campus Center was revised down from 1,600,268 gsf to 1,480,268 gsf to allow for the allocation of 120,000 gsf to the DAPER and Administrative district to accommodate the Knight Management Center and future anticipated projects, which is consistent with the 2000 GUP.

Table 1 lists the development districts, the 2000 GUP allocation of building area for each district, and the amount of academic/academic support square footage that received ASA or building permit approval in each district during this reporting period. The academic/academic support projects that do not affect the GUP building area cap are not shown in Table 1. See Section IV, Project Summaries, for additional information on projects that received ASA approval during the AR 13 reporting period.

TABLE 1
ANNUAL REPORT 13
DISTRIBUTION OF GUP-ALLOWED ACADEMIC AND ACADEMIC SUPPORT DEVELOPMENT[1]

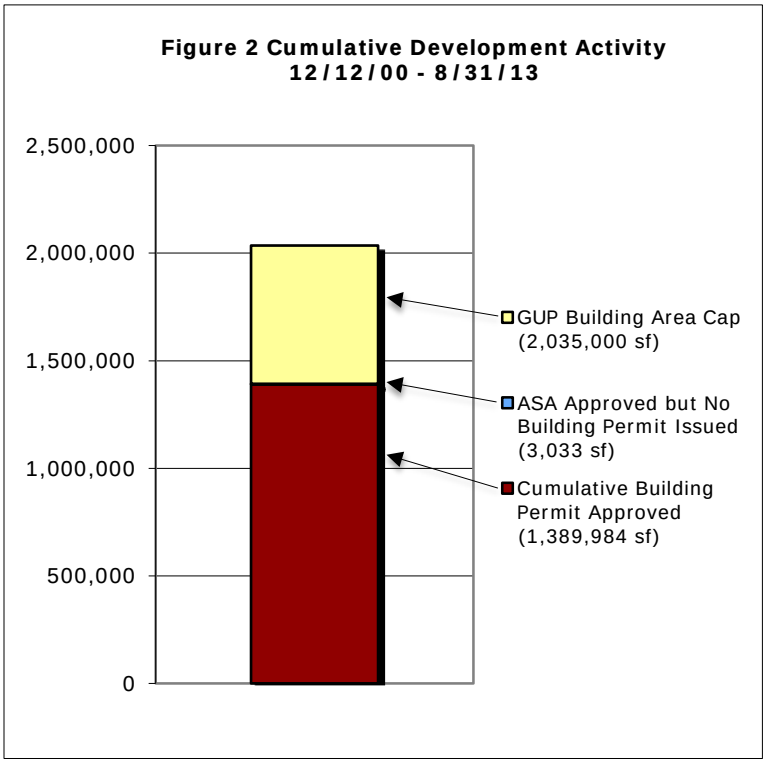
Development District	2000 GUP Building Area Distribution (gsf)	GUP Building Area Distribution at the end of AR 13[1]	ASA Approved Space (sq. ft.)	Building Permit Approved Space[2] (sq. ft.)	Previous ARs Cumulative Building Permit Approvals (sq. ft.)	Cumulative Total Building Permits Approved[3] (sq. ft.)	GUP Balance Remaining (sq. ft.)
Campus Center	1,605,000	1,389,337	88,747	125,465	865,727	991,192	398,145
DAPER & Administrative	250,000	370,000	1,600	29,384	315,487	344,871	25,129
East Campus	110,000	110,000	(8,400)	(8,400)	(29,712)	(38,112)	148,112
Quarry	50,000	50,000	0	0	0	0	50,000
Lathrop	20,000	20,000	0	0	0	0	20,000
West Campus	0	15,931	14,715	14,715	931	15,646	285
Foothills	0	4,732	0	0	3,192	3,192	1,540
Lagunita	0	75,000	3,928	3,928	69,267	73,195	1,805
Arboretum	0	0	0	0	0	0	0
San Juan	0	0	0	0	0	0	0
Total	**2,035,000**	**2,035,000**	**100,590**	**165,092**	**1,224,892**	**1,389,984**	**645,016**

1. 2000 GUP Conditions E.2, 3, and 4 allow for deviations from the building area cap for each district. Any proposed increase in development in a district will be accompanied by an identified corresponding proposed decrease equivalent in building area in one or more of the other districts so that the overall campus-wide GUP building area cap is not exceeded. A cumulative maximum of 15,000 square feet of building area may be located in the Foothills District in a manner consistent with the General Plan and zoning. This amount may not be increased. Redistribution occurred in AR 8 and AR 9. In AR 13, 15,000 square feet was redistributed from Campus Center to West Campus, to accommodate the Replacement Central Energy Facility.
2. Square footage is counted against the GUP building area cap in the reporting year in which the building permits are approved.
3. Cumulative totals include adjusted results from the current and previous annual reports. Also see Appendix C and/or previous annual reports for more detailed background on these cumulative totals.

During the AR 13 reporting period, 18 projects received ASA and 5 projects received ASX approvals. The County also processed 8 Resubmittals of projects that were deemed incomplete to take an action.

Figure 2 illustrates the cumulative status of building-permit-approved square footage for academic/academic support facilities, including the ASA approved square footage counted during the reporting period, as also shown in Table 1. In addition, it illustrates the remaining allowable square footage for development under the 2000 GUP.

Figure 2 illustrates the cumulative status of development that counts toward the GUP building area cap. The square footage of building permit approvals is cumulative. In contrast, ASA approved square footage is only shown for projects that received ASA and ASX (small project) approval during the current reporting period.

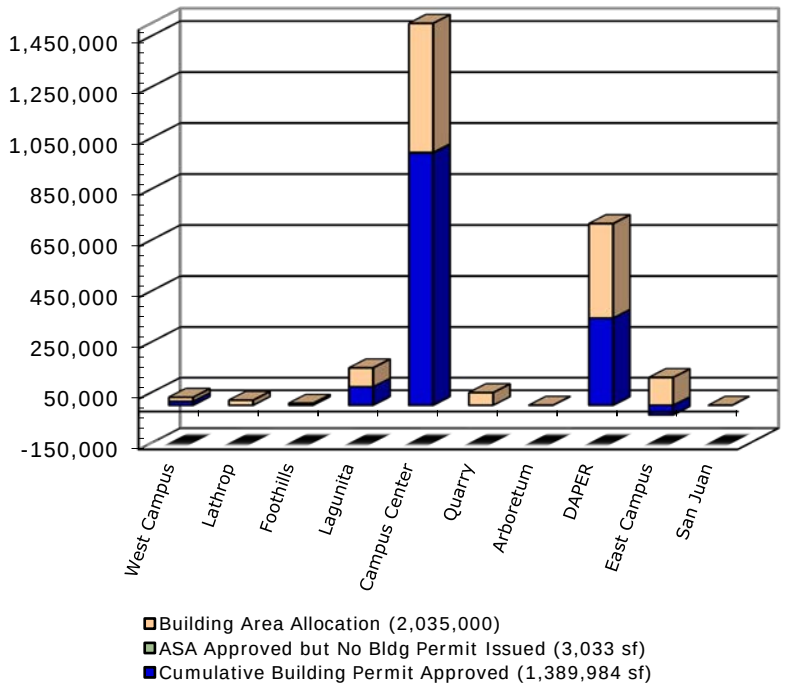


The Stanford Community Plan and GUP Condition E.5 required that a Sustainable Development Study (SDS) be completed and approved prior to acceptance of applications for the second 50% of the academic development allowed under the 2000 GUP. The SDS was presented to the Stanford Community Resource Group (CRG) on November 13, 2008 and to the Planning Commission on November 20, 2008, and was approved by the Board of Supervisors on April 7, 2009. See Appendix E for a Summary of Stanford's Sustainability Activities during this reporting period.

Figure 3, below, based on data in Table 1, illustrates the 2000 GUP distribution of academic/academic support square footage throughout the 10 development districts, and the academic/ academic support square footage authorized by building permits or received approval by the ASA committee during the current reporting period. Anticipated projects or projects in the approval process for Annual Report 13 reporting period are noted in Section V, Table 6.

A map of Stanford University's Development District is provided in Map 2 in Appendix A. The distribution of GUP-allowed academic and academic support development is detailed in Table 1.

FIGURE 3 Distribution of Academic Development



Other Space Caps

Remaining 1989 GUP Approved Square Footage

In addition to providing a 2,035,000 sq. ft. academic/academic support building area, the 2000 GUP preserved the remaining 92,229 gsf authorized but undeveloped under the 1989 GUP. The remaining 1989 GUP approved square footage was consumed during the Annual Report 5 reporting period.

Temporary Surge Space

The 2000 GUP (Condition A.2.c) allows Stanford University to install up to 50,000 sq. ft. as surge space during construction. Surge space is typically provided by installing modular buildings for a limited time. There was a net decrease of 18,911 gsf of temporary trailers during this reporting period for the demolition of construction surge trailers associated with the Encina Modulars and the addition of the Cowell Lot Logistics Trailers.

Childcare and Community Centers

The 2000 GUP (Condition A.2.c) allows up to 40,000 sq. ft. of building area for the purpose of new childcare or community centers, in addition to the academic/academic support building area. As indicated in Table 2, a total of 3,638 gsf remains available.

TABLE 2
ANNUAL REPORT 13
OTHER SPACE CAPS - PROJECT SUMMARY

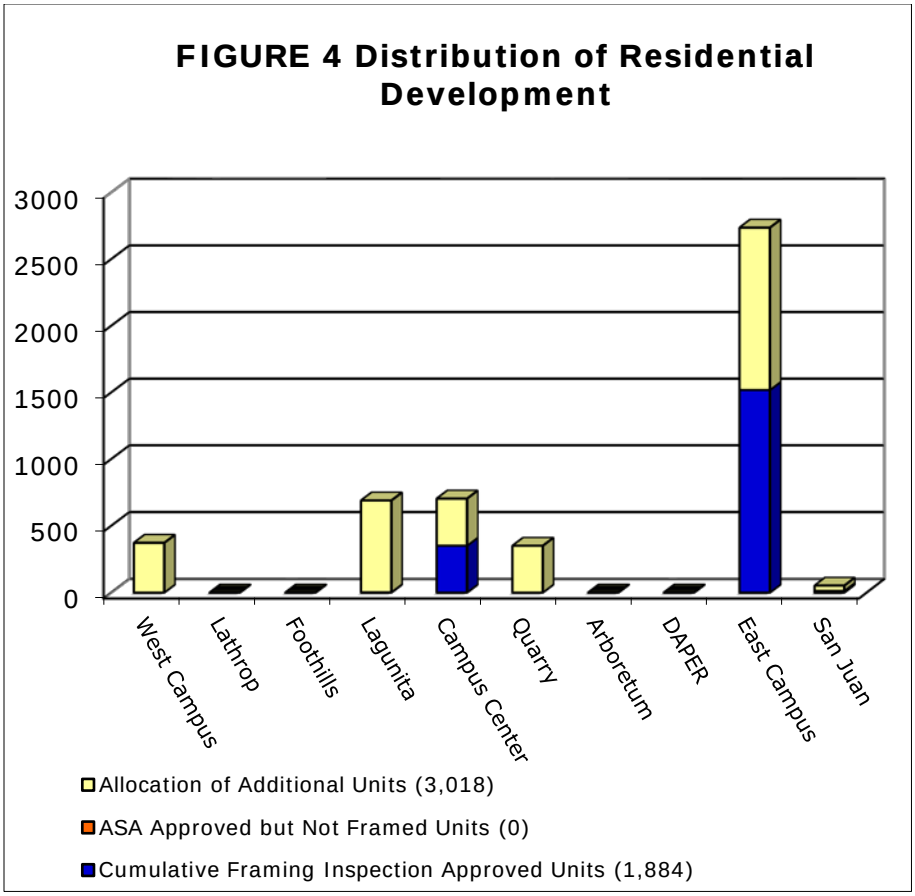
Non-Building Cap Category	Maximum Allowable Square Footage	ASA Approved (sq. ft.)	Building Permit (sq. ft.)	Cumulative Building Permits Approved (sq. ft.) in Previous ARs	Cumulative Total Building Permits Approved (sq. ft.)	Balance Remaining (sq. ft.)
Remaining 1989 GUP Square Footage	92,229	0	0	92,229	92,229	0
Temporary Surge Space	50,000	0	(18,911)	39,135	20,224	29,776
Childcare/ Community Center	40,000	0	0	36,362	36,362	3,638

Housing

The 2000 GUP allows for the construction of 3,018 net new housing units on campus, with allocations for faculty and staff, graduate and undergraduate students, and postdoctoral and medical students as shown in Table 3. The GUP identified potential housing sites for students, staff and faculty (Map 3, Appendix A). As with academic/academic support building space, the housing units must be distributed among the 10 development districts (see Table 3).

Housing may also be developed on sites other than those shown on Map 3. The estimated distribution of the type and location of housing among development districts may deviate from the locations described in the 2000 GUP pursuant to Conditions F.2, F.3, and F.4. As explained under Condition A (A.1.c, A.1.d, and A.3.b), the square footage of housing units constructed is tracked but does not count toward the 2000 GUP building area cap (see Table C-2, Appendix C).

During the AR 13 reporting period, nine housing renovations were approved and constructed, resulting in 427 additional student housing units. For purposes of the housing linkage requirement, as provided in GUP Condition F.8, the housing requirement is counted at the time of the framing inspection.



There is a total allocation of 3,018 housing units for the campus. As illustrated in Figure 4, the cumulative total number of approved units under the 2000 GUP allocation is 1,884 units. A total of 1,134 housing units remain available under the housing allowance.

TABLE 3
ANNUAL REPORT 13
DISTRIBUTION OF RESIDENTIAL DEVELOPMENT

Development District[1]	Allowable 2000 GUP Net Additional Units	ASA Approved Units but Not Yet Framed	Past Cumulative[2]	Final Framing Inspection Approved Units	Cumulative
West Campus **Stable Site**	372 Faculty/Staff	0	0	0	0
Lathrop	0	0	0	0	0
Foothills	0	0	0	0	0
Lagunita **Driving Range** **Searsville Block** **Mayfield/Row**	195 Faculty/Staff 57 Graduate 125 Undergrad/ Grad	0	0	2	2
Campus Center	352 Graduate	0	351	0	**351**
Quarry **Quarry/Arboretum** **Quarry/El Camino**	 200 Postdoc 150 Postdoc	0	0	0	0
Arboretum	0	0	0	0	0
DAPER & Administrative	0	0	0	0	0
East Campus **- Manzanita** **- Escondido Village** **- Quillen**	 100 Undergrad/ Graduate 1,353 Graduate 75 Faculty/Staff		1,093	 425	1,518
East Campus Subtotal		**0**	**1,093**	**425**	**1,518**
San Juan **Lower Frenchman's** **Gerona** **Mayfield** **717 Dolores**	 18 Faculty/Staff 12 Faculty/Staff 9 Faculty/Staff	0	13	0	13
San Juan Subtotal		0	13	0	13
Total	**3,018 Allowed[2]**	**0**	**1,457**	**427**	**1,884**

1. Housing may be developed on other sites and development may vary from the estimated distribution with regard to either the type (student, postdoctoral, or faculty/staff) or amount of housing on the site (2000 GUP Conditions F.2, F.3, and F.4). Redistribution was reported in AR 6. In AR 13, 310 graduate units were redistributed from Lagunita to East Campus – 60 units for the McFarland project and 250 units for the Comstock Graduate Housing project.
2. Cumulative totals include results from previous annual reports. See Appendix C and/or previous annual reports for more detailed background on these cumulative totals.

Parking

The 2000 GUP allows for 2,300 net new parking spaces above the campus base of 19,351 spaces. As explained in Condition A.3.c, the building area of parking structures does not count towards the GUP academic/academic support building area cap. As with academic/academic support building area square footage and housing, the allowed parking spaces have been distributed among the development districts (Table 4 and Figure 5).

Figure 5 Distribution of Parking Spaces

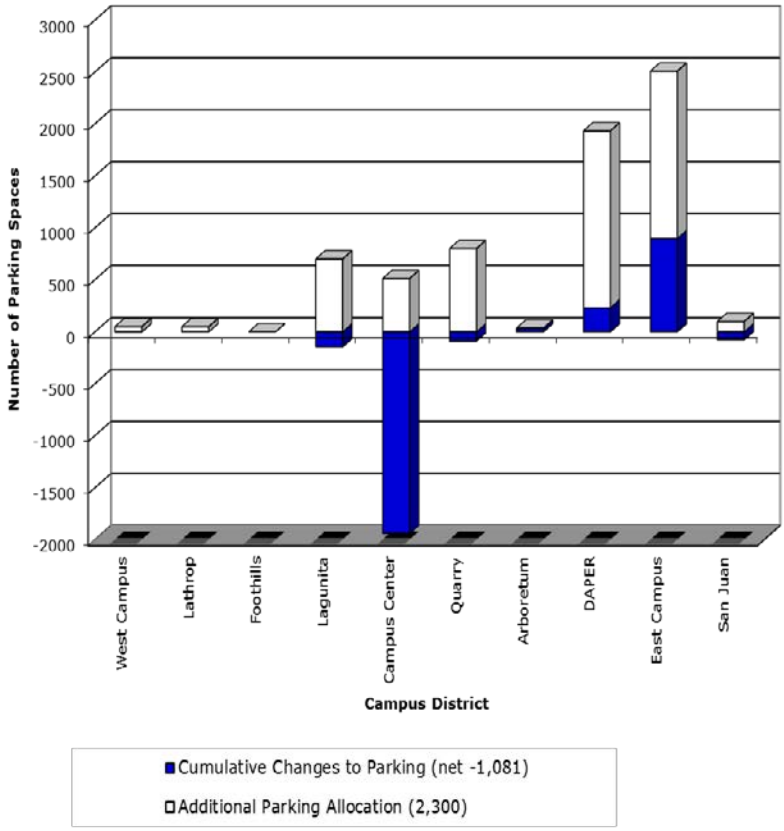


Table 4 presents the changes in parking spaces during the current reporting period, and cumulative increases and decreases in parking spaces on the campus during the AR 1 through AR 13 reporting periods.

During the AR 13 reporting period, there was a net decrease of 68 parking spaces on campus. The cumulative change in the parking inventory is a net decrease of 1,081 parking spaces under the 2000 GUP.

TABLE 4
ANNUAL REPORT 13
DISTRIBUTION OF PARKING

Development District	Base Parking GUP EIR	2000 GUP Allowed Change in Parking Spaces	Changes to Parking Inventory				Unused 2000 GUP Allocation
			AR 13 Contribution	Previous AR 1-12 Contribution	Cumulative (AR 1 Through Current AR 13)	EIR Base and Cumulative (Current Parking Capacity)	
West Campus	191	50	0	(1)	(1)	190	51
Lathrop	0	50	0	0	0	0	50
Foothills	0	0	0	0	0	0	0
Lagunita	1,745	700	(70)	(74)	(144)	1,601	844
Campus Center	8,743	(511)	(186)	(1,753)	(1,939)	6,804	1,428
Quarry	1,058	800	(88)	1	(87)	971	887
Arboretum	134	36	0	36	36	170	0
DAPER & Administrative	2,209	1,664	416	(184)	232	2,441	1,432
East Campus[1]	4,731	1,611	(134)	1,031	897	5,628	714
San Juan	540	100	(6)	(69)	(75)	465	175
Campus Wide Summary	19,351	2,300[2]	(68)	(1,013)	(1,081)	18,270	3,381

1. Parking allocation in East Campus increased from 900 to 1,611 spaces and decreased in Campus Center from 200 to negative 511 with the approval of Parking Structure 6 (Munger).

2. According to 2000 GUP Condition H.1, the total net additional parking on campus shall not exceed 2,300 spaces, except for parking provided with any housing that is constructed in excess of 3,018 planned housing units. Also, parking constructed, as part of and for new faculty/staff housing in areas designated Campus Residential-Low Density and Campus Residential-Medium Density will not count toward the limit for each development district. In order to allow flexibility in the distribution of parking, the GUP also sets an upper limit for new parking in each development district. Some districts will ultimately build less than their GUP allocations. Thus, the sum of unused district allocations is more than the remaining 2000 GUP allocation, which is the campus-wide maximum number of parking spaces that will be built under this GUP.

3. Parking allocation for Arboretum increased from zero to 36 spaces and decreased in DAPER 1,700 to 1,664 when on-street, non-striped parallel parking was converted to striped, angled parking along the west side of the street, and two-way traffic was converted to one-way northbound traffic in association with the Galvez Parking Lot project.

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III. Overview of Monitoring During Thirteenth Year

This section provides a summary of activities conducted during the AR 13 reporting period in compliance with 2000 GUP conditions. For a complete discussion of compliance with each 2000 GUP condition, please see Appendix B.

GUP Condition A: Building Area

Section II of this Annual Report provides statistics and distribution of building area by district. It also provides accounting of the 2000 GUP space expenditure for those projects that received building permits during the AR 13 reporting period. Descriptions and illustrations of projects that received ASA and ASX during the AR 13 reporting period are provided in Section IV.

During the AR 13 reporting period, September 1, 2012 through August 31, 2013:

- Stanford did not exceed the GUP building area cap, or the GUP caps for new housing and parking.
- Stanford also remained within the other space caps established under the GUP.

GUP Condition B: Framework

A total of 23 projects received ASA approval or ASA Small Project Exemption (ASX) during the AR 13 reporting period. All were determined to be consistent with General Plan land use designations and zoning. Stanford University paid all costs associated with the work conducted by the County Planning Office in relation to the 2000 GUP (staff time, consultant fees, and the direct costs associated with report production and distribution) in a timely manner.

GUP Condition C: Monitoring, Reporting, and Implementation

The County Planning Office gathered comprehensive data related to Stanford projects, compiled the information, produced and published the AR 13 pursuant to the 2000 GUP. Stanford University provides funding for all aspects of the Annual Report preparation, and necessary information included in the report.

The Draft AR 13 was presented to the Community Resource Group on April 10, 2014 and the final report was presented to the Planning Commission at the June 2014 public hearing.

GUP Condition D: Permitting and Environmental Review

During the AR 13 reporting period, Stanford received ASA or ASA Small Project Exemption (ASX) for 23 projects. All of these projects were determined to be consistent with the General Plan land use designations and zoning requirements, and found to be adequately analyzed in the CP/GUP EIR. See Section II of this Annual Report for the status of each project.

When violations of codes, ordinances or other requirements occur, they are addressed through appropriate County procedures. It is beyond the scope of this Annual Report to document every minor violation of County ordinances or other requirements that occur on Stanford University land. As of this Annual Report, there has been no action that would require the County Planning Commission to consider or determine Stanford to be in non-compliance with any GUP condition or mitigation requirement. Stanford University remains in compliance with the GUP.

The zoning enforcement office and building inspection office report that Stanford University is in general compliance with other County requirements.

GUP Condition E: Academic Building Area Review

Stanford is in compliance with GUP Condition E.5. See Appendices B and E for more detail.

GUP Condition F: Housing

During this reporting period, Stanford renovated nine dorms adding a total of 427 housing units. The total number of campus housing units constructed under the 2000 GUP is 1,884.

Currently, Stanford's capacity for providing student-housing units remains equivalent to the capacity identified by Stanford University at the time of initial occupancy. Stanford's housing need is subject to fluctuation during any given year. Accordingly, Stanford University may redistribute the student population among existing housing facilities in any given year, based on current population and programmatic needs. The County will, as needed, reassess housing availability status with appropriate Stanford University staff. If Stanford University should ever apply for a development permit that would change the number of beds available to students, that action and the change in beds would be reported in the Annual Report.

The 2000 GUP requires Stanford to build additional housing units commensurate with the development of academic/academic

support facilities. The threshold at 1,000,000 gsf of academic or academic support area requires a minimum of 1,210 housing units. Stanford University has constructed 1,884 units and is therefore, in compliance with this requirement.

Stanford University has complied with County requests for affordable housing in-lieu payments after building permit issuance and before occupancy. As of May 2013, the affordable housing fees are assessed at the rate of $18.89 per square foot of net new academic or academic support space approved under the building permit. As of August 31, 2013, Stanford has made affordable housing fee payments totaling $22,381,327.01. Six affordable housing projects have been funded so far, with the funding of $16,105,591.00. The six projects built within the 6-mile radius from Stanford Campus boundary have provided 369 affordable housing units, with 157 units restricted to very low income to extremely low income families. (Please note: In Nov, 2013, one of the six Stanford projects, Palo Alto Housing- Maybell Orchard, funded for $2,759,780 was cancelled and the funds returned to the County.)

Within this reporting period, Stanford applied for an Amendment to the 2000 GUP to reallocate 372 faculty/staff housing units to 166 student housing units in the Lagunita development district and 206 student housing units in the East Campus development district. The Amendment has not yet been approved at the end of this reporting period. A corresponding Zoning Map Amendment was proposed to rezone the Stable Site in the West Campus from Medium Density Campus Residential (RS3) to Academic Campus (A1). This Amendment is expected to be heard by the Board of Supervisors in November 2013.

Consistent with the 2000 GUP conditions, Stanford also redistributed 250 graduate units for Comstock Graduate Housing from Lagunita to East Campus development district, and 60 graduate units for the McFarland project, also in the East Campus development district.

GUP Condition G: Transportation

A baseline traffic count to determine the existing level of commute trips entering the campus during the morning peak commute period and leaving the campus during the evening peak commute period was established in 2001. Data collection during the AR 13 monitoring period involved 6 weeks in Spring 2013 and 2 weeks in Fall 2013 to monitor Stanford's compliance with the "no-net-new commute trip" standard. The Stanford University Traffic Monitoring Report 2013 is available for review at the County and

is also available on the County website, (www.sccplanning.org). Results of annual traffic monitoring are summarized in Appendix D of this document.

The Annual Report normally reports on activity between September 1 and August 31. However, the annual Traffic Monitoring Reporting period is the same as the baseline, 6 weeks in the Spring and 2 weeks in the Fall.

The 2013 Monitoring Report concluded that the adjusted morning (AM) inbound count totaled 3,332 vehicles. This represented an increase of 13 vehicles from the baseline, which falls within the 90% confidence interval, and does not represent a significant AM inbound traffic increase. The afternoon (PM) outbound count totaled 3,744 vehicles, which is an increase of 298 vehicles from the baseline. This increase is above the 90% confidence interval by 189 vehicles and exceeds the one-percent established trigger by 153 vehicles. However, after applying 339 trip credits submitted by Stanford and verified by the County, the PM peak hour outbound traffic is 186 trips below the 1% established trigger. Therefore no additional mitigation is required.

The 2013 traffic monitoring cordon locations used for traffic monitoring are shown on Map A-4, Appendix A. Data and analysis of these counts, reported in December 2013, are provided in Appendix D of this annual report.

GUP Condition H: Parking

During AR 13 reporting period, all parking projects were in compliance with GUP Condition H. Detailed information may be found in Section II, Table 4 and Appendix B, Appendix C (Map C-3) and Figure 5. As indicated in this Annual Report, several parking projects were implemented. The cumulative change in the parking inventory remains significantly under the cap set for the 2000 GUP, which allowed a total increase campus-wide of 2,300 spaces. With cumulative reductions, the remaining parking capacity that could be installed under the 2000 GUP parking cap is 3,381 spaces.

GUP Condition I: Parks and Recreation Facilities

Construction of C2/Arastradero Trail: Construction and trail improvements were completed and the trail is expected to be dedicated in November 2013. The trail links to the Pearson-Arastradero Preserve.

San Mateo County and Stanford did not reach agreement for the San Mateo C1 segment and in February 2012, Stanford paid the

County approximately $10.3 million. In August 2012, the County issued a request for applications for projects that would serve as alternative mitigation measures to address the loss of recreational facilities on the Stanford campus. The County received 15 project applications from six local agencies. The Board of Supervisors declared its intent to fund six of the 15 projects, including $4.5 million to Stanford to construct a perimeter trail along El Camino Real and Stanford Avenue frontages. The Board also directed County Administration to negotiate projects agreements for the selected projects and submit approval to the Board consistent with the requirements of CEQA. It is expected that the project agreement for the Stanford Perimeter Trail will be considered by the Board in 2014.

GUP Condition J: California Tiger Salamander

The final Stanford University Habitat Conservation Plan (HCP) and Final Environmental Impact Statement (EIS) were published on November 23, 2012 and the HCP was revised in March 2013. On August 13, 2013, the County Board of Supervisors acknowledged the determination that the approved HCP provides equal habitat value and protection for the California Tiger Salamander (CTS). Therefore, the HCP supersedes all conditions in the GUP that address the CTS, implementing Condition J.9 of the GUP.

GUP Condition K: Biological Resources

Ten projects that began construction during the current reporting period required pre-construction surveys for breeding raptors and migratory birds. For more information, see Appendix B, Condition K.2. No special status plant assessments were conducted on campus during this reporting period.

GUP Condition L: Visual Resources

Eight projects approved during the reporting period included exterior lighting that would impact the visual resource conditions. The ASA conditions of approval require the lighting be mitigated and limited to the site.

GUP Condition M: Hazardous Materials

During the AR 13 reporting period, no new buildings will include hazardous materials that are regulated by the California Accidental Release Prevention Law.

GUP Condition N: Geology and Hydrology

During the AR 13 reporting period, all projects were in compliance with GUP Condition N. See Appendix B, Condition N for more details.

GUP Condition O: Cultural Resources

During the AR 13 reporting period, all projects were in compliance with GUP Condition O. See Appendix B, Condition O for more details.

GUP Condition P: Utilities and Public Services

During the AR 13 reporting period, all projects were in compliance with GUP Condition P. See Appendix B, Condition P for more detail.

GUP Condition Q: Air Quality

All approved projects were required to comply with BAAQMD's permitting, control measures and recommendations as appropriate. See Appendix B, Condition Q for more detail.

GUP Condition R: Noise

Stanford complied with the requirements of the County Noise Ordinance on individual construction projects. Two fireworks events occurred during the reporting period. Two events per year are allowed by the GUP. Stanford maintained the noise hotline (650) 723-2281. The University reports that three complaints were received. See Appendix B, Condition R for more detail.

GUP Condition S: Additional GUP Conditions

This condition was a requirement for Stanford University to agree to the GUP conditions of approval within 60 days. This condition was fulfilled in Annual Report 1.

Project Summaries

This section presents brief project summaries of all major projects that received ASA approval or exemption and/or a building permit or demolition permit during the reporting period. A list of other minor projects that received approval is presented at the end of this section. Figure 6 shows the locations of the major projects.

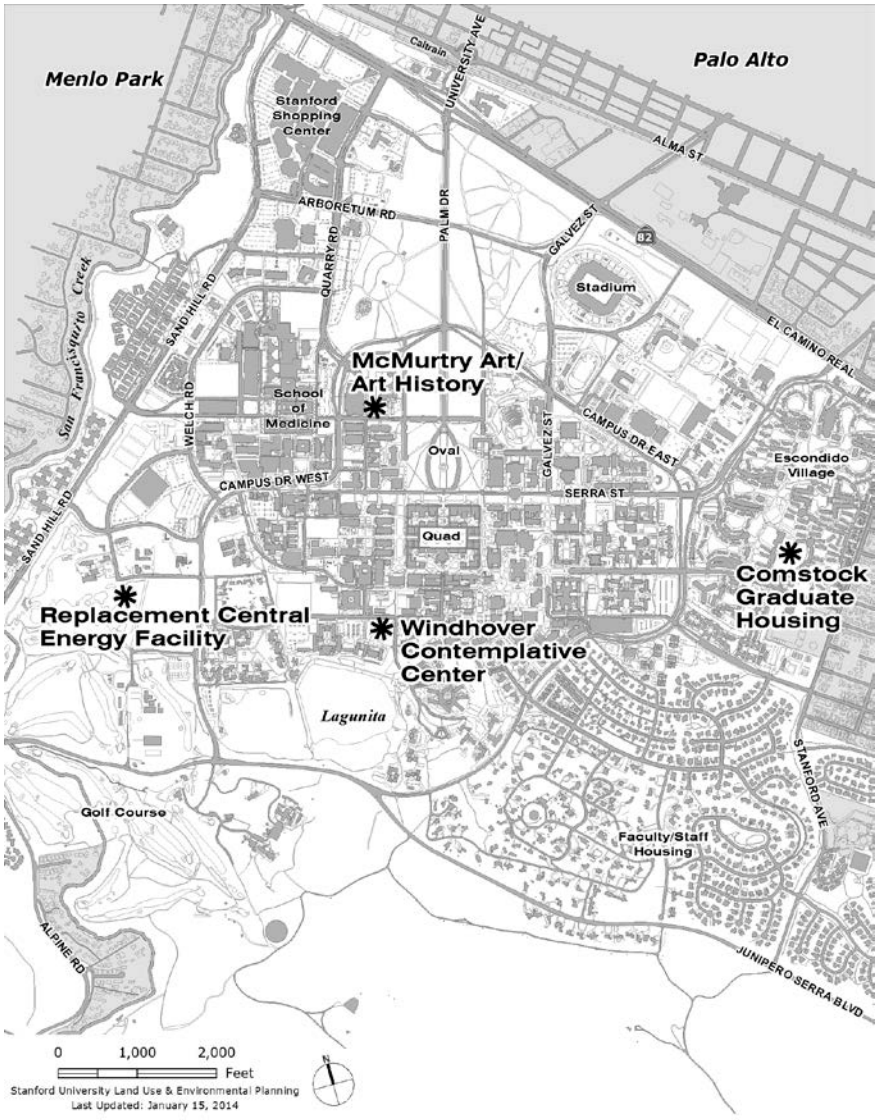


FIGURE 6. Location of Major AR13 Projects

TABLE 5
ANNUAL REPORT 13
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
Projects that affect GUP gsf						
9963	Bing Concert Hall	Campus Center	89,000		78,350 + 7,185 =85,535	Completed
9697	BioEngineering/ Chemical Engineering	Campus Center	153,159		196,172	Completed
10177	Arrillaga Outdoor Education and Recreation Center	Lagunita	75,000		75,000	Completed
10235	Comparative Medicine Pavilion	Campus Center	20,507		20,507	Completed
10258	Arrillaga Family Sports Center Addition	DAPER & Administration	28,500		27,709	Under Construction
6939	Cagan Soccer locker rooms	DAPER & Administration	3,345		3,345	Completed
10272	Anderson Collection	Campus Center	28,192		30,279	Under Construction
10323	Replacement Central Energy facility	Campus Center	14,715		14,715	Under Construction
9773	SULAIR North repurposing	Campus Center	0		0	Under Construction
50096	Grounds trailer	DAPER & Administration		(722)		Demolished
10363	McMurtry Art – Art History	Campus Center	83,649		84,239	Under Construction
7868	New Field Hockey Bleachers	DAPER & Administration	2,322		2,397	Under Construction
10409	Windhover Contemplative Center	Lagunita	3,928		3,928	Under Construction
NA	Encina Modulars Demolition	Campus Center		(8,400)		Demolished
10235	Northwest Data Center and Communications Hub	Campus Center	3,033		Not yet	Awaiting Building Permit
3301	Stanford Equestrian Center	West Campus	Not yet		Not yet	Awaiting planning approval
10346	520/524 Renovation	Campus Center	2,065		2,237	Under Construction
9731	408 Panama Mall	Campus Center	Not yet		Not yet	Awaiting planning approval

TABLE 5
ANNUAL REPORT 13
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
Projects that affect Other gsf						
N/A	Encina Modulars	Campus Center		(21,495)		Demolished
9861	Cowell Lot Construction Site Logistics Trailers	East Campus		2,584		Established
Housing*						
10289	Hammarskjold	San Juan	1,730		1,730	Completed
10286	Synergy	San Juan	0		0	Completed
10288	Slavianskii Dom	San Juan	961		961	Under Construction
10287	Muwekma-Tah-Ruk	Lagunita	450		450	Under Construction
10285	Haus Mitt	San Juan	210		210	Completed
10284	Phi Sigma	San Juan	420		420	Completed
10282	Grove House	San Juan	500		500	Under Construction
10283	Columbae	Lagunita	950		950	Under Construction
10390	Comstock Graduate Housing	East Campus	256,258	(30,547)	256,258	Under Construction
51108	Toyonito Demolition	East Campus		(13,298)		Demolished
10447	Manzanita Park Residence Hall	East Campus	39,696		Not yet	Awaiting Building Permit
9965	Crothers College Dean's Residence	East Campus	4,051		None	Withdrawn
Site Projects						
6939	Soccer Bleachers	DAPER & Administration	N/A	N/A	N/A	Completed
49733	Bonair Siding Fuel Storage	DAPER & Administration	N/A	N/A	N/A	Completed
10182	Hoover Pavilion 60kV site work	Quarry	N/A	N/A	N/A	Completed
9996	Arguello Recreation Field	East Campus	N/A	N/A	N/A	Completed
10279	Galvez Parking Lot	DAPER & Administration	N/A	N/A	N/A	Completed
10307	Central Process Steam building	Campus Center	N/A	N/A	N/A	Under Construction
10308	LPCH Contractor Parking Lot	Quarry	N/A	N/A	N/A	Completed
10330	Page Mill Rd. Laydown	Foothills	N/A	N/A	N/A	Established

TABLE 5
ANNUAL REPORT 13
DEVELOPMENT PROJECTS RECEIVING ASA OR OTHER APPROVAL

PC/ File #	Project Name	Development District	ASA gross sq. ft.	Demolition sq. ft.	Bldg. Permit sq. ft.	Development Status
10331	Heat Exchanger 4	Campus Center	N/A	N/A	N/A	Awaiting planning approval
10374	Lasuen Street Parking Lot	Campus Center	N/A	N/A	N/A	Completed
10438	Sand Volleyball Arena	DAPER & Administration	N/A	N/A	N/A	Awaiting planning approval
3301	Acorn Parking Lot	East Campus	N/A	N/A	N/A	Under Construction
10279	RAN 24 Distribution Antenna System	DAPER & Administration	N/A	N/A	N/A	Awaiting planning approval
8453	Toyon-Branner Boiler	East Campus	N/A	N/A	N/A	Awaiting building permit

File No. 10390, Comstock Graduate Housing

ASA Application Submitted:	07/07/2012
ASA Approved:	11/08/2012
Status as of 08/31/13:	Under Construction, Expected completion July 2014
Project Description:	The new 256,258 square feet Comstock Graduate Housing project will create new graduate student housing in Escondido Village. Nine existing buildings with 74 beds were demolished, to make way for the construction of four residential buildings and a commons building to provide a net increase of 362 new beds and related on-campus amenities. The project includes the redistribution of 250 housing units from the Lagunita Development District to the East Campus Development District. The housing is scheduled for September 2014 occupancy. 120 trees were removed and 4 trees were relocated, and 120 trees were planted. Estimated grading quantities are 19,160 cubic yards of cut and 3,536 cubic yards of fill. The project is residential space; therefore the units count against the 2000 GUP residential unit cap.
Development District:	East Campus
Type of Project:	Residential
	
Applicable GUP Conditions:	Stanford is currently in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

File No. 10363: McMurtry Art

ASA Application Submitted:	11/20/2012
ASA Approved:	02/14/2013
Status as of 08/31/13:	Under Construction, Expected completion April 2016
Project Description:	The new 84,239 square feet McMurtry Building to be constructed at 355 Roth Way will be located between the Cantor Arts Center and Parking Structure 1. It will serve as an interdisciplinary hub for the arts at Stanford and further the development of the Arts District at the entrance to campus. The McMurtry Building will house undergraduate art practice studios, film screening, film editing, classrooms and seminar rooms, along with the Art and Architecture Library, and gallery space for student work. The project is on the site of the previously demolished Anatomy Building. 14 trees were removed, including 12 oaks, and protected trees will be replaced at ratios required by Condition K.4. Estimated grading quantities are 10,520 cubic yards of cut and 6,200 cubic yards of fill. This project is academic space; therefore the net building space counts against the 2000 GUP building area cap.
Development District:	Campus Center
Type of Project:	Academic
	
Applicable GUP Conditions:	Stanford is in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

File No. 10323: Replacement Central Energy Facility

ASA Application Submitted:	06/01/2012
ASA Approved:	09/13/2012
Status as of 08/31/13:	Under Construction, Expected completion March 2015
Project Description:	The 14,715 square feet Replacement Central Energy Facility (RCEF) will substantially reduce Stanford's energy usage for heating and cooling, resulting in lower criteria air pollutant and greenhouse gas emissions than the existing Central Energy Facility, as well as a substantial reduction in the usage of potable water. The RCEF will replace the building heating and cooling functions currently provided by Stanford's aging existing Central Energy Facility. The RCEF will also include a new electrical substation; the existing CEF and the existing Palou substation will be decommissioned. Nine trees were removed and 25 trees were planted. Estimated grading quantities are 190,590 cubic yards of cut and 795 cubic yards of fill. This project is academic space; therefore the building space counts against the 2000 GUP building area cap.
Development District:	West Campus
Type of Project:	Academic
	
Applicable GUP Conditions:	Stanford is in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

File No. 10409: Windhover Contemplative Center

ASA Application Submitted:	02/11/2013
ASA Approved:	04/11/2013
Status as of 08/31/13:	Under Construction, Expected completion May 2014
Project Description:	The 3,928 square feet Windhover Contemplative Center is a proposed new facility that will display Nathan Oliveira's widely regarded and meditative Windhover series. Using art as its vehicle, the Center will be a meditative refuge especially for students. The new building will include exhibit space, an entry/reception area, mechanical space, rest rooms and an outdoor gathering area. The site is located west of the Papua New Guinea Sculpture Garden on the corner of Lomita and Santa Teresa Street. One tree was removed and one tree was planted. Estimated grading quantities are 32 cubic yards of cut and 83 cubic yards of fill. This project is academic space; therefore the building space counts against the 2000 GUP building area cap.
Development District:	Lagunita
Type of Project:	Academic
	
Applicable GUP Conditions:	Stanford is in compliance with Mitigation Monitoring and Reporting Program requirements and GUP Conditions for this project. Detailed summaries of project-related conditions are maintained in County project files.

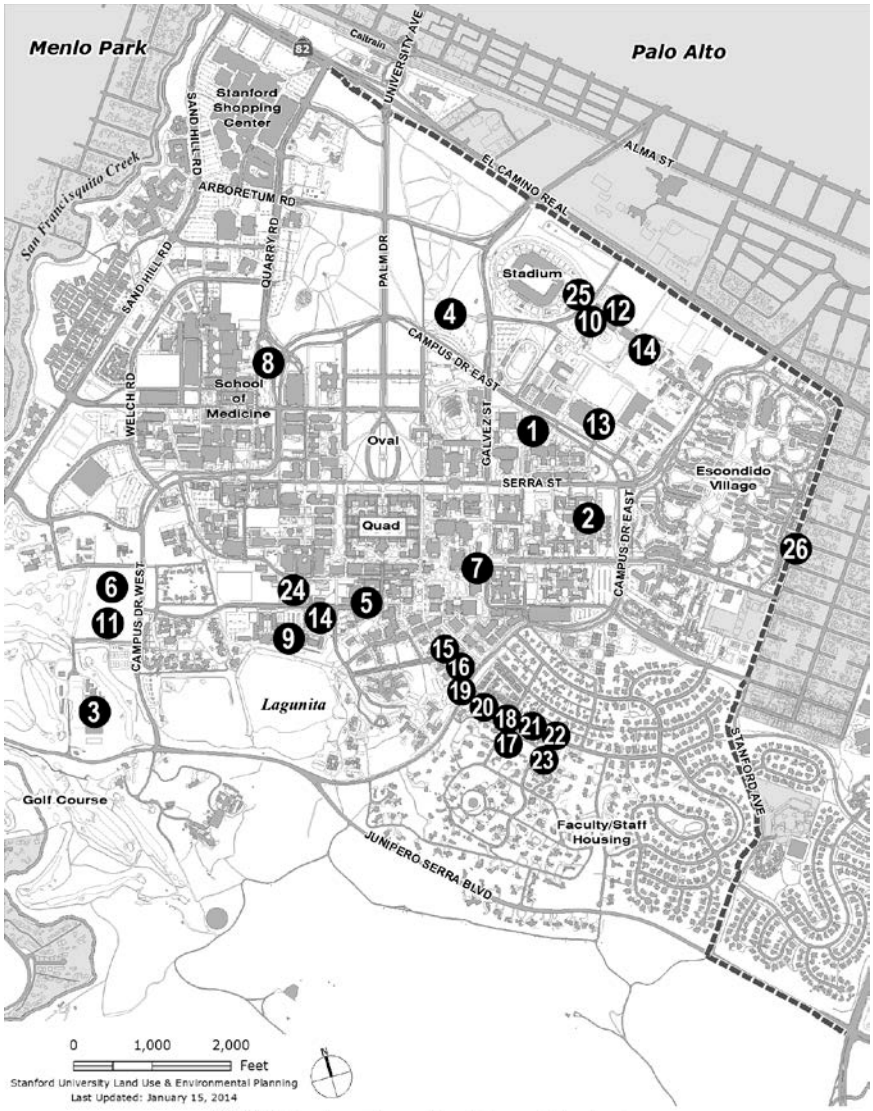


FIGURE 7. Location of Anticipated Projects

Map ID	Project
1	Sand Volleyball Arena
2	Manzanita Park Residence Hall
3	Stanford Equestrian Center
4	RAN 24 Distribution Antenna System
5	408 Panama Mall
6	Searsville Parking Lot
7	Science Teaching and Learning Center
8	LPCH-SHC Steam Plant
9	Roble-Lagunita Boiler Enclosure
10	Sunken Diamond New Entry/Locker Room Expansion
11	Educational Farm
12	Cagan Soccer Field Bleacher Lockers
13	Maples Pavilion Addition
14	Softball Field House
15	Mars
16	Sigma Nu
17	Roth

18	Phi Kappa Psi
19	Lasuen
20	Kairos
21	La Maison Francaise
22	Durand
23	717 Dolores
24	Roble Gym Renovation
25	Football Stadium New Locker Room
26	Stanford Perimeter Trail

V. Anticipated Future Development

TABLE 6
ANTICIPATED PROJECTS FOR ANNUAL REPORT 14

Development District	Project	County File #	ASA Application Submitted	Anticipated ASA Square Footage	Anticipated Housing	Anticipated Parking
ASA Applications Submitted During AR 13, No Approval as of August 31, 2013						
DAPER & Admin	Sand Volleyball Arena	10438	5/6/13	N/A	-	-
East Campus	Manzanita Park Residence Hall	10447	5/17/13	39,696	128	-
West Campus	Stanford Equestrian Center	3301	5/31/13	343	-	-
DAPER & Admin	RAN 24 Distribution Antenna System	10279	6/5/13	N/A	-	-
Campus Center	408 Panama Mall	9731	7/15/13	56,990	-	-
ASA Applications Anticipated for AR 14 Reporting Period						
West Campus	Searsville Parking Lot	10486	-	-	-	597
Campus Center	Science Teaching and Learning Center	-	-	79,935	-	-
Campus Center	LPCH-SHC Steam Plant	-	-	-	-	-
Lagunita	Roble-Lagunita Boiler Enclosure	9351	-	N/A	-	-
DAPER & Admin	Sunken Diamond New Entry/Locker Room Expansion	5945	-	3,066	-	-

TABLE 6
ANTICIPATED PROJECTS FOR ANNUAL REPORT 14

Development District	Project	County File #	ASA Application Submitted	Anticipated ASA Square Footage	Anticipated Housing	Anticipated Parking
West Campus	Educational Farm	10520	-	864	-	-
DAPER & Admin	Cagan Soccer Field Bleacher Lockers	6939	-	2,658	-	-
DAPER & Admin	Maples Pavilion Addition	8572	-	1,135	-	-
DAPER & Admin	Softball Field House	10438	-	2,618	-	-
Lagunita	Mars	10536	-	-	1	-
Lagunita	Sigma Nu	10535	-	-	0	-
San Juan	Roth	9974	-	-	1	-
San Juan	Phi Kappa Psi	10538	-	-	2	-
San Juan	Lasuen	10541	-	-	0	-
San Juan	Kairos	10539	-	-	2	-
San Juan	La Maison Francaise	10537	-	-	-2	-

V. Anticipated Future Development

TABLE 6
ANTICIPATED PROJECTS FOR ANNUAL REPORT 14

Development District	Project	County File #	ASA Application Submitted	Anticipated ASA Square Footage	Anticipated Housing	Anticipated Parking
San Juan	Durand	9465	-	-	0	-
San Juan	717 Dolores	9120	-	-	2	-
Campus Center	Roble Gym Renovation	10540	-	544	-	-
DAPER & Admin	Football Stadium New Locker Room	6512	-	8,966	-	-
Multiple	Stanford Perimeter Trail	8464	-	0	-	-

Section VI. Other Information

References

- Santa Clara County 2000 Stanford Community Plan/General Use Permit Environmental Impact Report. Prepared by Parsons.
- Stanford University Community Plan. Adopted by Santa Clara County Board of Supervisors December 12, 2000.
- Stanford University General Use Permit. Approved December 12, 2000.

County of Santa Clara Report Project Manager

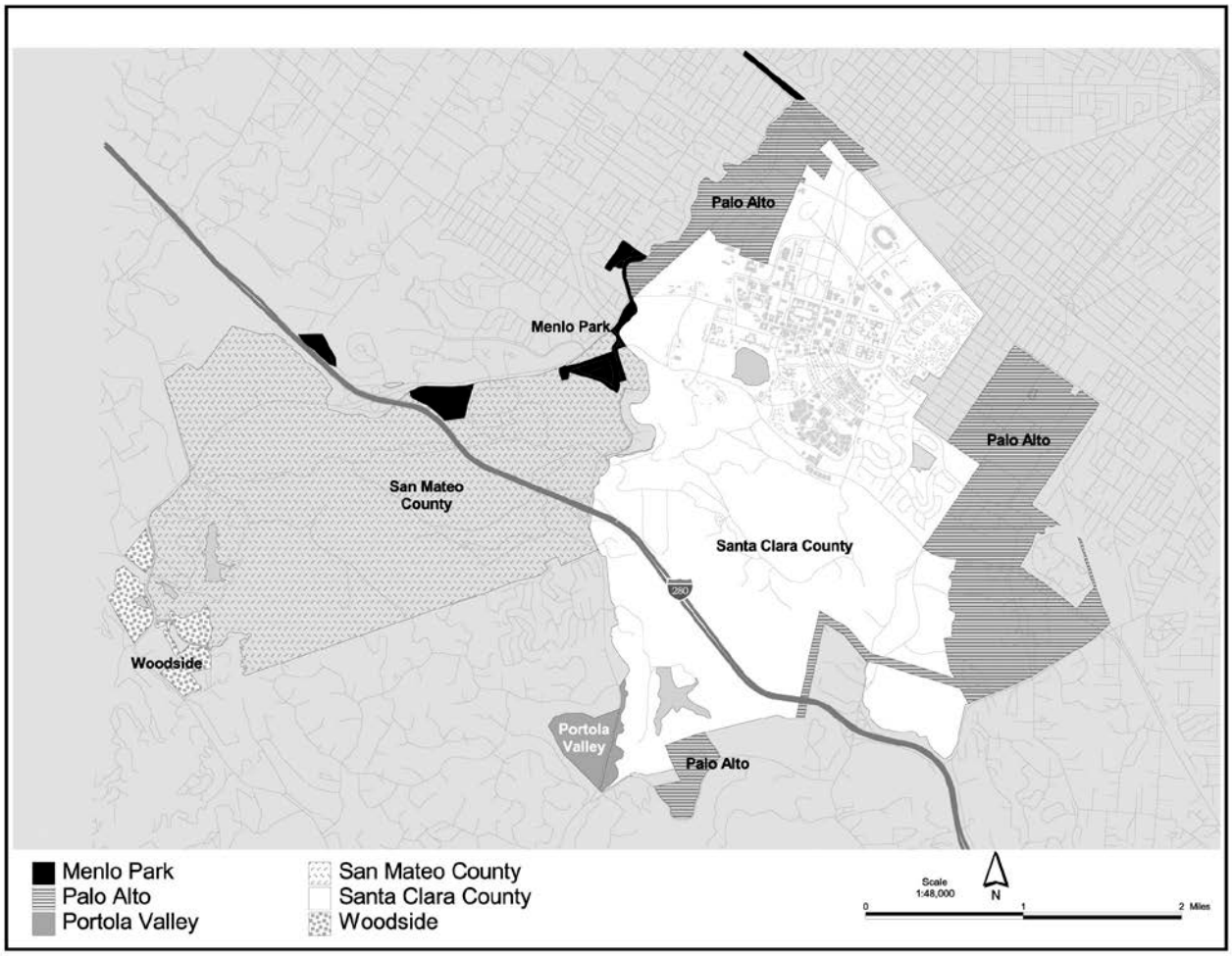
- Kavitha Kumar, Associate Planner (Project Manager: Stanford Environmental Mitigation Monitoring and Reporting Program), Santa Clara County Planning Office
  (408) 299-5783/kavitha.kumar@pln.sccgov.org

Stanford University Data Providers

- Catherine Palter, Director, Land Use and Environmental Planning
- Karen Hong, Community Planner/Analyst
- Maria Cacho, Senior Environmental Planner/Analyst
- Joe Ryan, GIS Specialist
- Fahmida Ahmed, Associate Director, and Meghan Kearns, Sustainability Coordinator, Sustainability and Energy Management
- Brodie Hamilton, Director, Parking & Transportation Services
- Brian Canada, Parking Operations Coordinator, Parking & Transportation Services
- Project Managers and staff, Department of Project Management
- Environmental Health & Safety Department, Facilities Operations - Utilities, University Architect/Campus Planning and Design

Appendix A
Reference Maps

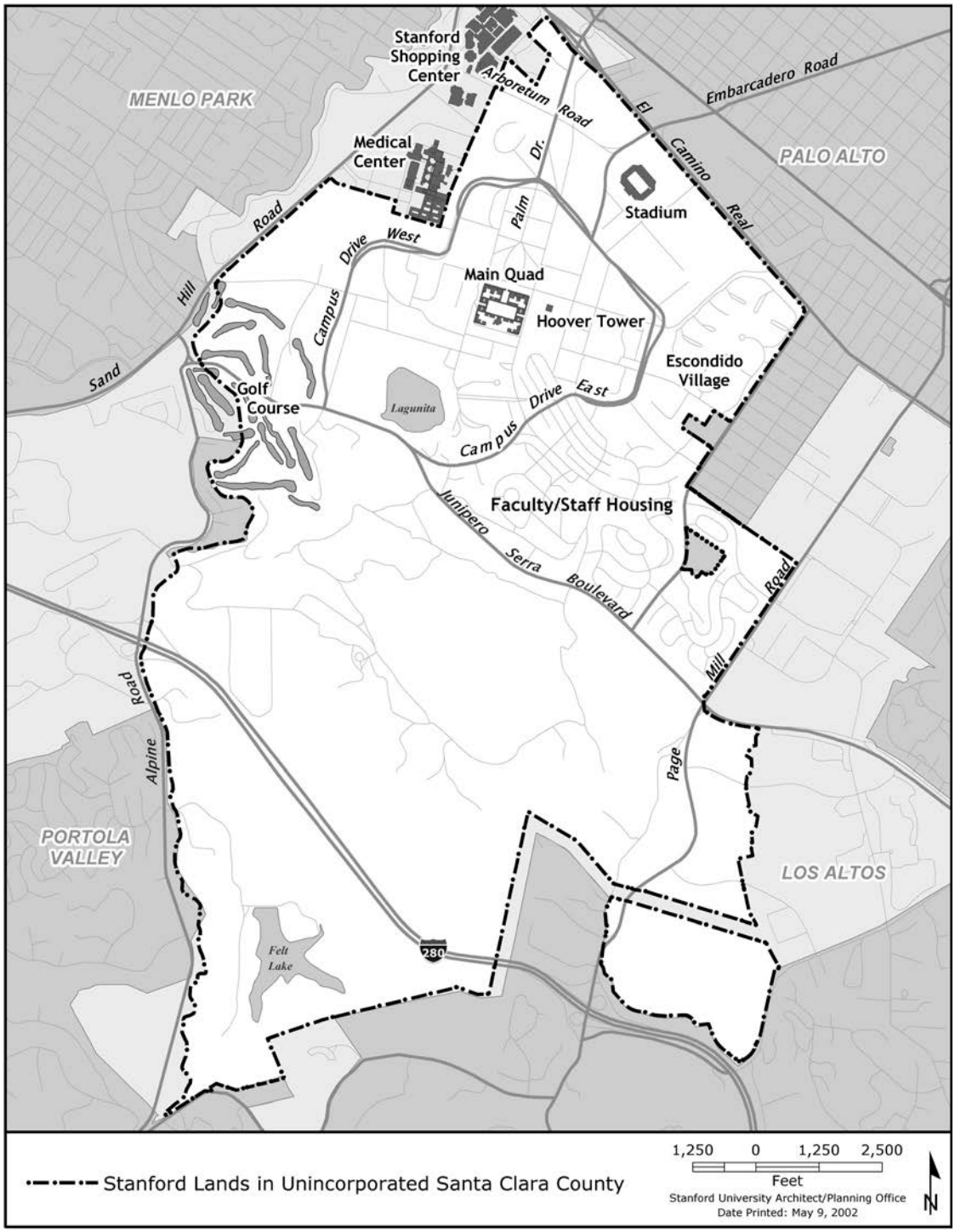
Appendix A
Reference Maps



Source: Stanford University General Use Permit, December 2000

MAP A-1
GOVERNMENTAL JURISDICTIONS ON STANFORD LANDS

Appendix A
Reference Maps

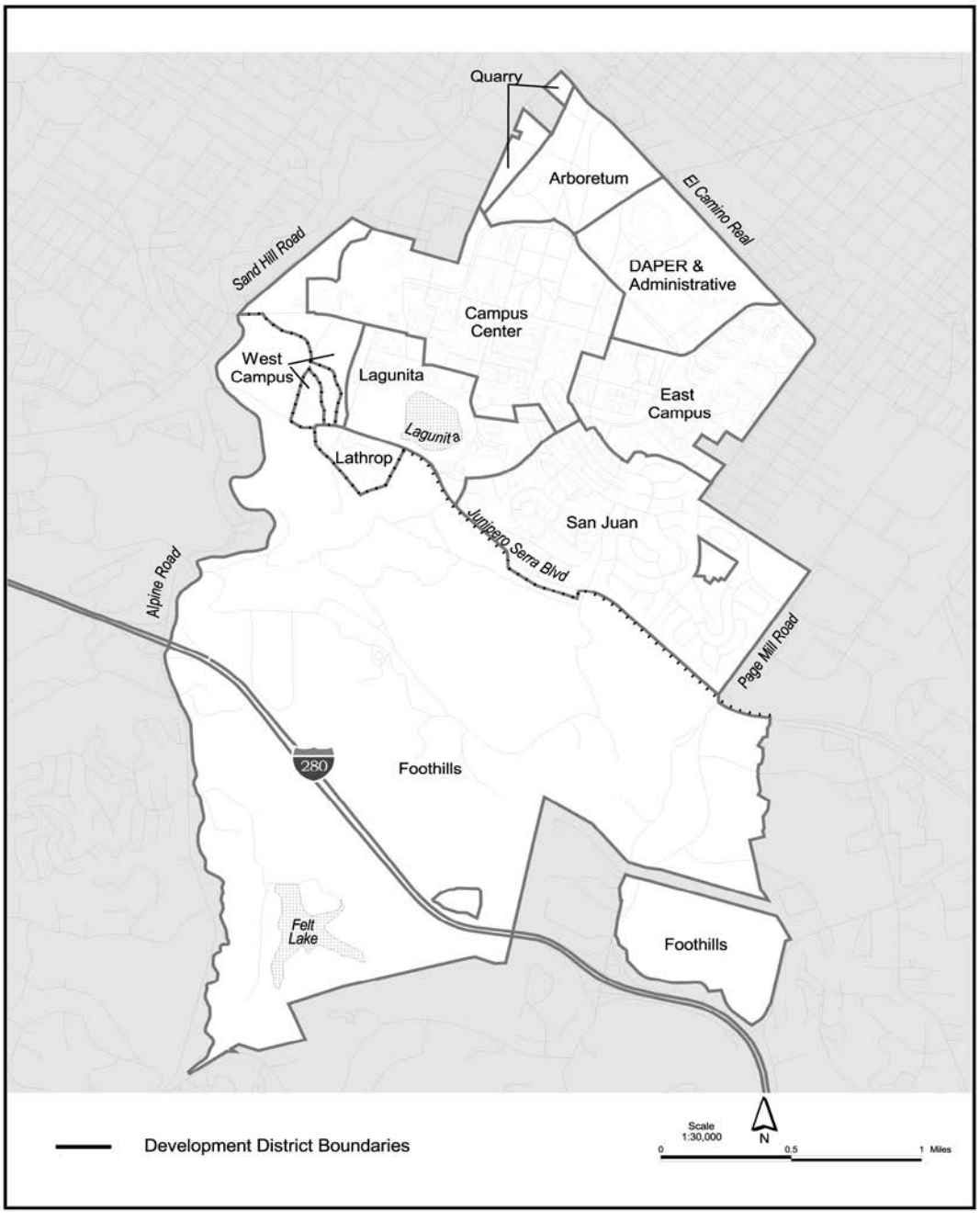


MAP A-2

GENERAL ORIENTATION MAP OF STANFORD UNIVERSITY

(UNINCORPORATED SANTA CLARA COUNTY)

Appendix A
Reference Maps

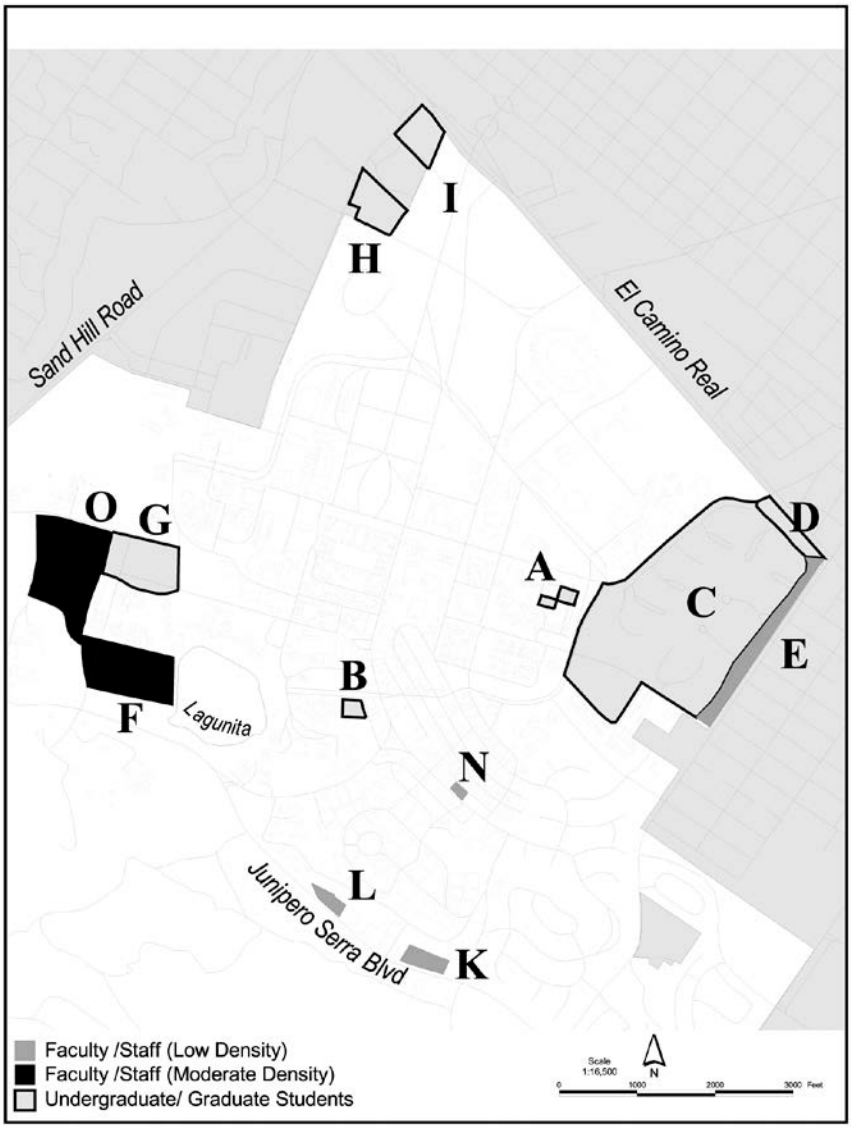


Source: Stanford University General Use Permit, December 2000

MAP A-3

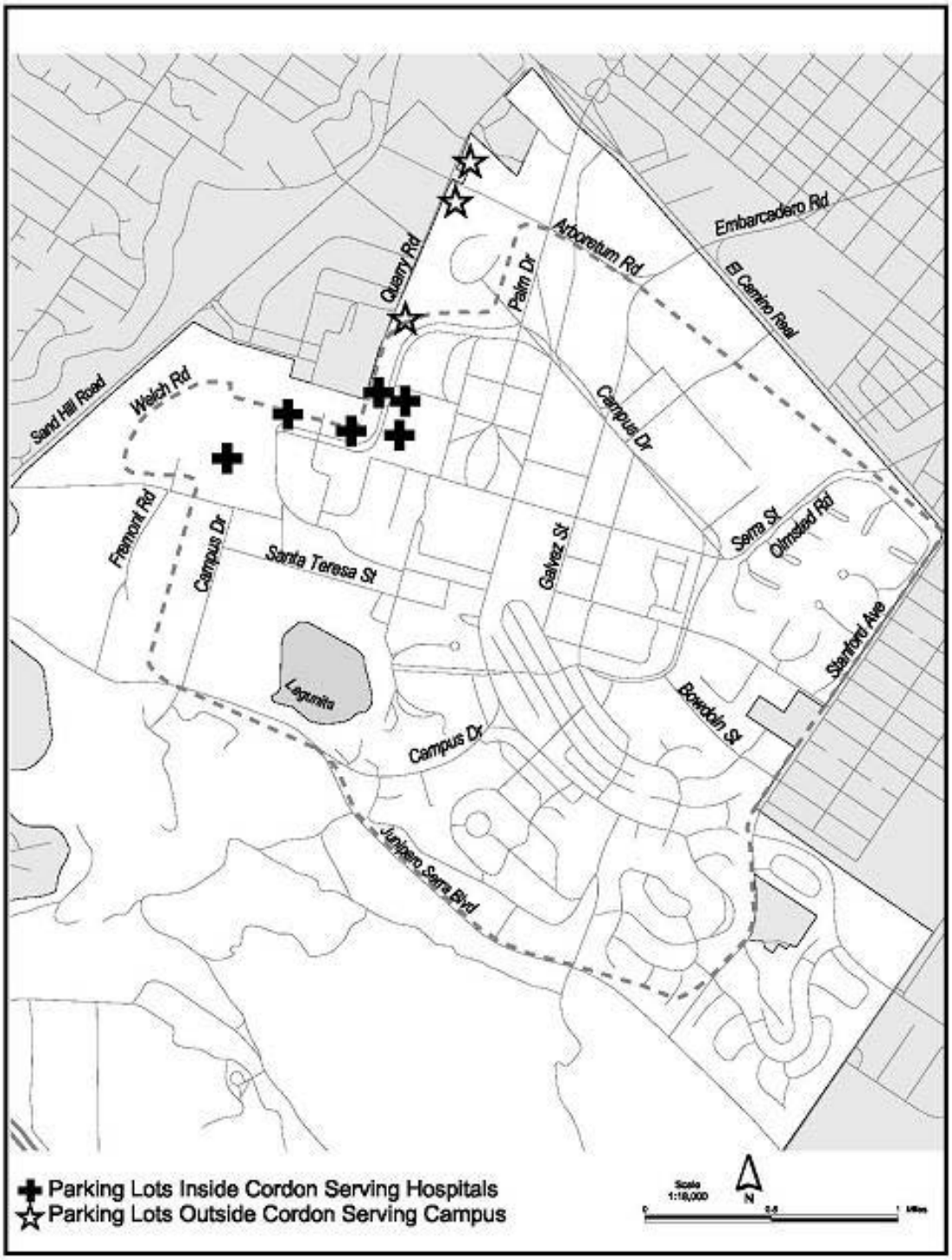
STANFORD UNIVERSITY DEVELOPMENT DISTRICTS

- ***A*** *Manzanita*
- ***B*** *Mayfield/Row*
- ***C*** *Escondido Village*
- ***D*** *Escondido Village*
- ***E*** *Escondido Village*
- ***F*** *Driving Range*
- ***G*** *Searsville Block*
- ***H*** *Quarry/Arboretum*
- ***I*** *Quarry/El Camino*
- ***K*** *Lower Frenchman's*
- ***L*** *Gerona*
- ***N*** *Mayfield*
- ***O*** *Stable Sites*



Source: Stanford University General Use Permit, December 2000

MAP A-4
POTENTIAL HOUSING SITES



Source: Stanford University General Use Permit, December 2000

MAP A-5
TRAFFIC MONITORING CORDON BOUNDARIES

Appendix B
GUP Conditions and Compliance Activities

Appendix B
GUP Conditions and Compliance Activities

GUP Condition		Stanford Compliance
A.	**Building Area**	
A.1.	GUP allowed construction on unincorporated Santa Clara County lands.	Illustrations and details are provided in Section IV of this report of all major projects that received ASA during the current reporting year. Projects are described in detail in the annual report for the period in which ASA was granted; however, academic and support building area is counted against the building area cap in the period during which the project received a building or grading permit. Table 1 in Section II of this annual report shows building area accounting during this reporting period relative to the "GUP building area cap." During this reporting period, 427 housing units received final framing inspection. As of August 31, 2013, the cumulative housing units are 1,884, as shown in Section II (Table 3). During the AR 13 reporting period, there was a net decrease of 68 parking spaces. Changes that resulted from these projects are enumerated in Section II (Table 4).
A.2.	Building area allowed in addition to the GUP building area cap.	The remaining 1989 GUP approved square footage was consumed during the Annual Report 5 reporting period, per Condition A.2.a. The 2000 GUP (Condition A.2.c) allows Stanford University to install up to 50,000 sq. ft. as surge space during construction activities in the form of temporary trailers, which shall not be counted towards the GUP building area cap. During AR 13, there was a decrease of 18,911 sq. ft. of temporary surge space to account for the demolition of the Encina Modulars construction surge trailers, and establishment of the Cowell Lot construction surge trailers, as shown in Section II (Table 2).
A.3.	Construction that does not count toward the GUP building area cap.	The 2000 GUP (Condition A.3.a) allows up to 40,000 sq. ft. of additional building area for the purpose of new childcare or community centers. During AR 13, no additional projects in this category were constructed, as shown in Section II (Table 2).
B.	**Framework**	
B.1.	Development under the GUP must be consistent with the Community Plan and General Plan.	Twenty-three ASA/ASX projects were approved consistent with the policies in the Community Plan and the General Plan.
B.2.	Definition of a proposed building project.	No action required.
B.3.	Minimum time duration of GUP (modification possible, subject to County Ordinance).	No action required.

Appendix B
GUP Conditions and Compliance Activities

GUP Condition	Stanford Compliance
B.4. Funding of work associated with conditions of GUP.	Stanford paid all costs associated with work conducted by the County Planning Office in relation to the GUP (staff time, consultant fees, and direct costs associated with report production and distribution) in a timely manner.
C. Monitoring, Reporting, and Implementation	
C.1. Preparation of an Annual Report that summarizes Stanford's development over the preceding year, upcoming development, and compliance with GUP conditions.	This Annual Report fulfills Condition C.1. for the reporting period of September 1, 2012 to August 31, 2013.
C.2.a. County of Santa Clara Planning Office has the responsibility of preparing the Annual Report.	The County Planning Office staff prepared and distributed this 13th Annual Report pursuant to the 2000 GUP.
C.2.b. Funding for Annual Report by Stanford.	Stanford provided funding to the Santa Clara County Planning Office for all aspects of this Annual Report in a timely manner.
C.2.c Stanford to submit information related to Annual Report.	Stanford provided required information for this Annual Report in a timely manner.
C.2.d. Annual Report presentation to the Community Resource Group (CRG).	The Draft Annual Report 13 was presented to the CRG on April 10, 2014.
C.2.e. Presentation of the Annual Report to the Planning Commission in June of each year.	This Annual Report 13 is scheduled for presentation to the Planning Commission at the June 2014 public hearing.
C.2.f. Time period and content of the Annual Report.	This Annual Report documents Stanford's development activity and compliance with 2000 GUP conditions, and any specific conditions, associated with building projects proposed between September 1, 2012 and August 31, 2013.
C.3. Funding of work associated with implementing tasks identified in the CP and GUP.	Stanford paid all costs associated with work conducted by the County Planning Office in relation to the CP and GUP during this reporting period (including staff time and consultant fees) in a timely manner.
D. Permitting and Environmental Review	
D.1. Review of proposed building projects and issuance of all necessary permits and approvals in accordance with County requirements.	Twenty-three projects received ASA/ASX during the reporting period, as described in Section II and detailed in Section IV of this Annual Report.
D.2. Compliance with adopted GUP conditions and adopted mitigation measures within the Mitigation Monitoring and Reporting Program (MMRP).	During this reporting period, Stanford submitted 23 ASA/ASX applications for projects proposed under the 2000 GUP. All approved projects were in compliance with GUP conditions. For additional details, see Section II of this annual report. The Special Conservation Area Plan (Condition K.7) was submitted by Stanford in 2001, but has not been

GUP Condition		Stanford Compliance
		accepted by the County. The County is waiting for the Stanford HCP to be approved and adopted before directing Stanford with specific requirements for modification and re-submittal.
D.3.	Compliance with CEQA requirements.	All projects that received ASA/ASX approval also received adequate CEQA review and clearance during the reporting period as specified in this GUP condition. (See also GUP Conditions D.4 and I.2).
D.4.	Determination of appropriate level of environmental assessment.	Relevant measures identified in the EIR, and incorporated into the GUP, have been incorporated into the conditions of approval for each project. Additional project conditions of approval were included where necessary.
D.5.	Project specific environmental assessment.	No environmental assessments were required for any other projects in the reporting period.
D.6.	Impact areas to be considered in environmental assessment.	Not applicable.
E.	**Academic Building Area**	
E.1.	Distribution of 2,035,000 square feet of academic and academic support facilities distributed among ten development districts.	During the reporting period, academic/academic support facilities were approved for the Campus Center District. (See Section IV Project Summaries for details).
E.2.	Deviation from the proposed distribution of academic development.	During the reporting period, the redistribution of 15,000 gsf from Campus Center to West Campus was approved to support the Replacement Central Energy Facility.
E.3.	Maximum allowable development in the Lathrop District shall be 20,000 square feet.	No development was proposed for the Lathrop District during the reporting period.
E.4.	No academic development allowed in the Arboretum District.	No academic development was proposed for the Arboretum District.
E.5.	Complete and submit a Sustainable Development Study (prior to cumulative development total of more than 1,000,000 net square feet).	The Sustainable Development Study (SDS) was approved by the Board of Supervisors on April 7, 2009. More detail on the SDS process was provided in AR 9. Appendix E provides an Annual Report of Stanford's sustainable activities. Stanford is in compliance with GUP Condition E.5.
F.	**Housing**	
F.1.	Type and distribution of the 3,018 housing units allowed under the GUP.	Three dorm renovation projects adding 9 student units were completed. To date, 1,884 housing units have been built or framed. 310 graduate units were redistributed from Lagunita to East Campus, including 60 units for the McFarland project and 250 units for the Comstock Graduate Housing project. A GUP Housing Amendment was proposed to apply 372 faculty/staff units in West Campus to 166 student

GUP Condition		Stanford Compliance
		units in Lagunita and 206 student units in East Campus. The Amendment is not yet approved at the end of this reporting period.
F.2.	Other allowed housing sites.	During AR 13 reporting period, no housing projects were proposed on sites other than those designated on Map 3, Appendix A.
F.3.	Allowable variation of housing development.	See compliance with GUP Condition F.2 above, and F.4 below.
F.4.	Deviation from estimated housing distribution.	310 graduate units were redistributed from Lagunita to East Campus, including 60 units for the McFarland project and 250 units for the Comstock Graduate Housing project.
F.5.	No housing may be constructed in the Foothills, Lathrop, or Arboretum districts.	No housing projects were proposed for any of these districts during the reporting period.
F.6.	Compliance with affordable housing requirement.	Stanford has complied with the affordable housing requirement. Stanford pays the in-lieu fee for applicable projects prior to occupancy. Stanford University has complied with County requests for in-lieu. As of May 2013, the affordable housing fees are assessed at the rate of $18.89 per square foot of net new academic or academic support space approved under the building permit. Stanford has made affordable housing fee payments to date (as of August 31, 2013) totaling $22,381,327.01. Six affordable housing projects have been funded so far, with the funding of $16,105,591.00. The six projects built within the 6 mile radius from Stanford Campus boundary have provided 369 affordable housing units, with 157 units restricted to very low income to extremely low income families.
F.7.	Allowance for additional housing beyond 3,018 units.	No additional housing was proposed.
F.8.	Housing linkage requirements.	The GUP requires 1,210 housing units to be provided as part of a housing "linkage" to Stanford development of 1,000,000 cumulative sq. ft. of academic square footage. Stanford has constructed a total of 1,884 housing units, which complies with the housing linkage requirement.
F.9.	For purposes of the linkage requirement, the County will consider Stanford to have met housing compliance at the time of framing inspection.	The County has and continues to use the framing inspection for determination of the housing linkage requirement.
F.10.	Petition for modification of the housing linkage requirements.	Stanford made no petition for modification of the housing linkage requirement.
F.11.	Adoption of new zoning designations for Campus Residential – Low Density and Campus Residential – Medium Density.	Completed during Annual Report 1 reporting period.

GUP Condition		Stanford Compliance
F.12.	Allowed suspension of the housing linkage requirement.	There was no suspension of the housing linkage requirement.
G.	**Transportation**	
G.1.	Intersection modifications.	Completed during Annual Report 1 reporting period.
G.2.	Continued compliance with 1989 GUP transportation requirements.	Stanford continues to offer and further expand the following programs that were in effect during the 1989 GUP: Marguerite shuttle system, carpool incentives, vanpool services, bicycle and pedestrian services, alternative transportation promotional activities, and staff support of alternative transportation programs. Several program changes were made in previous years, which have helped encourage the use of alternative transportation as a means of arriving and departing the campus, and are described fully in AR 9. Changes to the programs are described in subsequent annual reports. In 2012-13, the Zipcar program expanded to 62 cars. Additional self-serve bike repair stands were installed at locations on campus. New bike lockers and bike rack spaces were added around campus. The P&TS website was expanded to include new, updated information. The Marguerite shuttle system was expanded, and now has 20 routes and over 60 buses, with some buses equipped with WiFi. Marguerite ridership grew to over 1.9 million riders. Larger buses were placed on the Ardenwood Express, serving commuters from the East Bay. An additional bus was added to the Research Park route. Stanford continues to be the only Platinum level recognition of a university from the League of American Bicyclists for the outstanding bicycle friendly environment it has created. The Commute Club grew from 8,300 members to over 9,000. The Capri program, an incentive program encouraging trips by car to take place during non-peak times, completed its first year as a pilot program. New incentives for drive-alone commuters to turn in their parking permits were offered. Fifty percent discounts are now provided to Altamont Corridor Express (ACE) train riders.
G.3.	Mitigation of transportation impacts from additional development and population growth.	The County hired an independent consultant, AECOM Engineering, to complete traffic studies. See Appendix D of this document for a summary of results.
G.4.	No net new commute trips.	Year 12 cordon counts were conducted in Spring 2013 and completed in Fall 2013. The average AM trip count was 3,332 and the average PM trip count

GUP Condition		Stanford Compliance
		was 3,744, which is 298 vehicles increase over the baseline. This represents an increase of 189 vehicles over the 90% confidence level. Stanford applied for a trip credit of 339 trips for the PM peak hour outbound traffic. With the application of the trip credits, the PM outbound traffic is 189 trips below the 1% established trigger. These peak hour counts were less than the trip limits established by the 2001 baseline counts with a 90% confidence level and 1% trigger once the trip credits were considered. Therefore, Stanford complied with GUP Condition G.6.
G.5.	Traffic counts cost.	Stanford submitted all requested funds in a timely manner.
G.6.	Baseline count established prior to construction of first new non-residential structure or by an alternative methodology determined to be more accurate.	Baseline cordon counts were completed during AR 1 and 2 reporting periods.
G.7.	Traffic counts and determination of traffic volume.	The traffic counts were conducted in Spring 2013 and completed in Fall 2013 by the County's traffic consultant, AECOM Engineering. As described in Appendix D of this report, the results of the 2013 counts were analyzed against the baseline counts previously collected, and were determined not to exceed the traffic limits threshold for the AM and PM peak hour traffic.
G.8.	Off-campus trip reduction.	During AR 13, Stanford received 339 trip credits for off-campus trip reduction.
G.9.	Monitor cordon count volumes.	A summary report of traffic monitoring is provided as Appendix D to this annual report.
G.10.	Neighborhood traffic studies.	No additional neighborhood traffic study requests have been received by the County Planning Office.
G.11.	Project-specific traffic studies.	No project-specific traffic studies were prepared for during the reporting period.
G.12.	Construction traffic management plan.	Stanford informed both its Public Safety Office and the University Fire Marshall's Office about site work and schedules for all construction projects that could affect emergency access. The University Fire Marshall's Office has regular coordination meetings with the Palo Alto Fire Department, where they update the Department on any emergency route changes. In addition, Stanford requires, through contract with the general contractors, that emergency vehicle access is always kept available through work areas. The Stanford Contracts office provides a general "Stanford Area truck routes map" to all general contractors and all the associated sub-contractors for

GUP Condition		Stanford Compliance
		the project at the time of contract release. The map also includes pedestrian zones, weight limits, service vehicle parking areas, and loading areas. In addition, Stanford provides copies of the map to contractors that come into the Parking and Transportation office to purchase Service Vehicle permits. This map and others are available on the web at http://transportation.stanford.edu/. The County and Stanford continue to work towards consistent inclusion of a traffic management plan as part of the construction plan set available on site.
G.13.	Special event traffic management plan.	Compliance with this requirement was achieved during the AR 3 reporting period.
G.14.	Junipero Serra Boulevard/ Stanford Avenue traffic group.	The full JSB/Stanford Avenue Multi-Jurisdictional Group did not meet during the reporting period; however, an ad hoc working group including Stanford, the SCRL and County Roads and Airports (CR&A) met on several occasions regarding the JSB traffic calming project. In June 2010, County Supervisor Liz Kniss announced that the County Board of Supervisors had approved $1.5M in funding to complete the project. CR&A awarded a design contract in March 2011. Construction documents (30% stage) were issued in August 2011. A draft Initial Study was issued for administrative review in November 2011. A final CEQA document was certified in March 2012. CR&A anticipated starting construction in spring of 2012 but the project has been delayed pending completion of PG&E gas line replacements on JSB in 2013.
H.	**Parking**	
H.1.	Net additional parking spaces shall not exceed 2,300 spaces, with the exception of parking provided for any housing in excess of 3,018 units.	During the reporting period, changes in parking resulted in a net decrease of 68 parking spaces on the campus for a total cumulative decrease since September 1, 2000 of 1,081 spaces. Changes in parking occurred in the Lagunita, DAPER & Administrative, Campus Center, East Campus, Quarry, and San Juan Development Districts. See Section II, Table 4, and Appendix C-3 for details.
H.2.	Residential Parking Permit Program.	Stanford paid the City of Palo Alto $100,000 towards the development of a Residential Parking Permit Program. Stanford is in compliance with Condition H.2. The City of Palo Alto conducted a College Terrace Parking Permit Program experiment in 2008 and 2009 and subsequently adopted a permanent program in late 2009. The program includes continued monitoring of the parking patterns in the

GUP Condition		Stanford Compliance
		neighborhood.
I.	**Parks and Recreation Facilities**	
I.1.	Improve parks in the San Juan faculty/staff residential area.	On April 8, 2004 ASA meeting, the ASA Committee accepted the *Stanford University Program for the Replacement of Recreational Facilities in the San Juan District*. Stanford has complied with the requirement to submit the plan, and future compliance will be required through implementation of the plan, if triggered by infill development.
I.2.a.	In consultation with the County Parks and Recreation Department, identify and complete Trail Easements within one year of GUP approval.	Stanford entered into an agreement with the County on January 3, 2006, to construct the S1 trail in Santa Clara County and to make offers to Los Altos Hills for the funding of a trail extension through that town and to the Town of Portola Valley and San Mateo County for improvements to the C1/E12 Alpine Trail. Construction of S1 Trail: Construction of the off-road portions of the S1 trail was completed in May 2011. Santa Clara County accepted the trail easement and the trail opened in May 20, 2011. All aspects of the S1/ Matadero Trail in unincorporated Santa Clara County including trail construction, associated roadway improvements, and dedication of easements are complete. Construction of C1/E12 Trail: Stanford's proposal for the design and funding of the C1/E12 Alpine Trial (segment in Portola Valley) improvements was accepted by the Town of Portola Valley in 2009. All aspects of the C1/E12 Alpine Trial in Portola Valley including trail construction, associated roadway improvements, and dedication of easements are complete. Construction of C2/Arastradero Trail: Construction and trail improvements were completed and the trail is expected to be dedicated in November 2013. The trail links the S1/Matadero Trail (at the Arastradero Road and Purissima Road intersection) to the Pearson-Arastradero Preserve. Pending Elements: San Mateo County and Stanford did not reach agreement for the San Mateo C1 segment and in February 2012, Stanford paid the County approximately $10.3 million. In August 2012, the County issued a request for applications for projects that would serve as alternative mitigation measures to address the loss of recreational facilities on the Stanford campus. The County received 15 project applications from six local agencies. The Board of

GUP Condition		Stanford Compliance
		Supervisors declared its intent to fund six of the 15 projects, including $4.5 million to Stanford to construct a perimeter trail along El Camino Real and Stanford Avenue frontages. The Board also directed County Administration to negotiate projects agreements for the selected projects and submit approval to the Board consistent with the requirements of CEQA. It is expected that the project agreement for the Stanford Perimeter Trail will be considered by the Board in 2014.
I.2.b.	Work with County Parks and Recreation Department to identify responsibilities for trail construction, management and maintenance.	Identification of trail construction, management, and maintenance responsibilities had begun previously, based on Stanford's 2001 proposal (see Condition I.2.a above and "Overview of Monitoring Activities"). A trail management plan for S1 was accepted by Santa Clara County, along with the easement, in May 2011.
J.	**California Tiger Salamander (CTS)**	
J.1.	Habitat protection easements for protection of the CTS.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.2.	Specifics of habitat protection easements.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.3.	Creation of breeding ponds for CTS prior to issuance of a building permit for a proposed building project on occupied CTS habitat.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.4.	CTS monitoring.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.5.	Project specific measures in CTS Management Zone.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.6.	Operational measures required within the CTS Management Zone.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.7.	Continued compliance with 1998 CTS Management Agreement.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).
J.8.	CTS passage ways across Junipero Serra Boulevard.	Condition superseded by Stanford's Habitat Conservation Plan (see Condition J.9).

GUP Condition		Stanford Compliance
J.9.	U.S. Fish and Wildlife Service permit prior to construction on occupied CTS habitat if CTS is listed as threatened or endangered.	The final Stanford University Habitat Conservation Plan (HCP) and Final Environmental Impact Statement (EIS) were published on November 23, 2012, and revised in March 2013. On August 13, 2013, the County Board of Supervisors acknowledged the determination that the HCP provides equal habitat value and protection for the California Tiger Salamander (CTS). Therefore, the HCP supersedes all conditions in the GUP that address the CTS, as stated in Condition J.9.
K.	**Biological Resources**	
K.1.	Special-status plant surveys.	One special species plant surveys were done during this reporting period.
K.2.	Preconstruction surveys for breeding raptors and migratory birds.	The County hired Environmental Science Associates to complete ten surveys for breeding raptors and migratory birds potentially affected by Stanford projects.
K.3.	Oak woodland habitat – create or restore at a 1.5:1 ratio for proposed building projects located in oak woodland area.	No projects were proposed within oak woodland habitat, as mapped in the 2000 EIR, during this reporting period.
K.4.	Tree preservation for proposed building projects affected by protected trees.	All projects were conditioned to protect existing trees during construction. Stanford proposed appropriate mitigation for the loss of protected trees greater than 12 inches diameter at breast height (dbh) in the ASA applications for all projects.
K.5.	Stanford to hire biological consultant to prepare wetlands description.	Compliance with this requirement was achieved during the AR 3 reporting period. Future wetland delineations may be required in compliance with Army Corps of Engineers guidelines.
K.6.	Updates to CA Natural Diversity Database.	Stanford submitted CNDDB sheets to the County for California tiger salamander (three seasons of data) and California red-legged frog (four years of data) in May 2003. No additional findings have been submitted.
K.7.	Special conservation area plan.	Stanford submitted a "Conservation Program and Management Guidelines for the Special Conservation Areas" to the County on December 11, 2001. The Stanford HCP took effect on August 13, 2013 (see Condition J.9). County Planning staff and Stanford will be working on the Special Conservation Area Plan in the AR 14 reporting period.
L.	**Visual Resources**	
L.1.	Streetscape design for El Camino Real prior to or in connection with submitting an application for development along El Camino Real.	During AR 8, Stanford completed and submitted a draft *Plan For The El Camino Real Frontage,* approved by the County of Santa Clara Architectural and Site Approval Committee on April 10, 2008.

GUP Condition		Stanford Compliance
		Stanford is in compliance with Condition L.1.
L.2.	Minimum 25-foot building setback from Stanford Avenue.	No building projects were proposed on Stanford Avenue during the reporting period.
L.3.	Lighting plan for development projects that include exterior light sources.	Project-specific lighting plans were submitted with ASA applications during the reporting period.
L.4.	Development locations in the Lathrop Development District.	No development was proposed in the Lathrop District.
M.	**Hazardous Materials**	
M.1.	Hazardous materials information/Risk Management Plan for each proposed building project.	Hazardous materials information was provided in the ASA applications for all projects proposed or approved during the reporting period. No projects were proposed or approved during the reporting period that triggers the California Accidental Release Prevention (CAL-ARP) law.
M.2.	Maintenance of programs for storage, handling, and disposal of hazardous materials.	University Dept. of Environmental, Health and Safety (EH&S) continues to provide key resources in the planning, development, and implementation of effective environmental and health and safety training programs. Where appropriate and possible, EH&S provides in-house training programs that enable University managers and supervisors to deliver health and safety training directly to their staff. Schools, Departments and Principal Investigators provide other levels of training throughout the University. During this reporting period, EH&S maintained a training catalog that included 75 course offerings. Stanford staff, faculty, and students through both on-line and classroom sessions completed a total of 23,816 trainings. Stanford also extends its training efforts by providing training and information resources on the World Wide Web at http://ehs.stanford.edu. Surveys of campus and medical center labs, shops and studios are conducted on a routine basis to provide compliance assistance regarding hazardous materials, hazardous waste, fire safety, biological safety and chemical safety requirements. Personnel conducting the surveys often work one-on-one with personnel in labs, shops and studios to help them understand pertinent compliance requirements. Hazardous Materials Management Plans for existing buildings storing hazardous materials were updated and submitted to the Santa Clara County Environmental Health Hazardous Materials Compliance Division. To facilitate hazardous materials tracking and reporting, Stanford has implemented an on-line chemical inventory database system whereby authenticated chemical users may

GUP Condition		Stanford Compliance
		maintain their hazardous materials inventories, supporting timely and accurate submission of required regulatory reports. The University Committee on Health and Safety met regularly during the reporting period. The committee membership includes a member from the public as well as faculty, staff and students. Issues considered by the committee included environmental, health and safety activities, and initiatives conducted at the SLAC National Accelerator Laboratory. The EH&S Department reviews each set of plans for new structures and those for renovation and/or remodeling of existing structures to help ensure that the risks associated with activities conducted in Stanford's buildings are addressed, and that all facilities projects are undertaken in compliance with applicable environmental and health and safety laws, codes, and regulations. EH&S also conducts Environmental and/or Human Health Risk Assessments for new projects as required by the Bay Area Air Quality Management District and as appropriate as part of the building planning process. EH&S personnel specifically responsible for handling hazardous wastes and for emergency response are trained by certified independent professionals and by professional EH&S staff in accordance with all applicable regulations. The operational waste personnel are augmented and assisted by professional environmental engineers, chemists, and environmental managers. As a part of waste minimization activities, EH&S operates a Surplus Chemical redistribution program. In FY 2013, EH&S redistributed 61 unneeded chemical containers from laboratory inventories to other campus users.
N.	**Geology and Hydrology**	
N.1.	Compliance with all requirements of the Uniform Building Code, County Geologist, County Building Inspection Office, Stock Farm Monocline Agreement, and others defined under the GUP in regard to reduction of seismic risk.	Stanford is in compliance with Condition N.1 requirements. These are reviewed through the ASA applications submitted and building and grading permits issued during the reporting period. See Section II of this report for project details.
N.2.	Hydrology and drainage study.	The Storm Water Detention Master Plan for the Matadero Creek watershed was submitted by Stanford and accepted by the County. Stanford is responsible for implementing phased measures consistent with the plan prior to development of new impervious cover within the watershed. Regarding storm drainage and flood control, Stanford

GUP Condition		Stanford Compliance
		and the County reached agreement on the approach and engineering design criteria for detention provisions to avoid increases in peak runoff flow rate from the campus in the San Francisquito Creek watershed. Stanford continued with implementation of its storm drainage master plan for both detention and protection of campus facilities, engineering the remaining barriers to divert overland flows away from structures to streets and malls, and Phase 1 of the West Campus detention basins. With these improvements and the detention basins constructed previously in the Matadero watershed, Stanford has mitigated anticipated runoff from a substantial portion of its future development under the 2000 GUP in compliance with Conditions N.2 and N.3.
N.3.	Storm water management facilities designed to only store storm water runoff temporarily and not create extended ponding.	The Serra/El Camino Real (ECR) and the West Campus Storm Water Detention Facilities projects are designed to accommodate increases in the 10-year and 100-year storm runoff associated with 2000 GUP development in the Matadero and San Francisquito Creek watersheds respectively. These projects are designed to drain within a couple of days, thereby avoiding extended ponding. An initial phase of this plan was implemented when the Stock Farm/Sand Hill Road Detention Basins were completed during the AR 4 reporting period.
N.4.	Groundwater recharge study in conjunction with projects located in unconfined zone.	Stanford has prepared and submitted a draft campus-wide groundwater recharge plan that describes the groundwater recharge mitigation approach approved by the Santa Clara Valley Water District and the County. This plan accounts for water from Stanford's Lake Water system that is directed to Lagunita (where it percolates) in an amount that exceeds the cumulative groundwater recharge lost from projects built in the unconfined zone.
N.5.	Review and approval for storm water/ groundwater recharge facilities.	The ASA and grading or building permit-approved projects during the 13th annual reporting period are anticipated to result in new impervious surface area in the Matadero Creek and San Francisquito Creek watersheds. The cumulative increase of impervious surfaces on campus has been mitigated by the Serra/ECR detention basins and West Campus detention basins Phase I, to avoid impacts with respect to reduced groundwater recharge. Stanford and the County will track whether the cumulative increase in impervious surface is less than the amount that can be mitigated by the constructed basins.
N.6.	Notice of Intent to State Water Resources Control Board (SWRCB) prepared each year for anticipated projects.	Stanford submitted a Notice of Intent (NOI) to join the State of California General Storm Water Construction Permit on June 29, 2001. Stanford

GUP Condition	Stanford Compliance
	received acceptance on July 10, 2001. An updated NOI was submitted to the State Water Resource Control Board as well as to the San Francisco Regional Water Quality Control Board in accordance with the NPDES General Permit on July 16, 2009. On September 2, 2009 the State Water Resources Control Board adopted a new construction permit for all construction projects over 1 acre. Due to reporting and sampling requirements listed in the new State permit, Stanford has been applying for permit coverage on a project-by-project basis for all new construction over 1 acre. All projects listed below were either terminated or started from the period September 2, 2012 through August 31, 2013 and can be viewed via the State Board's SMART system located at http://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp. Projects terminated from September 1, 2012 – August 31, 2013 • 3239 Galvez Parking Improvements, WDID # 2 43C363981 • Stanford Concert Hall, WDID # 2 41C357599 Projects completed and previously covered under an erosivity waiver from permit coverage September 1, 2012 – August 31, 2013 • SESI Temporary Laydown Yard, WDID # 2 41W000807 • Stern Wilbur Recreation Field, WDID # 2 41W000810 Projects started/continuing from September 1, 2012 – August 31, 2013 • 3235 SESI Piping Distribution Storage, WDID # 2 41C363957 • 3119 West Campus Rec Center, WDID # 2 41C361684 • BioEChemE GinztonDemo, WDID # 2 41C360696 • Stanford 3114Satellite Research Animal Facility, WDID # 2 41C362972 • 3051 RCEF Replacement Central Energy Facility, WDID # 2 43C364633 • 3277 Comstock Housing, WDID # 2 43C364771 • 3184 Anderson Collection, WDID # 2 43C364905

GUP Condition		Stanford Compliance
		• McMurtry Art and Art History Building, WDID # 2 43C365823
N.7.	Monitor effectiveness of storm water pollution prevention best management practices; monitor at construction sites before and during storm events occurring during construction period.	Each construction site under the 2000 GUP is permitted through the General Permit for Discharges of Storm Water Runoff Associated with Construction Activity. The information submitted as part of the permit will be updated yearly to reflect the current construction projects. In accordance with that permit, the sites are required to have a Storm Water Pollution Prevention Plan (SWPPP). Each SWPPP outlines the Best Management Practices for preventing storm water pollution on that specific site. To ensure that the BMPs are working and in place, each construction project is required to monitor the construction site and BMPs before, during, and after rain events or weekly, whichever is more frequent. The project is required to maintain inspection logs on site, documenting the monitoring program. Stanford storm water staff visits the sites at least once per month to ensure compliance with BMPs and monitoring. In addition, Stanford is required to send an Annual Compliance Status Report to the State Water Resources Control Board, certifying compliance with the provisions of the General Permit for Discharges of Storm Water Runoff Associated with Construction Activity, including BMPs and monitoring.
N.8.	Surveys to determine presence and location of wells prior to issuance of any building permit or grading permit.	Stanford performed surveys to identify existing wells on building sites with ASA applications as required.
N.9.	Permit from Santa Clara Valley Water District for any proposed construction, demolition, grading, landscaping within 50-feet of the top of the bank.	In 2007, SCVWD adopted an approach to defer to local permitting agencies for work conducted in creeks, and no longer require SCVWD permits.
N.10	No new land use or practices within the unconfined zone that could pose a threat to the groundwater quality or supply.	In 2009, Stanford mailed an informative pamphlet to all residential leaseholders whose property is located within the unconfined zone. This pamphlet contains valuable information regarding the sensitive nature of these properties with respect to the potential for downward migration of contaminants to groundwater. The pamphlet also provides “Best Management Practices” regarding proper application of landscape chemicals, notifying Stanford of abandoned wells and fuel tanks, and safe management of household chemicals and hazardous waste. Stanford also mailed this pamphlet to all other residential leaseholders that are not located within the unconfined zone as a part of continuing outreach.

Appendix B
GUP Conditions and Compliance Activities

GUP Condition		Stanford Compliance
O.	**Cultural Resources**	
O.1.	Assessment of structure with potential historic significance for building projects that involve the demolition of a structure 50 years or older.	The County assessed the historical signification of the Toyonito dining hall and the former Comstock buildings before they were demolished.
O.2.	Requirements for remodeling, alteration, or physical effect on structures that are 50 years old or more.	Four housing renovation projects that received ASA were assessed because they were proposed to remodel or alter structures that are more than 50 years old. These projects included the renovations of Columbae, Grove Mayfield, Slavianskii Dom, and Muwekma-Tah-Ruk.
O.3.	Archaeological resources map.	The Stanford archaeologist provided draft maps to the County Planning Office in March 2001. These maps show the locations of all known prehistoric and historic archaeological resources in the unincorporated Santa Clara County portion of Stanford land. County and Stanford staffs will continue to work on revision and updates to these maps so they can be utilized by County staff to identify all known cultural resource site boundaries on Stanford land within the County's jurisdiction. All maps and updates will be maintained as confidential records.
O.4.	Required actions if fossilized shell or bone is uncovered during earth-disturbing activities.	No fossilized shell or bone was uncovered during 2000 GUP construction activities.
P.	**Public Services and Utilities**	
P.1.	Law Enforcement Agreement.	"Memorandum of Understanding Regarding Police Services Between Santa Clara County and Stanford University" was signed February 6, 2001. Per the GUP Condition, Stanford is providing funding for the Stanford Police Department to maintain 32 full-time sworn police officers (one officer per 1,000 daytime population). There was no decrease in the level of police services during the reporting period.
P.2.	Funding of Fire Protection Services.	The City of Palo Alto assesses the city's fire protection needs on an annual basis and adopts a yearly budget for fire protection services. As part of this process, the City identifies Stanford's share of this budget, and Stanford pays its annual allotment.
P.3.	Fire protection response times.	The City of Palo Alto did not notify Stanford of lengthened response times or the need to provide new routes.
P.4.	Water conservation and recycling master plan.	Stanford has performed effective conservation outreach and education, as evidenced by County staff discussions with campus facility managers. Stanford

GUP Condition		Stanford Compliance
		also has undertaken numerous water conservation projects, including installation of water misers, toilet retrofits, low flow jet spray nozzles, and Maxicom controls. The County continues to monitor Stanford implementation of the approved master plan as a measure of compliance with this condition. The County consults with the SCVWD to determine compliance. The SCVWD assessment is that Stanford appears to be implementing aggressive water conservation measures. The University has completed the plan and it was approved.
P.5.	Annual daily average water use.	The allowed average daily water allocation from the San Francisco Water Department is 3.033 million gallons per day (mgd). Stanford's average campus domestic water use for the 2012-13 year was 2.15 mgd.
P.6.	Information on wastewater capacity and generation.	Stanford submitted project-specific wastewater capacity information as necessary with ASA application materials.
P.7.	Palo Alto Unified School District school impact fees.	Stanford paid school impact fees for all applicable building permits.
P.8.	Community Services Study.	No study was required during this reporting year.
Q.	**Air Quality**	
Q.1.	Compliance with Bay Area Air Quality Management District (BAAQMD) measures for construction activities.	Grading activities associated with 2000 GUP projects that commenced during the reporting period complied with the BAAQMD control measures incorporated into the ASA conditions of approval.
Q.2.	Maintenance of equipment for construction activities.	Stanford requires all construction contractors to properly maintain equipment.
Q.3.	Conduct a risk screening analysis and obtain BAAQMD permit for building projects containing more than 25,000 square feet of laboratory space and 50 fume hoods.[1]	All approved projects were required to comply with BAAQMD's permitting, control measures, and recommendations, as appropriate. No projects crossed the 25,000 square feet of laboratory space and 50 fume hoods threshold.
R.	**Noise**	
R.1.a-e	Compliance with County Noise Ordinance during construction activities of each building project.	Construction activities associated with 2000 GUP projects complied with the County Noise Ordinance and incorporated noise reduction measures as required by ASA conditions of approval.
R.2.	Limits on construction hours.	Construction activities associated with 2000 GUP projects were limited to construction hours as specified by the County Noise Ordinance.

[1] Note: Q.3 has been confirmed to match BAAQMD regulations, which requires both triggers in order to do risk screening.

Appendix B
GUP Conditions and Compliance Activities

GUP Condition		Stanford Compliance
R.3.	Operational noise reduction measures.	ASA-approved building projects incorporated all county-specified noise reduction measures (listed in Section D of the MMRP) and complied with the County Noise Ordinance.
R.4.	Limits on fireworks displays.	The two fireworks events that are permitted under the GUP occurred during the reporting period.
R.5.	Maintenance of hotline for noise complaints.	A noise hotline is maintained (650) 724-4900. Three noise complaints were received during the AR 13 reporting period concerning party noise, loud music, and sports practice noise. Stanford and the County continue to work with and respond to neighborhood residents and their questions regarding the noise hotline.
S.	**Additional Conditions**	
S.1.	Acceptance of Conditions of Approval.	See Annual Report 1.

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Appendix C
Cumulative Project

Appendix C
Cumulative Projects

Completed building projects under the GUP cap, housing projects, parking, non-GUP building projects and grading projects are tracked in Appendix C. A map and table are provided for each category to illustrate the project, its location, its square footage/housing units/parking spaces counted toward the GUP cap, and in which annual report period the project was completed. Each table provides a cumulative total of square footage, housing, or parking to date. A table also provides a cumulative total of non-GUP building projects. Additional backup data is kept on file by Stanford and the County.

Section II of this annual report provides brief descriptions of each project on which there was activity during the current reporting year. Projects listed in Appendix C that were completed in prior years are not reported in the body of the Annual Report. Detailed information on these projects may be found in previous Annual Reports.

Appendix C
Cumulative Projects

KEY TO MAP C-1
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE BUILDING PROJECTS THAT AFFECT GUP BUILDING AREA CAP

Fiscal Year	Map No.*	Project	Built Area (sq. ft.)	Net Addition to GUP Building Cap
Annual Report 1 (2000-01)	N/A	None	N/A	0
Annual Report 2 (2001-02)	1	Student Services	20,000	22,790
		Demo Bridge Building	(-2,752)	
		Band Trailer	4,320	
		Demo existing Band Trailer	(-2,160)	
		Rugby Pavilion	3,382	
Annual Report 3 (2002-03)	2	Carnegie Global Ecology Center	18,164	32,023
		Demolish Carnegie Greenhouses	(-6,161)	
	3	Lucas Center Expansion	20,600	
		Electronics Communications Hub-West	1,500	
		Demolition of Ortho Modular	(-2,080)	
		SoM Trailer Replacement	0	
		Galvez Modular Re-Permit	0	
Annual Report 4 (2003-2004)	4	Maples Pavilion Addition	18,298	92,915
		Demolish Maples Ticket Booth	(-179)	
	5	Arrillaga Family Recreation Center	74,796	
Annual Report 5 (2004-2005)	6	Varian 2	63,869	39,763
		Building 500	3,254	
		Wilbur Modular Ext.	(-27,360)	
Annual Report 6 (2005-2006)	7	Environment and Energy Building	164,087	116,237
		GP-B Modular Demolition	(-8,640)	
		Varian 2 (gsf adjustment from AR 5)	8,305	
	8	HEPL Demolition	(-71,425)	
		Engineering Shed	(-929)	
		Galvez Too	(-4,320)	
	9	Football Stadium Renovations	33,050	
		Munger House Relocations	906	
		Avery Aquatic	1,445	
		Band Trailer	(-4,320)	
		Guard Shelter	42	
		579 Alvarado (Humanities Annex)	(-3,258)	
		Barnum Family Center	2,337	
		Brick Barn	4,690	
		Knoll Trailer A	(-2,912)	
		Knoll Trailer B	(-2,821)	
Annual Report 7 (2006-2007)		None	N/A	0
Annual Report 8 (2007-2008)	10	Lorry I. Lokey Stem Cell Research Building (SIM 1)	198,734	323,264
	11	Li Ka Shing Center for Learning and Knowledge (LKSC)	104,000	
		Demolish Fairchild Auditorium	(14,600)	
		Demolish Welch Road Modulars	(4,030)	
	12	Center for Nanoscale Science and Technology	99,297	

KEY TO MAP C-1
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE BUILDING PROJECTS THAT AFFECT GUP BUILDING AREA CAP

Fiscal Year	Map No.*	Project	Built Area (sq. ft.)	Net Addition to GUP Building Cap
		Demolish Ginzton	(69,714)	
Annual Report 8 (2007-2008) continued				
	13	Jen-Hsun Huang School of Engineering Center	125,639	
		Demolish Terman Engineering	(148,818)	
		Lorry I. Lokey (Stanford Daily) Building	4,783	
		Demolish Storke Building	(9,040)	
		Li Ka Shing Center for Learning and Knowledge - Connective Elements	5,890	
		Peterson Building Renovation	(661)	
	14	John A. and Cynthia Fry Gunn SIEPR Building	31,784	
Annual Report 9 (2008-2009)	15	Knight Management Center	331,093	72,776
		Demolish GSB South	(167,371)	
		Demolish Serra Complex	(84,000)	
		Demolish Kresge Auditorium	(13,042)	
		Cobb Track Bleacher addition	3,950	
		Arrillaga Gymnasium and Weight Room	19,951	
		Site 515 Demolition	(1,540)	
		Volkswagen Automotive Innovation Lab	8,000	
		Oak Road Restrooms	499	
		Golf Practice Storage Trailer	432	
		Cubberley Seismic Project	(3,654)	
		Press Building Demolition	(14,303)	
		Recalculation of gsf with Annual Reports 1 through 8	(7,239)	
Annual Report 10 (2009-2010)	16	Neukom Building	61,014	126,676
	17	Bing Concert Hall	78,350	
		DAPER Corps Yard Demolition	(12,688)	
Annual Report 11 (2010-2011)		Braun Music Center	167	174,723
		Bing Concert Hall adjustment	7,185	
	18	Retention of GSB South	167,371	
Annual Report 12 (2011-2012)	19	Arrillaga Outdoor Education and Recreation Center	75,000	223,725
	20	Bioengineering and Chemical Engineering	196,172	
	21	Satellite Research Animal Facility	20,507	
		Anatomy demolition	(66,579)	
		Cagan Soccer locker rooms	3,345	
		Cypress Annex demolition	(960)	
		Quonset Hut demolition	(3,760)	
Annual Report 13 (2012-2013)		Ford Center Addition (from AR 8)	8,710	165,092
	22	Arrillaga Family Sports Center Addition	27,709	
	23	Anderson Collection at Stanford	30,279	
	24	Replacement Central Energy Facility	14,715	
		Grounds trailer demolition	(722)	

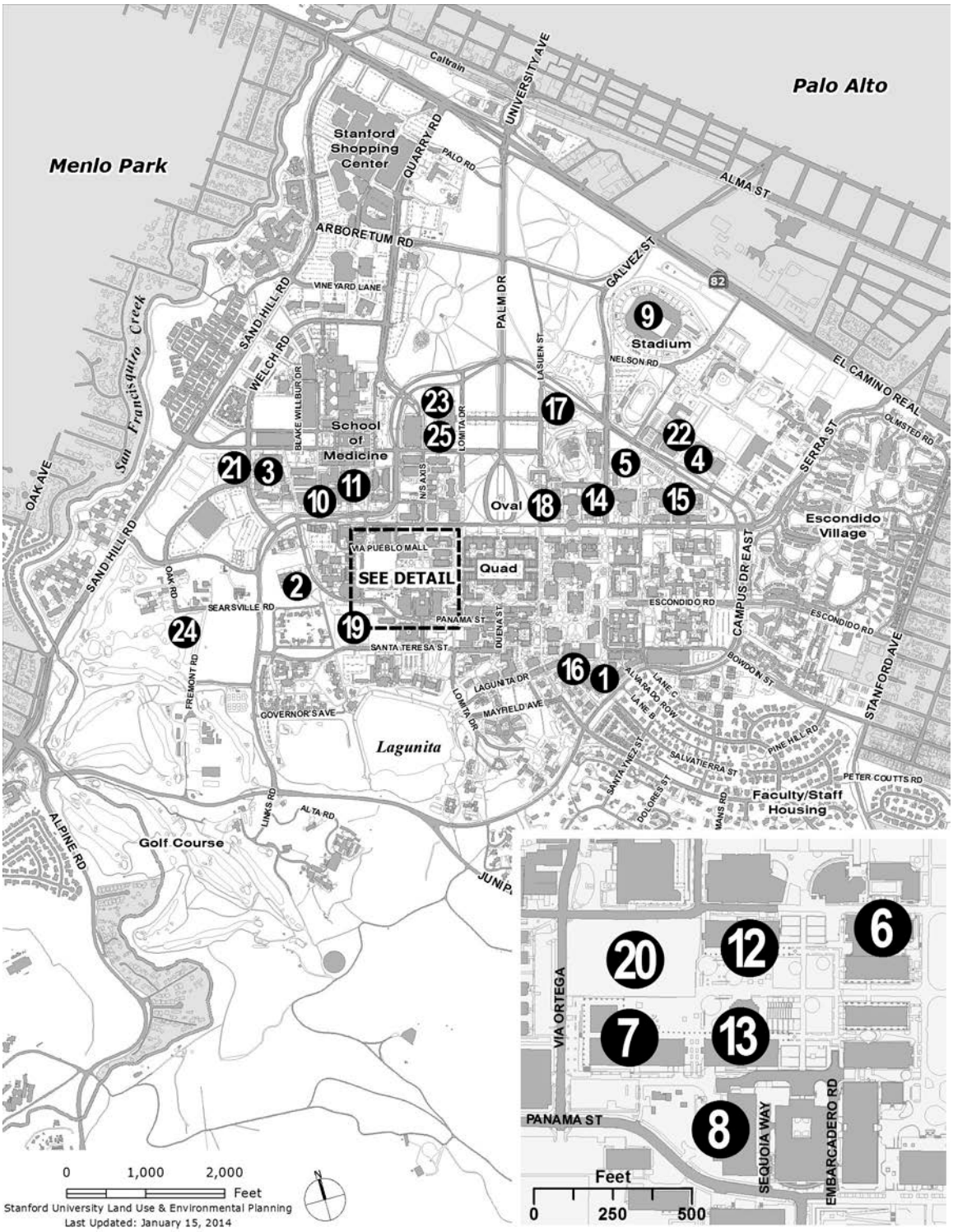
KEY TO MAP C-1
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE BUILDING PROJECTS THAT AFFECT GUP BUILDING AREA CAP

Fiscal Year	Map No.*	Project	Built Area (sq. ft.)	Net Addition to GUP Building Cap
	25	McMurtry Art - Art History	84,239	
		New Field Hockey Bleachers	2,397	
		Windhover Contemplative Center	3,928	
		Encina Modular Demolition	(8,400)	
		520/524 Renovation	2,237	
Cumulative Net Contribution toward 2000 GUP Building Cap:				**1,389,984**

1. Projects included at the time of building permit issuance.

2. Cumulative total includes the adjusted results from the recalculations for buildings and demolitions from previous annual reports under the 2000 GUP. Specific adjustments are not reflected in this table at this time.

*Map C-1 illustrates the locations of building projects 10,000 sq. ft. or greater. Projects smaller than 10,000 sq. ft. are not shown on Map C-1.



MAP C-1
CUMULATIVE BUILDING PROJECTS THAT AFFECT BUILDING AREA CAP
(GREATER THAN 10,000GSF)

KEY TO MAP C-2
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE HOUSING PROJECTS

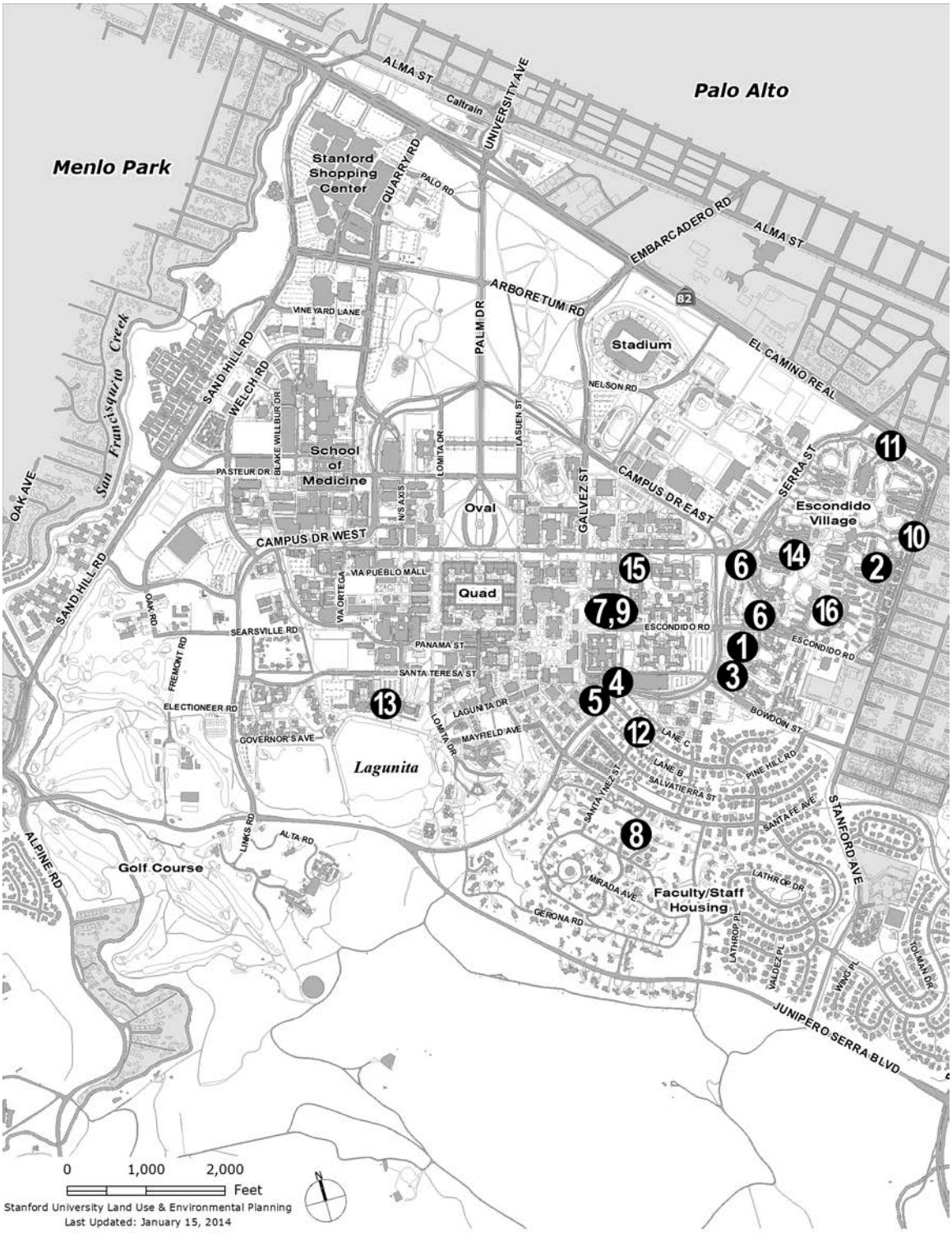
Fiscal Year	Map No.*	Project	Housing Units	Square Footage	Annual Units	RHNA Units
Annual Report 1 (2000-01)	1	Mirrielees – Phase I	102	0	102	
Annual Report 2 (2001-02)	2	Escondido Village Studios 5 & 6	281	139,258	331	281
	3	Mirrielees – Phase II	50	0		
		Branner Student Housing Kitchen	0	1,596		
Annual Report 3 (2002-03)	N/A	None	N/A	N/A	0	
Annual Report 4 (2003-04)	N/A	None	N/A	N/A	0	
Annual Report 5 (2004-05)	N/A	None	N/A	N/A	0	
Annual Report 6 (2005-2006)		Drell House (conversion to academic)	-1	(-906)	(-8)	-1
		579 Alvarado	1	3,258		1
	4	Casa Zapata RF Unit Replacement	-8	(-691)		1
Annual Report 7 (2006-2007)		None	N/A	N/A	0	
Annual Report 8 (2007-2008)	5	Munger Graduate Housing	349	267,683[1]	349	209
Annual Report 9 (2008-2009)	5	Munger Graduate Housing	251	192,517[1]	514	147
		Schwab Dining Storage	N/A	464		
	6	Blackwelder/Quillen Dorms	130	N/A		
	7	Crothers Renovation	133	N/A		
Annual Report 10 (2009-2010)	8	717 Dolores	4	0	70	
	9	Crothers	2	0		
	10	Olmsted Terrace Faculty Housing	39	103,127		39
	11	Olmsted Staff Rental Housing	25	53,831		25
		Arrillaga Family Dining Commons	N/A	28,260		
Annual Report 11 (2010-2011)	6	Quillen Dorm Phase 2	90	N/A	90	
Annual Report 12 (2011-2012)	12	Hammarskjold renovation	7	1,730	9	
		Haus Mitt renovation	1	210		
		Phi Sigma renovation	1	420		
Annual Report 13 (2012-2013)		Grove House Renovation	N/A	500	427	
		Columbae Renovation	N/A	950		
		Slavianskii Dom Renovation	N/A	961		
		Muwekma-Tah-Ruk Renovation	N/A	450		
	13	Ujamaa	2	N/A		
	14	McFarland	63	N/A		
		EV summer renovation	(2)	N/A		
	15	Toyonito Demolition	N/A	(13,298)		

KEY TO MAP C-2
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE HOUSING PROJECTS

Fiscal Year	Map No.*	Project	Housing Units	Square Footage	Annual Units	RHNA Units
	16	Comstock graduate housing demolition	(74)	(30,547)		(40)
	16	Comstock Graduate Housing	438	256,258		274
Cumulative Net Contribution toward 2000 GUP Housing Units			**1,884**	**1,006,031**	**1,884**	**936**

*Map C-2 illustrates the locations of housing projects that add more than one unit. Individual housing projects are not shown on Map C-2.

1. Based on an average of 767 square feet per unit constructed for the Munger Graduate Student Housing project.



MAP C-2
CUMULATIVE HOUSING PROJECTS

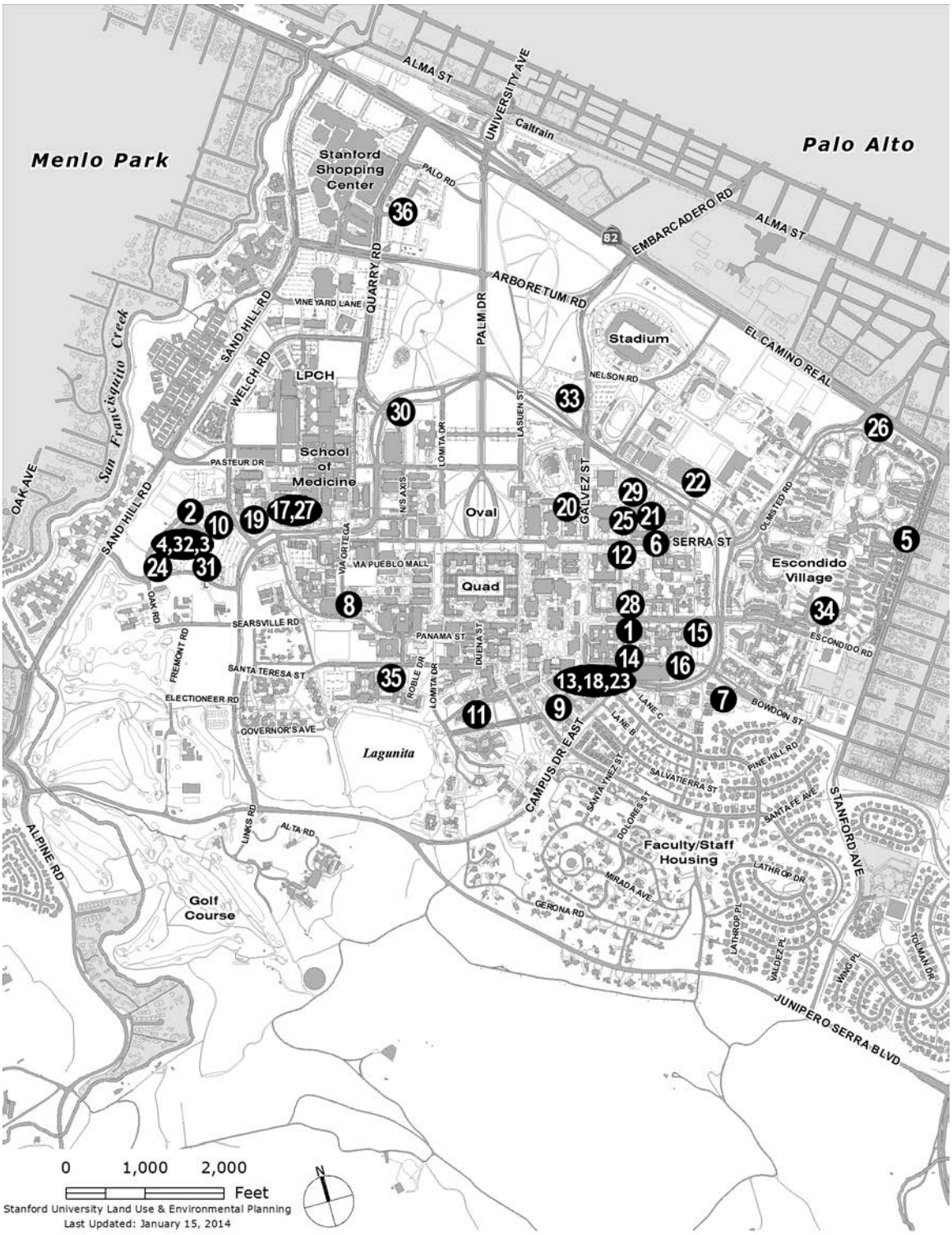
KEY TO MAP C-3 ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13 CUMULATIVE PARKING PROJECTS				
Fiscal Year	**Map No.***	**Project**	**Parking Spaces**	**Spaces Subtotal**
Annual Report 1 (2000-01)	1	Removal of Arguello Lot	(55)	(29)
	2	Oak Road Angle Parking	52	
		Oak Road Parallel Parking	12	
		Student Services Building	(38)	
Annual Report 2 (2001-02)		Band Modular Project	23	31
	3	Parking Structure V	97	
	4	Oak Road (Angle to Parallel)	(66)	
		Closure of Anatomy Lot	(28)	
		Maples Lot	5	
Annual Report 3 (2002-03)		PS-1 Restriping/ADA	(29)	394
		Maples Lot	21	
	5	Escondido Village Expansion	212	
	6	Serra Street Reconstruction	50	
		Arguello Lot	37	
		Mirrielees Lot Reconfiguration	(23)	
	7	Cowell Lot Expansion	154	
		Carnegie Global Center Parking	17	
		Misc. reconstruction/restripe/ADA	(45)	
Annual Report 4 (2003-2004)		Anatomy Lot Reopening	26	(91)
		Encina Gym/ Arrillaga Rec Center Construction	(17)	
		Ventura Lot Closing-CSLI/EPGY Annex Construction	(21)	
		Housing Maintenance Yard Project	(25)	
		Graduate Comm. Center Parking Lot	(35)	
		Misc. reconstruction/restripe/ADA	(19)	
Annual Report 5 (2004-2005)		Stock Farm Bus Reconfiguration	(47)	(159)
		Dudley & Angell Recount	(20)	
		Mayfield 3 Recount	(23)	
		Misc. reconstruction/restripe/ADA	(69)	
Annual Report 6 (2005-2006)	8	Ginzton Lot Closure (for Environment & Energy construction)	(211)	(659)
		Humanities Lot (for Old Union Surge Trailers)	(20)	
		Law School Lot/ House Relocation/ Prep for Munger construction	(26)	
	9	Mariposa Lot/ Munger Law School/ House Relocation/ Columbae Renovation	(115)	
	10	Stock Farm Bus Reconfiguration	(64)	
	11	Tresidder Lot (for House Relocation)	(138)	
		Dudley & Angell/ Olmsted Road	24	
	12	Eating Clubs Lot (for Old Union Surge)	(87)	
	13	Stern Lot	(64)	
	14	Wilbur-Stern Temporary Lot	108	
	15	Wilbur Modulars Removal	131	
	16	Wilbur South Lot (for PS 6)	(128)	
		Misc. reconstruction/restripe/ADA	(69)	
Annual Report 7 (2006-2007)	17	Li Ka Shing Center for Learning and Knowledge displacement	(505)	(798)

Appendix C
Cumulative Projects

KEY TO MAP C-3
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE PARKING PROJECTS

Fiscal Year	Map No.*	Project	Parking Spaces	Spaces Subtotal
		Tresidder – Post House Relocation project	34	
	18	Munger Displacement	(369)	
		Misc. Reconstruction/restripe/ADA	42	
Annual Report 8 (2007-2008)		Dean's Lawn reconfiguraton	(27)	93
	19	Beckman/MSOB Closure for Li Ka Shing Center for Learning and Knowledge construction	(206)	
	20	Memorial Lot closure for John A. and Cynthia Fry Gunn SIEPR Building	(81)	
	21	Serra closure for Knight Management Center	(712)	
	22	Maples closure for Athletics Practice Gym	(75)	
	23	Parking Structure 6	1,185	
		Misc. Reconstruction/restripe/ADA	9	
Annual Report 9 (2008-2009)	24	Oak Road Parking Lot	197	(313)
	25	Arguello and 651 Serra Closure	(267)	
		Track House	(46)	
	26	Barnes & Abrams For Olmsted Road Staff Rental Housing	(96)	
		Dudley & Angell for Stanford Terrace Faculty Homes	(42)	
		Miscellaneous reconstruction/restripe/ADA	(59)	
Annual Report 10 (2009-2010)	27	Beckman Lot reopening	66	(56)
	28	Toyon lot closure for Arrillaga Family Dining Commons	(163)	
		Miscellaneous reconstruction/restripe/ADA	41	
Annual Report 11 (2010-2011)		Cypress lot closure for BioE/ChemE	(44)	810
		Stock Farm West reconfiguration for bus parking	(20)	
		Roth Way reconfiguration for bus loading	(36)	
	29	Parking Structure 7	858	
		Dudley & Angell	49	
		Miscellaneous reconstruction/restripe/ADA	3	
Annual Report 12 (2011-2012)		Lasuen@Arboretum – Bing and Galvez	39	(236)
	30	Anatomy-McMurty Art - Anderson	(95)	
	31	L-17 (Stockfarm South) – Temp Child Care	(75)	
		L-25 (Panama) – West Campus Rec Center	(23)	
		Lasuen – Bing Concert Hall	(26)	
		L-73 (Stern Annex) – East Campus Rec	(37)	
		Miscellaneous reconstruction/restripe/ADA	(19)	
Annual Report 13 (2012-2013)	32	L-20 (Stock Farm West) - SESI Project laydown	(202)	(68)
		L-25 (Panama) - West Campus Recreation Center	28	
	33	L-96 (Galvez) - Galvez Event Lot completion	423	
	34	Comstock - Comstock Graduate Housing Project	(84)	
		L-65 (Cowell @ Bowdoin) - Contractor laydown	(49)	
	35	L-31 (Roble) - Windhover Project	(69)	
	36	L-01 (Rectangle) - Parking Structure 9 construc. yard	(86)	
		Miscellaneous reconstruction/restripe/ADA	(29)	
Cumulative Net Contribution toward 2000 GUP Parking Cap:				**(1,081)**

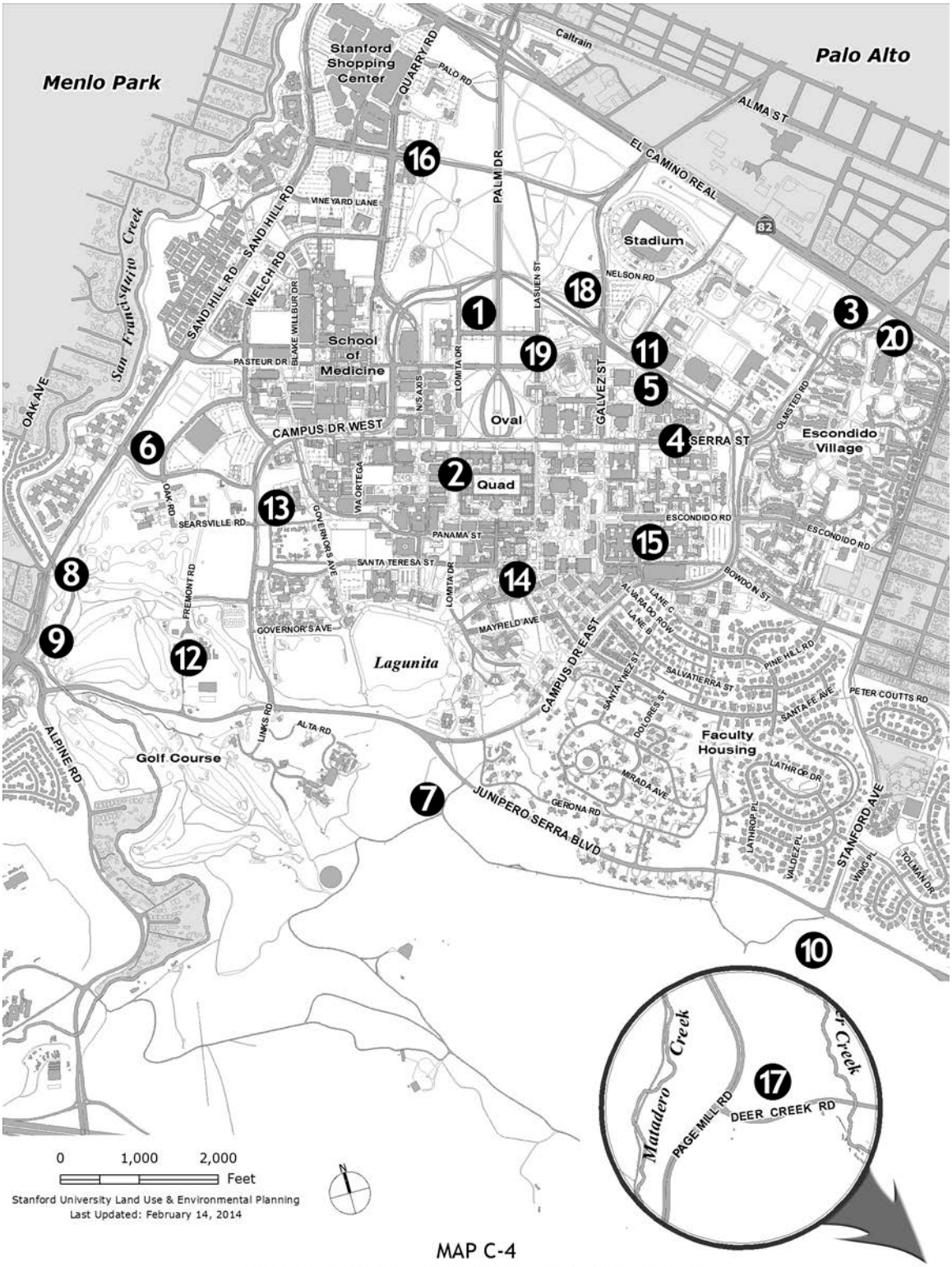
* Map C-3 illustrates the locations of parking projects that change the parking inventory by more than 50 spaces.



MAP C-3
CUMULATIVE PROJECTS THAT AFFECT PARKING INVENTORY (50 SPACES OR MORE)

KEY TO MAP C-4 ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13 CUMULATIVE GRADING PERMIT PROJECTS		
Fiscal Year	**Map No.**	**Project**
Annual Report 1 (2000-01)	1	Sandstone Sculpture
Annual Report 2 (2001-02)	2	Lomita Mall
	3	Serra/ECR Detention Basin
	4	Serra Street Reconfiguration
	5	Encina Tennis Courts
Annual Report 3 (2002-03)		None
Annual Report 4 (2003-04)	6	West Campus Storm Detention
	7	CTS Breeding Ponds
	8	Hole #3 Golf Cart Bridge Replacement
Annual Report 5 (2004-2005)	9	Hole #4 Golf Cart Bridge Replacement
	10	Temporary Art in Foothills
	11	Taube Tennis Practice Bleachers
Annual Report 6 (2005-2006)	12	Equestrian Center
	13	Carnegie Grading Permit
Annual Report 7 (2006-2007)		None
Annual Report 8 (2007-2008)		None
Annual Report 9 (2008-2009)	14	Dinkelspiel Stage
Annual Report 10 (2009-2010)		None
Annual Report 11 (2010-2011)		None
Annual Report 12 (2011-2012)	15	Arguello Recreation Field
	16	LPCH Contractor Parking Lot
	17	Page Mill Road Construction Laydown
Annual Report 13 (2012-2013)	18	Galvez Parking Lot
	19	Lasuen Street Parking Lot
	20	Acorn Parking Lot

Note: These are reported at the time of completion.
These are grading projects that were not associated with construction of academic or housing square footage.

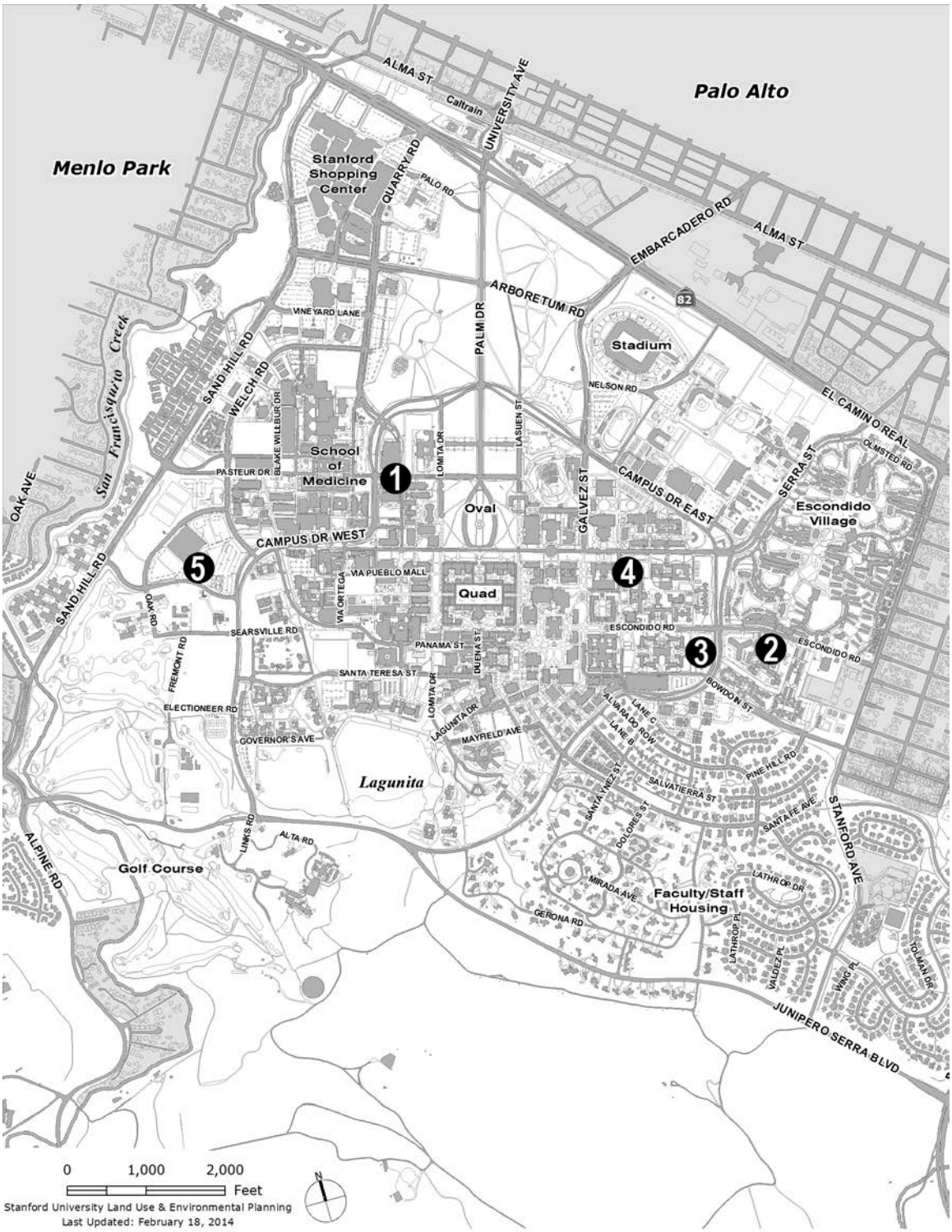


MAP C-4
CUMULATIVE COMPLETED GRADING PROJECTS

KEY TO MAP C-5
ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13
CUMULATIVE BUILDING PROJECTS THAT DO NOT AFFECT BUILDING AREA CAP*

				Applicable Category		
Applicable GUP Condition:				**A.2.a**	**A.2.b**	**A.3**
Fiscal year	**Map No.**	**Project**	**Size (sq. ft.)**	**1989 GUP (sq. ft.)**	**Temporary Surge Space (sq. ft.)**	**Community Childcare Center (sq. ft.)**
Annual Report 1 (2000-01)		None				
Annual Report 2 (2001-02)	1	Lokey Lab	85,063	85,063		
		Demolish Chem Storage	(-2,441)	(-2,441)		
		Demolish Shocktube Lab for ME	(-929)	(-929)		
		CCSC Modular Replacement	768			768
Annual Report 3 (2002-03)		None				
Annual Report 4 (2003-2004)		Maples Surge Trailers	2,688		2,688	
	2	Graduate Community Center	12,000			12,000
		CSLI/EPGY	8,270	8,270		
Annual Report 5 (2004-2005)	3	Wilbur Modular Ext.	27,360		27,360	
		Building 500	2,266	2,266		
		Maples Surge	(-2,688)		(-2,688)	
		Varian Surge	3,050		3,050	
Annual Report 6 (2005-2006)	3	Wilbur Modular Removal	(-27,360)		(-27,360)	
	4	Old Union – Serra	21,495		21,495	
		Old Union – Lomita	7,680		7,680	
Annual Report 7 (2006 – 2007)		Old Union – Lomita Removed	(-7,680)		(-7,680)	
		Durand Surge (formally Varian Surge)	3,050			

KEY TO MAP C-5 ANNUAL REPORT 1 THROUGH ANNUAL REPORT 13 CUMULATIVE BUILDING PROJECTS THAT DO NOT AFFECT BUILDING AREA CAP*						
				Applicable Category		
Applicable GUP Condition:				**A.2.a**	**A.2.b**	**A.3**
Fiscal year	**Map No.**	**Project**	**Size (sq. ft.)**	**1989 GUP (sq. ft.)**	**Temporary Surge Space (sq. ft.)**	**Community Childcare Center (sq. ft.)**
		Tower House Rehabilitation	3,241			3,241
Annual Report 8 (2007 – 2008)		Black Community Service Center Addition	2,500			2,500
		GSB Modulars	3,840		3,840	
		SCRA Sports Complex	3,701			3,701
		Demolish old SCRA complex	(2,617)			(2,617)
		Madera Grove Childcare Center (Acorn Building)	8,354			8,354
Annual Report 9 (2008-2009)		Recalculation of AR 1 - 8	197			197
Annual Report 10 (2009-2010)		None				
Annual Report 11 (2010-2011)		Welch Road modulars	4,030		4,030	
		GSB Modular demolition	(-3,840)		(-3,840)	
		Madera Gove Childcare Center (Mulberry Building)	8,218			8,218
Annual Report 12 (2011-2012)	5	Temporary Child Care Facility	10,560		10,560	
Annual Report 13 (2012-2013)	4	Encina Modulars Trailer demolition (Old Union – Serra)	(21,495)		(21,495)	
		Cowell Lot Construction Trailers	2,584		2,584	
Cumulative Net Square Feet:			**151,865**	**92,229**	**20,224**	**36,362**



MAP C-5
CUMULATIVE BUILDING PROJECTS THAT DO NOT AFFECT BUILDING AREA CAP
(GREATER THAN 10,000GSF)

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Appendix D
Summary Report of Traffic Monitoring
2001-2013

Appendix D
Summary of Traffic Monitoring

The following tables summarize Stanford Traffic Monitoring to date. The requirements for establishment of the traffic baseline and performing annual comparisons to the baseline are contained within the December 2000 Stanford Community Plan/General Use Permit (GUP)/Environmental Impact Report (EIR) and within the 2000 Stanford General Use Permit.

Condition of Approval G.7 outlines the process for establishing the baseline counts and for continuing monitoring in subsequent years. The process can be summarized as follows:

- Peak hour traffic is counted at least three times per year for a two-week period each time. The three counts shall be averaged to determine the annual traffic level.
- All counts are recorded at the 16 campus entry and exit points, which form a "cordon" around the campus.
- During the count, license plate numbers are recorded for each entering and exiting vehicle to determine the amount of non-campus traffic.
- Cordon volumes are adjusted for parking lots within the cordon used by the hospital (these volumes are subtracted from the cordon line counts) and parking lots outside the cordon used by the university (these volumes are added to the cordon line counts).
- A peak hour is then established for the campus based on the counts, adjusted for cut-through and parking lot location.

Condition of Approval G.4 defines the "no net new commute trips" standard as no increase in automobile trips during peak commute times in the peak commute direction, as counted at a defined cordon location around the central campus.

Condition of Approval G.6 defines the peak commute directions as entering the campus in the morning peak commute period and leaving the campus in the evening commute period. The peak commute period is defined as the one-hour period of time between 7 AM and 9 AM and again between 4 PM and 6 PM with the highest volume of traffic, as defined by the counts. Therefore, the two peak hours are considered to be independent events.

Condition of Approval G.9 states that the Planning Office shall monitor the cordon count volumes using the procedures described above. If the cordon counts, as modified by trip reduction credits, exceed the baseline volumes as calculated by the procedures outlined above by 1 percent or more for any two out of three consecutive years, mitigation of impacts to intersections identified in the December 2000 Stanford Community Plan/GUP EIR will be required. Since an increase in traffic during the AM peak hour is independent from an increase in traffic during the PM peak hour, an increase in traffic for two out of three years in one peak hour would trigger the additional elements of the monitoring program without a change, or even with a decrease in the other peak hour. Also a significant increase during one year in the AM and a sufficient increase in the PM for the following year would not trigger additional mitigation.

Monitoring Results

The Stanford Traffic Monitoring began in the Spring 2001. Monitoring counts are done each calendar year. The 2001 counts serve as the Baseline to which future years are compared.

Two adjustments were made to the 2002 counts that are summarized in this report. On the basis of results of the 2002 counts, following the adjustments, it was concluded that the counts were

below the threshold that would indicate an increase in traffic volumes. Stanford thus was found to be in compliance with the "no net new commute trips" GUP requirement for 2002.

An update to the original 2002 Monitoring Report was issued on October 15, 2003. Following the publication of the July 2003 report, Stanford and the County separately analyzed traffic data for the Stanford Homecoming week. Based on consultation with Stanford and independent analysis of County consultant traffic data, the County determined that data collected for the week of Homecoming should not be included in the comparison data set. The rationale for this decision was that Homecoming had been ongoing for years, was not included in the Baseline counts, and would continue to be an annual event. The County communicated to Stanford that other future "large events" would not be excluded from future counts. The revised analysis substituted the week of October 28, 2002, for the previously counted week of October 14, 2002. The results of this change are noted in the table below as the first revision.

Subsequent to the first adjustment to the 2002 Monitoring Report discussed above, Stanford informed the County that additional Marguerite Shuttle runs had been introduced to campus since the completion of the Baseline counts, and thus counted in the Year 1 (2002) comparison counts. This resulted in an increase of 12 vehicles in each peak hour. County staff determined that these new bus lines should be subtracted from the comparison count. The resultant counts are noted in the table below as the second revision.

The results of the 2003 counts were also below the threshold that would indicate an increase in traffic volumes. Stanford thus was also found to be in compliance with the "no net new commute trips" requirement for 2003.

The results of the 2004 counts were below the threshold that would indicate an increase in traffic volumes for the inbound AM peak hour traffic. However, the 2004 count for the outbound PM peak hour traffic exceeded the threshold by 51 vehicles. On March 2, 2005 Stanford submitted a 2004 Trip Credit Report that was reviewed by Korve Engineering. This report documented a credit of 66 for the increase in the number of bus trips across the cordon points and the number of transit passengers served outside the cordon area in the PM peak hour between the 2001 baseline and 2004. Most of the trip credits claimed are for passengers (primarily Stanford Hospital employees) getting on the shuttle outside the cordon area and traveling to the Palo Alto Caltrain station. Factoring in the trip credit of 66 trips Stanford did not exceed the no net new commute trip standard based on the 2004 Monitoring Program.

The results of the 2005 Monitoring Report concluded that the adjusted AM inbound count totaled 3,383 vehicles. This represented an increase of 64 vehicles, which fell within the 90% confidence interval and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,735 vehicles which was an increase of 422 vehicles from the baseline, which is above the 90% confidence interval by 289 vehicles and above the 1% increase trigger by 144 vehicles. Stanford applied for 182 trip credits for the 2005 monitoring period, consistent with the Cordon Count Credit Guidelines.

The 2006 Monitoring Report concluded that the adjusted AM inbound count totaled 3,048 vehicles. This represented a decrease of 271 vehicles from the baseline and does not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,427 vehicles, which was a decrease of 19 vehicles from the baseline, which is 128 vehicles below the 90 percent confidence interval and 164 vehicles below the 1 percent established trigger. Stanford submitted

a 2006 Trip Credit Report showing 223.36 trip credits – this report has been received and confirmed by the County's traffic consultant.

The 2007 Monitoring Report concluded that the adjusted AM inbound count totaled 3,058 vehicles, which was a decrease of 261 vehicles from the baseline, this decrease falls below the 90 percent confidence interval by 141 vehicles and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,494 vehicles, which was an increase of 48 vehicles from the baseline counts. This increase falls below the 90 percent confidence interval by 61 vehicles and 97 vehicles below the 1 percent established trigger. Stanford submitted a 2007 Trip Credit Report showing 201 trip credits – this report has been received and confirmed by the County's traffic consultant.

The 2008 Monitoring Report concluded that the adjusted AM inbound count totaled 3,020 vehicles, which was a decrease of 419 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,460 vehicles, which was a decrease of 95 vehicles below the baseline count and did not represent a significant PM outbound traffic increase. Stanford submitted a 2008 Trip Credit Report showing 240 trip credits – this report has been received and confirmed by the County's traffic consultant.

The 2009 Monitoring Report concluded that the adjusted AM inbound count totaled 2,840 vehicles, which was a decrease of 479 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,227 vehicles, which was a decrease of 219 vehicles below the baseline count and did not represent a significant PM outbound traffic increase.

The 2010 Monitoring Report concluded that the adjusted AM inbound count totaled 2,921 vehicles, which was a decrease of 553 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,459 vehicles, which was a decrease of 132 vehicles below the baseline count and did not represent a significant PM outbound traffic increase.

The 2011 Monitoring Report concluded that the adjusted AM inbound count totaled 3,081 vehicles, which was a decrease of 393 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,743 vehicles, which was a decrease of 51 vehicles below the baseline count, after the trip credit was applied, and did not represent a significant PM outbound traffic increase.

The 2012 Monitoring Report concluded that the adjusted AM inbound count totaled 3,287 vehicles, which was a decrease of 187 vehicles from the baseline and did not represent a significant AM inbound traffic increase. The PM outbound count totaled 3,590 vehicles, which was a decrease of 302 vehicles below the baseline count, after the trip credit was applied, and did not represent a significant PM outbound traffic increase.

The 2013 Monitoring Report concluded that the adjusted morning (AM) inbound count totaled 3,332 vehicles which was an increase of 13 vehicles from the baseline, which falls within the 90% confidence interval, and does not represent a significant AM inbound traffic increase. The afternoon (PM) outbound count totaled 3,744 vehicles, which is an increase of 298 vehicles from the baseline. However, after applying 339 trip credits submitted by Stanford and verified by the County, the PM peak hour outbound traffic is 186 trips below the 1% established trigger. .

Appendix D
Summary of Traffic Monitoring

2001 Baseline

Original Publication Date: **July 2002**
Updated Publication Date: **October 15, 2003**

Changes between the July 2002 and October 2003 reports were minor editorial corrections.

Inbound AM:	
Adjusted Average 2002 Count	3,319
90% Confidence Interval (2001)	+/- 120
Significant Traffic Increase (2001)	3,439
1% Increase Trigger (2001)	3,474
Outbound PM:	
Adjusted Average 2002 Count	3,446
90% Confidence Interval (2001)	+/- 109
Significant Traffic Increase (2001)	3,555
1% Increase Trigger (2001)	3,591

2002 Monitoring Report

Original Publication Date: **December 2002**
Updated Publication Date: **October 15, 2003**

Inbound AM:	**Original Data**	**First Revision Data**	**Second Revision Data**
Adjusted Average 2002 Count	3,390	3,287	3,275
Baseline-established 90% Confidence Interval (2001)	+/-120	+/-120	+/-120
Baseline-established Significant Traffic Increase (2001)	3,439	3,439	3,439
Baseline-established 1% Increase Trigger (2001)	3,474	3,474	3,474
Result	-84	-187	-199

Outbound PM:	**Original Data**	**First Revision Data**	**Second Revision Data**
Adjusted Average 2002 Count	3,678	3,598	3,586
Baseline-established 90% Confidence Interval (2001)	+/-109	+/-109	+/-109
Baseline-established Significant Traffic Increase (2001)	3,555	3,555	3,555
Baseline-established 1% Increase Trigger (2001)	3,591	3,591	3,591
Result	+87	+7	-5

Appendix D
Summary of Traffic Monitoring

2003 Monitoring Report

Original Publication Date: **January 29, 2004**

The following table summarizes the results of traffic monitoring for 2003.

Inbound AM:	
Adjusted Average 2003 Count	3,413
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result	-61
Outbound PM:	
Adjusted Average 2003 Count	3,476
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result	-115

2004 Monitoring Report

Original Publication Date: **January 18, 2005**

The following table summarizes the results of traffic monitoring for 2004.

Inbound AM:	
Adjusted Average 2004 Count	3,413
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result	-298
Outbound PM:	
Adjusted Average 2004 Count	3,642
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (Falls above the 90% Confidence Interval by 87 vehicles)	+87
Result (Falls above the 1% Trigger by 51 vehicles)	+51
2004 Trip Credit	-66
Result With Trip Credit (Falls below the 1% Trigger by 15 vehicles)	-15

Appendix D
Summary of Traffic Monitoring

2005 Monitoring Report

Original Publication Date: **December 21, 2005**

The following table summarizes the results of traffic monitoring for 2005.

Inbound AM:

Adjusted Average 2005 Count	3,383
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (Falls below the 90% Confidence Interval by 56 vehicles)	-56
Result (Falls below the 1% Trigger by 91 vehicles)	-91

Outbound PM:

Adjusted Average 2005 Count	3,735
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (Falls above the 90% Confidence Interval by 313 vehicles)	+180
Result (Falls above the 1% Trigger by 277 vehicles)	+144

2006 Monitoring Report

Original Publication Date: **November 20, 2006**

The following table summarizes the results of traffic monitoring for 2006.

Inbound AM:

Adjusted Average 2006 Count	3,048
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 391 vehicles)	-391
Result (falls below the 1% increase trigger by 426 vehicles)	-426

Outbound PM:

Adjusted Average 2006 Count	3,427
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 128 vehicles)	-128
Result (falls below the 1% trigger by 164 vehicles)	-164

Appendix D
Summary of Traffic Monitoring

2007 Monitoring Report

Original Publication Date: **November 2007**

The following table summarizes the results of traffic monitoring for 2007.

Inbound AM:	
Adjusted Average 2007 Count	3,058
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 381 vehicles)	-381
Result (falls below the 1% increase trigger by 416 vehicles)	-416
Outbound PM:	
Adjusted Average 2007 Count	3,494
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 61 vehicles)	-61
Result (falls below the 1% trigger by 97 vehicles)	-97

2008 Monitoring Report

Original Publication Date: **November 2008**

The following table summarizes the results of traffic monitoring for 2008.

Inbound AM:	
Adjusted Average 2008 Count	3,020
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 381 vehicles)	-419
Result (falls below the 1% increase trigger by 416 vehicles)	-454
Outbound PM:	
Adjusted Average 2008 Count	3,460
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 61 vehicles)	-95
Result (falls below the 1% trigger by 97 vehicles)	-131

Appendix D
Summary of Traffic Monitoring

2009 Monitoring Report

Original Publication Date: **November 2009**

The following table summarizes the results of traffic monitoring for 2009.

Inbound AM:	
Adjusted Average 2009 Count	2,840
Baseline-established 90% Confidence Interval (2001)	+/- 120
Baseline-established Significant Traffic Increase (2001)	3,439
Baseline-established 1% Increase Trigger (2001)	3,474
Result (falls below the 90% confidence interval by 381 vehicles)	-599
Result (falls below the 1% increase trigger by 416 vehicles)	-634
Outbound PM:	
Adjusted Average 2009 Count	3,227
Baseline-established 90% Confidence Interval (2001)	+/- 109
Baseline-established Significant Traffic Increase (2001)	3,555
Baseline-established 1% Increase Trigger (2001)	3,591
Result (falls below the 90% confidence interval by 61 vehicles)	-328
Result (falls below the 1% trigger by 97 vehicles)	-364

2010 Monitoring Report

Original Publication Date: **December 2010**

The following table summarizes the results of traffic monitoring for 2010

Inbound AM:	
Adjusted average 2010 count	2,921
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 518 vehicles)	-518
Result (falls below the 1% increase trigger by 553 vehicles)	-553
Outbound PM:	
Adjusted average 2010 count	3,459
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls below the 90% confidence interval by 96 vehicles)	-96
Result (falls below the 1% increase trigger by 132 vehicles)	-132

Appendix D
Summary of Traffic Monitoring

2011 Monitoring Report

Original Publication Date: **December 2011**

The following table summarizes the results of traffic monitoring for 2011

Inbound AM:	
Adjusted average 2011 count	3,081
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 358 vehicles)	-358
Result (falls below the 1% increase trigger by 393 vehicles)	-393
Outbound PM:	
Adjusted average 2011 count	3,743
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (falls above the 90% confidence interval by 188 vehicles)	+188
Result (falls above the 1% increase trigger by 152 vehicles)	+152
2011 trip Credit	-203
Result with trip credits (falls below the 1% trigger by 51 vehicles)	-51

2012 Monitoring Report

Original Publication Date: **December 2012**

The following table summarizes the results of traffic monitoring for 2012

Inbound AM:	
Adjusted average 2012 count	3,287
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 152 vehicles)	-152
Result (falls below the 1% increase trigger by 187 vehicles)	-187
Outbound PM:	
Adjusted average 2012 count	3,590
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (exceeds the 90% confidence interval by 35 vehicles)	+35
Result (falls above the 1% increase trigger by 1 vehicle)	-1
2012 Trip Credit	-301
Result with trip credits (falls below the 1% trigger by 302 vehicles)	-302

Appendix D
Summary of Traffic Monitoring

2013 Monitoring Report

Original Publication Date: **March 2014**

The following table summarizes the results of traffic monitoring for 2013

Inbound AM:	
Adjusted average 2013 count	3,332
Baseline-established 90% confidence interval (2001)	+/- 120
Baseline-established significant traffic increase (2001)	3,439
Baseline-established 1% increase trigger (2001)	3,474
Result (falls below the 90% confidence interval by 107 vehicles)	-107
Result (falls below the 1% increase trigger by 142 vehicles)	-142
Outbound PM:	
Adjusted average 2013 count	3,744
Baseline-established 90% confidence interval (2001)	+/- 109
Baseline-established significant traffic increase (2001)	3,555
Baseline-established 1% increase trigger (2001)	3,591
Result (exceeds the 90% confidence interval by 189 vehicles)	189
Result (falls above the 1% increase trigger by 153 vehicle)	153
2013 Trip Credit	-339
Result with trip credits (falls below the 1% trigger by 186 vehicles)	-186

Appendix D
Summary of Traffic Monitoring

Definitions

The following definitions are provided to assist in understanding for procedures of the Stanford Traffic Monitoring.

Adjusted Traffic – The raw traffic counts defined below are adjusted to add in University traffic that does not cross the cordon, and to subtract hospital traffic that does cross the cordon, and cut-through traffic through the campus that is not university related. The adjusted traffic volumes are used to compare the Baseline traffic volumes to subsequent year volumes to assess potential changes in commute traffic volumes.

AM Peak Hour – The 60-minute time period with the highest volume of traffic within the 2-hour AM Peak Period. During the AM Peak Period, traffic counts are aggregated by 15-minute increments. The AM Peak Hour is the highest four consecutive 15-minute intervals during the Peak Period for all 16 entrance/exit points combined.

AM Peak Period – The 2-hour period beginning at 7:00 AM and ending at 9:00 AM. The AM Peak Hour is calculated for traffic volumes collected during the AM Peak Period.

Average Count – Traffic data are collected for 16 entry and exit points. The entering data are averaged for the AM peak and the existing data are averaged for the PM peak. The average counts are used to compare one year to a subsequent year to determine if a change in traffic volumes has occurred.

Baseline – The Baseline traffic data are the counts from calendar year 2001, the first year of monitoring after approval of the Stanford GUP in 2000. Subsequent year's counts are compared to the Baseline to determine if the GUP condition requiring no net new commute trips is being satisfied.

Cordon Line – A cordon line is an imaginary line that completely encircles an area and crosses all roads leading into and out of the area. By counting traffic volumes on the cordon by direction, the amount of traffic entering the area and exiting the area can be determined. For Stanford traffic monitoring, the cordon line surrounds the campus and crosses all entry and exit roads, such that all vehicles entering and exiting the campus can be counted.

License Plate Survey – the last four digits of the license plates of each vehicle entering and exiting the campus is recorded for one day during each week of traffic counts. The time period during which each identified vehicles enters and exits the campus cordon is also recorded. If an entering vehicle's license plate matches an exiting vehicle's license plate with a 15-minute interval, that vehicle is assumed to represent a cut-through trip (i.e. not campus-related) and is subtracted from the total traffic count for Stanford since it does not represent traffic related to Stanford. In order for a vehicle trip to be identified as "cut-through", it must be identified by license plate match as having entered via one roadway and exited via another. If a car is identified by license plate match as using the same entering and exiting roadway, the trip purpose is assumed to be to drop-off a passenger within the campus, and the trip is assumed to be Stanford related and is not subtracted from the trip count total.

PM Peak Hour – The 60-minute time period during which the highest volume of traffic is counted, within the 2-hour PM Peak Period. During the Peak Period, traffic counts are

aggregated by 15-minute increments. The PM Peak Hour is the highest four consecutive 15-minute interval during the Peak Period for all 16 entrance/exit points combined.

PM Peak Period – The 2-hour period beginning at 4:00 PM and ending at 6:00 PM. The PM Peak Hour is calculated for traffic volumes collected during the PM Peak Period.

Raw Data – The total traffic volumes counted at the cordon line before adjustments are made. Adjustments are made to the raw data to subtract hospital parking within the cordon, and cut-through traffic from the total count, and to add university parking outside the cordon to the total count, in order to accurately account for traffic attributable to Stanford University.

Significant Traffic Increase – In comparing the change in traffic volumes between the Baseline and subsequent years, only statistically significant changes are considered. The following parameters define how a significant traffic increase is calculated:

- Ninety Percent Confidence Interval – A confidence interval is calculated to determine if a subsequent set of data is statistically different from the Baseline data. The County selected a 90 percent confidence interval as the significance threshold. Based on the daily variation in the Baseline counts, the 90 percent confidence interval for the AM peak hour is +/- 120 vehicles. The 90 percent confidence interval for the PM peak hour is +/- 109 vehicles. Therefore, if a subsequent year count exceeds the Baseline count by more than 120 vehicles, there is a 90 percent likelihood that the increase in traffic volumes has increased significantly.
- One Percent Increase Trigger – The 1 percent trigger is a second criterion for identifying significant increases in traffic volume. Condition of Approval G.9 stipulates that if traffic volumes increase above the Baseline volumes by 1 percent or more in two out of three consecutive years, this will "trigger" a requirement for additional mitigation.

Trip Credits – condition of Approval G.8 specifies that the County will recognize and "credit" Stanford off-campus trip reduction efforts after the approval data of the GUP (December 12, 2000), but not before, within a specified area surrounding the campus. These credits can be used to offset a significant increase in peak hour traffic into and out of the campus. Specific guidelines have been established that define how credits can be applied. An example of a credit would be Stanford providing bus service to someone traveling from the Caltrain Station to the hospital. By reducing overall travel in the area around the campus, Stanford can receive a credit against increases in travel onto the campus.

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Appendix E
Sustainability at Stanford Annual Report

Sustainability at Stanford
2012 - 2013

Annual Report to Santa Clara County

December 2013

Introduction to Featured Topics

Annual Highlights

Sustainability is a core value at Stanford, deeply integrated into academics, campus operations, communications and events. Sustainability teachings and practices are enriching our students' academic experience, reducing the university's environmental impact, saving resources and engaging the campus community.

This section of the report highlights a number of featured sustainability topics, with each article summarizing key accomplishments, results and trends and academic integration, as well as offering some insight into the work ahead. Here are some of the most significant and unique accomplishments featured in *Sustainability at Stanford: A Year in Review, 2012-13*:

- **Honor roll in overall sustainability:** The Princeton Review has named Stanford to its **2014 Green Honor Roll,** a list of 22 colleges and universities selected from a group of 832 by the education services company as the most environmentally progressive schools in the nation. Stanford received the highest score – 99 – in the annual rating. Stanford also ranked among *Sierra* magazine's top 10 Cool Schools green ranking for the fourth year in a row. In 2012-13, Stanford maintained a Gold rating, the highest level awarded to date, from the Association for the Advancement of Sustainability in Higher Education.

- **Interdisciplinary research:** Stanford continues to produce **leading interdisciplinary research** to develop solutions to the world's most pressing environmental problems. The Stanford Woods Institute for the Environment, the Precourt Institute for Energy (PIE) and others award millions of dollars each year towards innovative new research projects.

- **Greening of the energy supply:** Stanford has committed to transforming its energy system through Stanford Energy System Innovations (SESI), which will reduce greenhouse gas emissions by 50% and total campus potable water use by 18% upon completion in 2015. The $438 million program is in active implementation, with progress shown live via the SESI website. The project was awarded the 2013 **Effective & Innovative Practices Award** by APPA, the largest international association of educational institutions and their facilities and physical plant departments.

- **Expanded and flexible sustainability curricula:** The 2010 Study of Undergraduate Education at Stanford resulted in, among other recommendations, a series of new breadth

requirements for all students, set to launch in 2013-14. This new system shifts undergraduate requirements **from a discipline-based to a capacity-based model**, which will enable students to take sustainability-related courses that will also count towards breadth requirements. Today, all seven schools offer a wide range of environmental and sustainability-related courses and research opportunities, with over 750 sustainability-related graduate and undergraduate courses offered across campus.

- **Reduced drive-alone rate:** In 2012, the employee drive-alone rate **dropped to 47%,** compared to 72% in 2002 at the inception of the enhanced Transportation Demand Management program. More than 3,800 Stanford commuters started using alternative transportation during this period. Commute-related emissions remain below 1990 levels. The Commute Club has more than doubled its membership since 2002.

- **High-performance buildings:** Stanford's Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2), the first large-scale high-performance building at Stanford, earned a LEED-EBOM (Existing Building: Operations & Maintenance) **Platinum certification**, the highest rating awarded by the U.S. Green Building Council.

- **Higher landfill diversion:** Stanford has increased its landfill diversion rate from 30% in 1994 to **66% in 2012** and reduced its landfilled tonnage to an all-time low.

- **Behavioral sustainability:** The **Celebrating Sustainability Festival**, a first-of-its-kind event focused on behavioral sustainability, was held in April. Over 35 departments/entities, 60 presenters and 20 volunteers hosted over 1,000 guests at the festival in the span of a few hours on Earth Day.

- **Collaborative governance:** The **Provost's Committee on Sustainability** finished its first year of collaboration and made progress in integrating sustainability into the departments of Athletics and Procurement and developing a campus-wide Cardinal Green program.

Leadership in Sustainability

Central to the academic endeavor has been the Initiative on the Environment and Sustainability, which boosted interdisciplinary research and teaching in all seven of Stanford's schools, as well as in interdisciplinary institutes, centers and associated programs across campus, in recognition of the fact that solutions to complex challenges demand collaboration across multiple fields. The School of Earth Sciences, the School of Engineering, the Graduate School of Business, the Graduate School of Education, the School of Humanities and Sciences, the School of Law

and the School of Medicine are leaders in sustainability research and teaching. Leading institutes such as Woods (founded in 2006) and PIE (founded in 2009) serve as the academic integration points and coordination platforms for interdisciplinary research and programs.

The Department of Sustainability & Energy Management (SEM) within Land, Buildings & Real Estate (LBRE) leads initiatives on campus physical infrastructure and programs in energy and climate, water, transportation, building operations and information systems. The Office of Sustainability (founded in 2008 as an entity of SEM) connects campus departments and other entities and works collaboratively with them to steer sustainability-specific initiatives. The office works on long-range sustainability analysis and planning, evaluation and reporting, communication and outreach, academic integration, behavior-based programs and governance coordination.

Creating a bridge between operational groups and academic entities is the Provost's Committee on Sustainability and the Sustainability Working Group. With a commitment to uphold sustainability as a visible priority at Stanford, the committees work to encourage and promote collaborations among sustainability programs across schools, institutes, the Office of Sustainability and students. Additional critical sustainability partners at Stanford include all LBRE departments; Residential & Dining Enterprises, which houses its own sustainable food and student housing programs; Stanford Recycling Center, run by Peninsula Sanitary Service, Inc.; University Communications; Government and Community Relations; the Alumni Association; and over 20 student organizations.

Feature Stories Ahead

Topics featured in this section describe the operational milestones and performance achievements of the past year, with an emphasis on Stanford's many accomplishments and its effort to push ever forward as a leader in the practice of sustainable campus operation. Stanford continues to maintain and analyze detailed performance records in key operational areas to verify the effectiveness of its programs and identify opportunities for further improvement.

The campus has lowered energy and water consumption per usable square foot from the historical baselines. In the past year, minor increases in total energy intensity and domestic water intensity reflect replacement of low-intensity office space with high-intensity laboratory space in the building portfolio; total energy use and total water use decreased, however, underscoring the success of Stanford's high-performance buildings and retrofit programs.

Trends in Sustainability Performance:

Background

Proper assessment of Stanford's success in achieving a culture of sustainability depends heavily on tracking performance metrics and reporting them both internally and externally. This commitment to transparency and accountability helps the university strengthen its sustainability programs and services. The graphic below depicts trends in resource consumption in relation to this past year as well as the baseline program year.

- Performance in relation to baseline year: Total energy use and total water use decreased due to the success of Stanford's high-performance buildings and retrofit programs.
- Performance in relation to last year: In the past year, minor increases in total energy intensity and domestic water intensity reflect replacement of low-intensity office space with high-intensity laboratory space in the building portfolio.

Operational Sustainability Metrics Summary

	Annual Trend (2012 vs. 2011)	Baseline Trend (2012 vs. Base)	Baseline Year
Total Energy Use	↓ 0.7%	↑ 10.6%	2000
Total Energy Intensity	↑ 2.6%	↓ 6.1%	2000
Greenhouse Gas Emissions	↓ 3.2%	↑ 4.9%	2007*
Greenhouse Gas Intensity	↓ 3.3%	↓ 1.1%	2007*
Landfilled Waste	↓ 1.6%	↓ 31.6%	2000
Drive-Alone Rate	↓ 5.1%	↓ 30.1%	2002*
Domestic Water Use	↓ 0.3%	↓ 21.4%	2000
Domestic Water Intensity	↑ 2.4%	↓ 32.6%	2000

* Years other than 2000 denote formal program start dates and/or the earliest year for which robust data is available.

Individual Impact: A Look at Per Capita Consumption

In addition to tracking absolute consumption and intensity trends, Stanford also considers per capita resource use on an annual basis. As the university grows to support its academic mission, responsible growth is both a priority and a tool for informing long-range strategic planning. As the total campus population continues to grow, the suite of efficiency and conservation programs implemented by SEM and its partner organizations ensures that each individual footprint shrinks. While per capita consumption in 2012-13 was reduced by several percentage points compared the previous year, per capita consumption compared to the baseline year has decreased significantly.

Per Capita* Consumption Trends

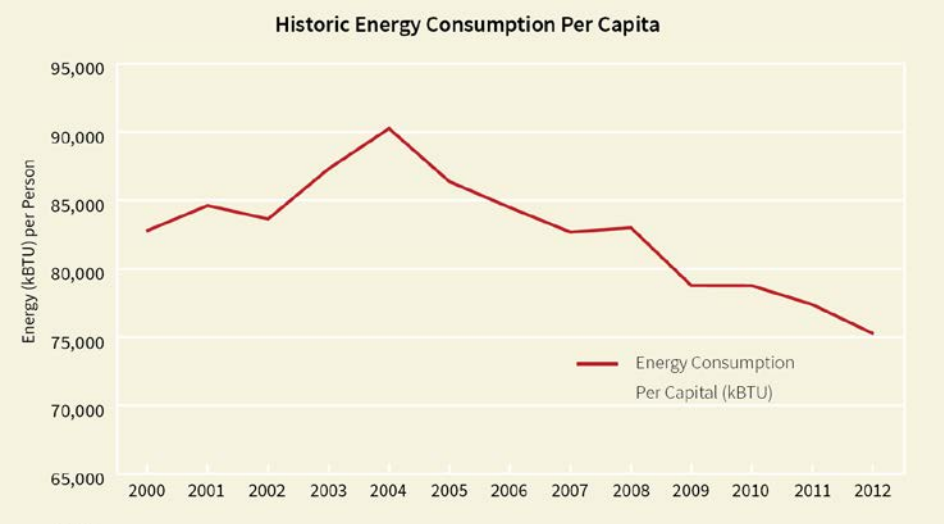
	Annual Trend (2012 vs. 2011)	Baseline Trend (2012 vs. Base)	Baseline Year
Total Energy Per Capita	↓ 3%	↓ 9%	2000
GHG Emissions Per Capita	↓ 5%	↓ 5%	2000
Domestic Water Per Capita	↓ 2%	↓ 35%	2007
Landfilled Waste Per Capita	↓ 4%	↓ 44%	2000

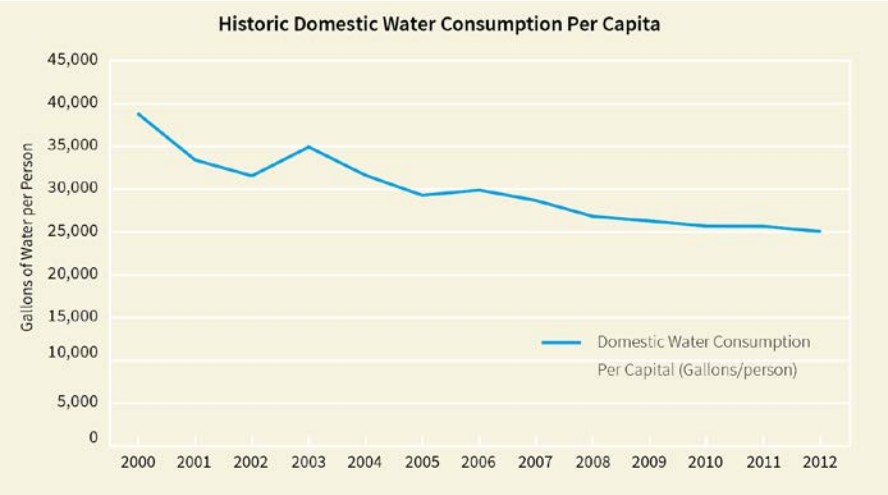
* Population numbers sourced from the annual Stanford Population Report compiled by the Office of Institutional Research and Decision Support and publicly available.

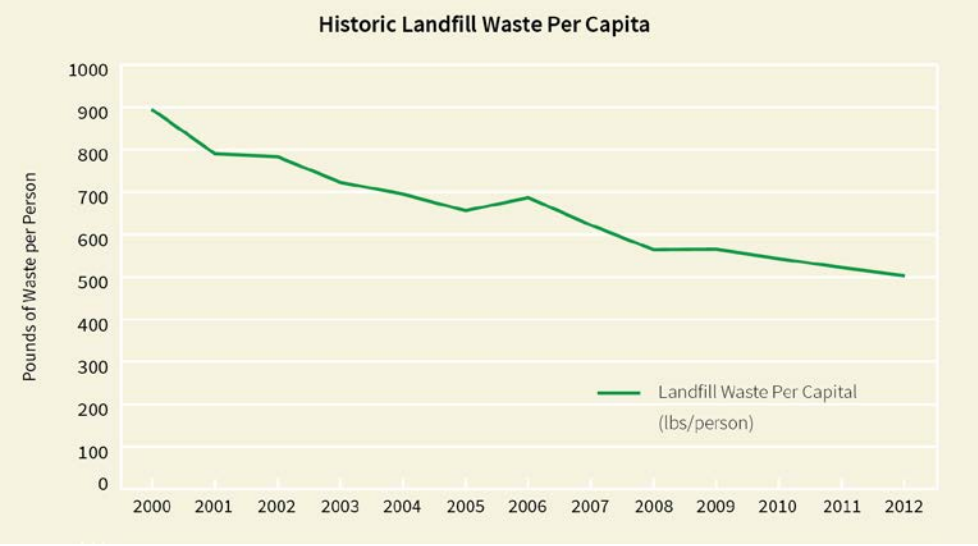
A detailed look at the magnitude of per capita changes in energy, water and landfilled waste illustrates effective resource management at Stanford. As demonstrated in the charts on the adjacent page, resource conservation has long been a university priority and has achieved continued success.

Mindful of the continued growth necessary to support and advance its academic mission and enroll more students, Stanford maintains an unrelenting commitment to reducing its impact on resources. This trend is consistent across comparisons from year-to-year, as compared to baseline, and in analyzing absolute values over the course of several years.

Stanford is dedicated to driving resource conservation at the individual and operational levels. In the articles following these summary graphics, operational departments and initiatives provide detail on the programs and services Stanford employs to improve efficiency, conserve resources and ultimately reduce Stanford's impact while enhancing learning opportunities across campus.


Historic Energy Consumption Per Capita
95,000
90,000
85,000
80,000
75,000
70,000
65,000
Energy (kBTU) per Person
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Energy Consumption
Per Capital (kBTU)


Historic Domestic Water Consumption Per Capita
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Gallons of Water per Person
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Domestic Water Consumption
Per Capital (Gallons/person)


Historic Landfill Waste Per Capita
1000
900
800
700
600
500
400
300
200
100
0
Pounds of Waste per Person
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Landfill Waste Per Capital
(lbs/person)

Stanford Operational Sustainability Metrics 2000–2012

Sustainability Area	Metrics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Energy														
Electricity	kwh (in millions)	175.4	175.1	176.3	180.8	186.8	190.3	194.5	198.2	198.9	198.9	206.2	207.8	210.3
	kwh/usf [1,2,3]	17.5	17.1	16.8	17.3	17.5	17.7	18.0	18.0	18.2	17.7	17.9	17.2	17.9
Steam	lbs (in millions)	798.8	847.7	860.5	865.4	878.8	904.4	876.1	858.4	883.5	825.7	848.2	839.0	815.0
	lbs/usf	91.5	97.1	98.8	99.8	98.8	100.5	97.7	93.4	96.2	86.5	86.1	80.8	81.2
Chilled Water	ton-hr (in millions)	48.0	48.0	49.8	54.3	59.9	55.4	53.5	53.6	56.3	56.2	52.8	55.1	55.3
	ton-hr/usf	6.7	6.7	7.0	7.6	7.9	7.2	6.9	6.7	7.1	6.8	6.2	6.1	6.3
Greenhouse Gas Emissions														
Publicly Reported Emissions [4]	$MTCO_2$	n/a	n/a	n/a	n/a	n/a	n/a	168,400	182,900	180,700	182,400	195,800	198,300	191,900[5]
Emissions Intensity	lbs of CO_2/gsf [6]	n/a	n/a	n/a	n/a	n/a	n/a	25.54	26.65	26.49	27.49	28.08	27.25	26.34
Waste Minimization														
Total Diverted	tons	11,276	11,300	11,587	11,047	13,629	12,668	14,732	13,193	14,686	15,251	14,261	12,814	15,039
Total Landfilled	tons	11,495	10,194	10,429	9,533	9,262	9,094	9,558	8,820	8,180	8,384	8,104	7,995	7,867
Total Discards	tons	22,771	21,494	22,016	20,580	22,891	21,762	24,290	22,014	22,866	23,635	22,369	20,809	22,906
Diversion Rate		50%	53%	53%	54%	60%	58%	61%	60%	64%	65%	64%	62%	66%
Transportation														
Commuter Drive-Alone Rate (employees only)		n/a	n/a	72%	65%	63%	58%	54%	52%	51%	48%	48%	46%	47%
Commuter Drive-Alone Rate (all off-campus commuters)		n/a	n/a	n/a	60%	59%	54%	50%	46%	46%	42%	42%	39%	41%
Food Purchasing														
Sustainable Food Purchases [7]		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	41.9%	43.6%	41.6%
		00/01	**01/02**	**02/03**	**03/04**	**04/05**	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Water														
Domestic	gals (in millions)	997.2	862.8	840.1	921.1	843.1	811.8	832.4	841.8	778.6	780.8	774.7	786.7	784.1
	gals/usf	96.8	82.1	78.0	85.7	76.6	73.5	75.1	74.7	69.6	67.8	65.5	63.7	65.2
Lake	gals (in millions)	431.4	406.6	362.7	364.2	332.1	270.5	347.2	446.8	378.8	375.2	391.3	430.7	445.4

Note:

1. In 2010 Stanford transitioned to usable square footage (USF) in lieu of gross square footage (GSF) since tracked campus GSF data now includes attic areas and other spaces not normally used or conditioned. USF represents utility service area more accurately and is used in this table starting in 2000.
2. In 2012 more accurate historic USF information became available and therefore the service areas have been updated starting in 2000 to better reflect the state of campus at that time.
3. Service areas for electricity, steam, chilled water, and domestic water are different, and USF served by electricity and domestic water exclude parking structures.
4. Emissions for 2006 - 2009 verified per the California Climate Action Registry General Reporting Protocol, including de minimus emissions. Emissions for 2010 & 2011 verified per the Climate Registry General Reporting Protocol, including simplified estimation (de minimus equivalent) emissions.
5. Emissions for 2012 per the Climate Registry General Reporting Protocol, including simplified estimation (de minimus equivalent) emissions, verification pending.
6. GSF included in the emissions intensity calculation corresponds to the properties included in the emissions inventory as defined by the operational control boundary method.
7. Calculations for sustainable food purchasing by R&DE Stanford Dining correspond to the criteria defined by the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment, and Rating System. This includes food and beverages grown or processed within 250 miles of campus and/or third-party certified (USDA Certified Organic, Marine Stewardship Council Blue Ecolabel, Monterey Bay Aquarium Seafood Watch Approved, Fair Trade, Certified Humane Raised and Handled).

Stanford Energy System Innovations in Implementation

Background

In December 2011, Stanford's Board of Trustees approved the Stanford Energy System Innovations (SESI) program, designed to meet the university's future energy needs while reducing greenhouse gas (GHG) emissions and water consumption. Stanford has historically done much to reduce GHG impacts, and in late 2007, the university set out to develop a formal action plan incorporating existing best practices in innovative new ways. The resulting Stanford Energy and Climate Plan is one of the most ambitious carbon reduction programs at any major U.S. university.

The key elements of the plan include high efficiency standards for new buildings; continued efficiency improvements for existing buildings; and a cutting-edge energy supply system known as the SESI project, which will reduce campus emissions by 50% from 1990 levels in 2015. Conceived in the Department of Sustainability & Energy Management (SEM) and being implemented in collaboration with the Department of Project Management (DPM), the university architect's office, Land Use and Environmental Planning, Zones Management, Buildings and Grounds Maintenance and many other departments, the SESI program is an all-hands Land, Buildings & Real Estate engagement that will deliver immense benefits for Stanford University in decades to come.

Results

Due to the large overlap between campus heating and cooling demands, a replacement central energy facility (RCEF) will include an innovative heat recovery design that is significantly more efficient than the existing cogeneration process. Heat collected from buildings via the chilled-water loop will be captured for reuse, minimizing the use of conventional chillers to discharge waste heat via cooling towers. Heat recovery chillers will move the heat collected from the chilled-water loop to a new hot-water loop that will replace Stanford's aging steam distribution system. The $438 million project represents a significant transformation of the university energy supply from fossil-fuel-based cogeneration to a more efficient electric heat recovery system. Key benefits and results of the SESI program are as follows:

- As the RCEF comes online in 2015, the campus will **reduce its carbon emissions** at least 50% from 1990 levels. Simultaneously, an electricity-dependent energy supply system will offer higher reliability, lower cost and greater flexibility for green power procure-

ment. Having achieved direct access to the California electricity market in early 2011, Stanford is now developing opportunities for a more economic and environmentally sound power portfolio.

- Due to the significant opportunity for heat recovery and the lower line losses of hot water compared to steam piping, the new energy system will be **70% more efficient** than the combined heat and power process of the current cogeneration facility.

- Since the majority of the waste heat from the chilled-water loop will be reused rather than discharged via evaporative cooling towers, total campus **potable water use will be reduced** by 18%.

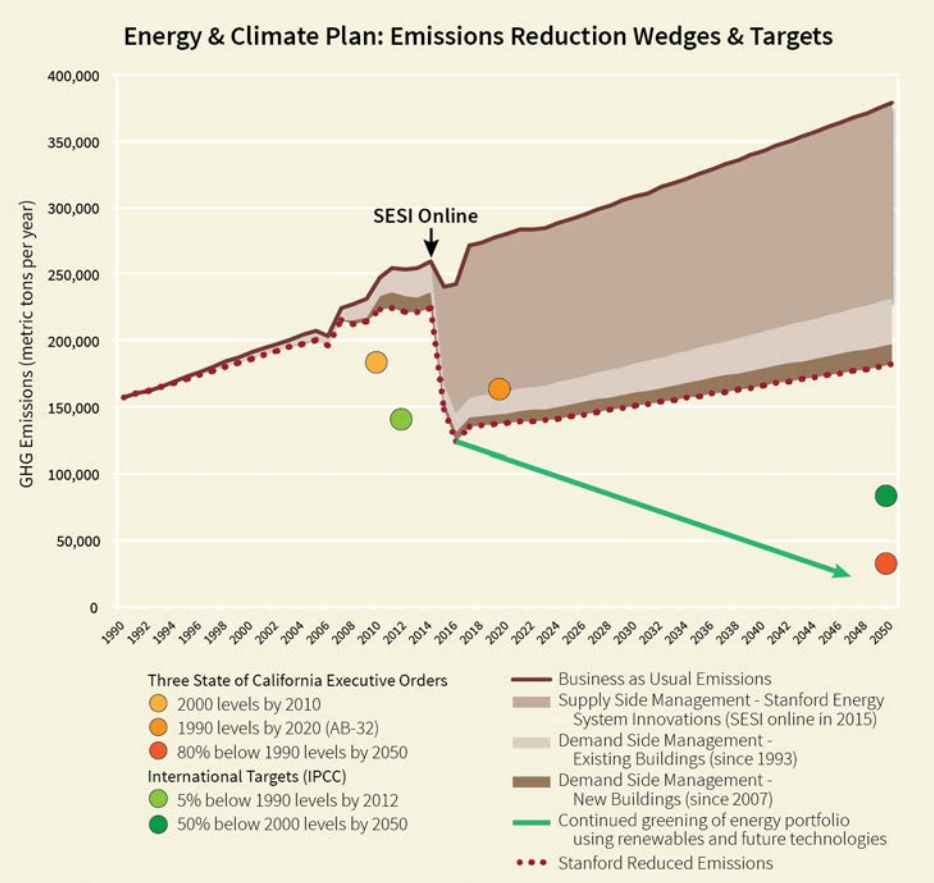
- The SESI program provides the best-cost option compared to continuation of the current cogeneration system, with a net additional $100 million capital investment projected to yield **$300 million in savings** over the next 40 years.

- The implementation of the SESI program involves **significant work throughout the campus** between 2012 and 2015. DPM is managing design and construction for 20 miles of hot-water pipe installation, conversion of 155 buildings to receive hot water instead of steam, and installation of the RCEF and a new campus high-voltage substation. The SESI website launched in the summer of 2012 to provide an avenue for interested community members to learn about the program. It includes project fact sheets and links to related articles. Most notably, it contains an interactive campus map and real-time view of associated construction.

- Of the 20 miles of hot-water pipe to be installed, **10 miles have already been completed**. Equipment in the mechanical rooms of 155 buildings is being modified to allow the use of hot water instead of steam for heating. This work is being carefully sequenced in multiple phases to minimize disruption to campus life. As each phase of piping and building conversion is completed, that section of campus will be moved off steam to hot water via a regional heat exchanger that will convert steam from the existing cogeneration plant to hot water at a district level. Once all phases of the conversion are complete, a full transition from the cogeneration plant to the RCEF will be made, the regional heat exchange stations will be removed and the cogeneration plant will be decommissioned and removed to make way for new academic buildings within the campus core.

- In 2012, design of the RCEF was completed, equipment manufacturers were selected, a general contracting firm was hired and **construction began in early October**. Thus far, the plant foundations and underground utilities have been constructed, thermal energy storage tank installation is one-third complete and structural steel for the plant building

is going up rapidly. Construction of the plant is projected to be complete by April 2015. The RCEF will be a state-of-the-art heat recovery plant featuring both hot- and cold-water thermal storage that relies primarily on a diversified mix of electricity sources for power, unlike the previous cogeneration plant, which relied on 100% natural gas. SEM will operate it with a new automated control system invented at Stanford (patent pending) and currently under commercial development by a startup company (ROOT3 Technologies). This will assure optimal operation through predictive economic dispatching based on load and market electricity pricing forecasts and also allow for fully automated operation to eliminate guesswork by plant operators in running a complex combined heating and cooling system with both hot and cold thermal storage.



The Road to Carbon Reduction

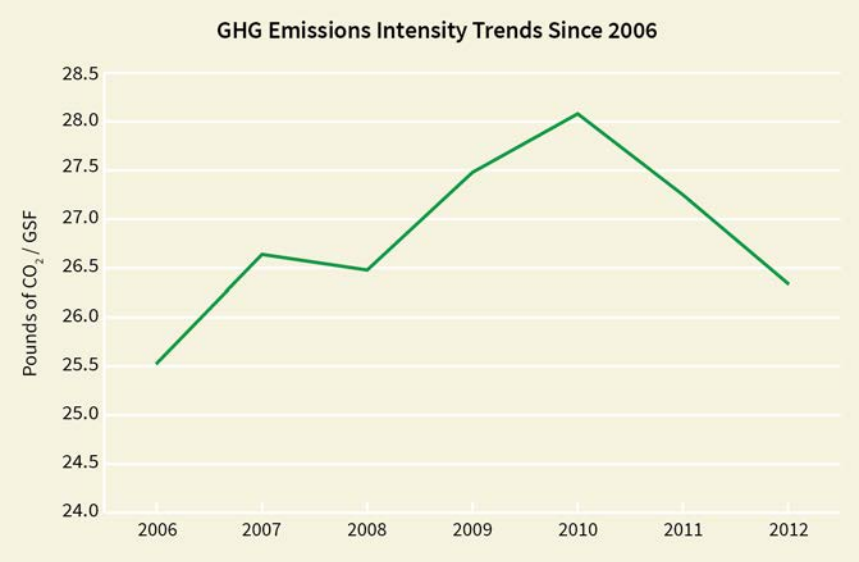
In 2011, for the sixth consecutive year, Stanford completed and verified its inventory of Scope I and Scope II CO2 emissions. The 2011 inventory was verified through the Climate Registry. Net emissions remained relatively flat. Occupancy of newly constructed buildings and emissions from leased spaces contributed to the 1% increase from 2010 emissions.

Stanford reported approximately 191,900 metric tons of CO2 emissions for 2012 (verification pending), a slight decrease from 2011 levels. Newly available and more precise utility-specific emission factors from non-CEF electricity purchases contributed to the decrease.

The university's emissions intensity remains lower than it was in 2007, which confirms the efficiency of Stanford's new high-performance buildings and the impact of its numerous retrofit programs. Emissions will significantly decrease in coming years as a result of the SESI program, dropping 50% below 1990 levels upon completion of construction in 2015.

Academic Integration

The Energy and Climate Plan, which was first released in 2008 and evolved into SESI, has been a high-priority study and has incorporated various faculty peer reviews from inception through approval. The first faculty GHG task force convened in 2009 to review the initial plan. Throughout 2011, the heat recovery scheme and proposed financial models were extensively peer reviewed by faculty from the School of Engineering and the Graduate School of Business, as well as a Board of Trustees advisory committee. SESI program studies have also periodically engaged graduate student researchers to supplement industry findings, verify models and assist with other assessments. SEM partnered with the Stanford Solar and Wind Energy Project, a student group, to carry out studies on the campus solar potential. Solar photovoltaic (PV) integration is one aspect of SESI currently under investigation, and the students assisted in analyzing data while gaining practical hands-on experience. Stanford staff will continue to partner with students and faculty as SESI proceeds.



Looking Ahead

As core elements of the SESI program are implemented, Phase 2 studies of additional potential major enhancements to the campus energy system have begun. These include:

- On-campus PV power installations;
- Development of a ground source heat exchange system to complement the core heat recovery process;
- Installation of a new high-voltage transmission line to improve the reliability of the grid serving the university;
- Installation of a plug-in electric vehicle infrastructure to support both private and university electric vehicles and electrification of the Stanford bus, truck and car fleet; and
- Installation of a natural gas–based centralized emergency generation and distributed electrical storage system to replace the current distributed diesel fuel emergency generation system.

Detailed feasibility studies of these potential enhancements are under way and will be completed within the next few months.

Advancements in Energy Efficiency

Background

Since 2010, a redesigned Facilities Energy Management (FEM) team in the Department of Sustainability & Energy Management has been responsible for coordinating the university's efforts to reduce energy use in existing buildings and to incorporate energy efficiency best practices into all new buildings. The team works with Operations and Zone Management to ensure buildings are operated efficiently and manages multiple programs that offer technical as well as financial assistance to facility managers, department leads and building occupants to encourage implementation of energy efficiency projects.

Results

As of 2012, Stanford has reduced energy intensity on campus 6% from a 2000 baseline, despite continued campus growth. Energy efficiency programs have been strongly present on campus

since the '80s. Metering campus buildings has paid dividends throughout the last decade in developing more advanced programs to improve energy efficiency. Specific results this year include the following:

- The **Whole Building Energy Retrofit Program** seeks to reduce energy consumption in Stanford's most energy-intensive buildings. This $30 million capital program began in 2004 to address the 12 largest energy-consuming campus buildings and now includes the top 26, which represent 60% of total campus energy use. Retrofits have been completed in 13 buildings thus far and have saved more than $3.6 million a year in energy costs. The program has also yielded over $2 million in financial incentives via Pacific Gas & Electric rebates. In 2013, two additional buildings – the Clark Center and Green Earth Sciences – completed detailed energy studies and were approved for retrofit projects valued at $2.6 million.

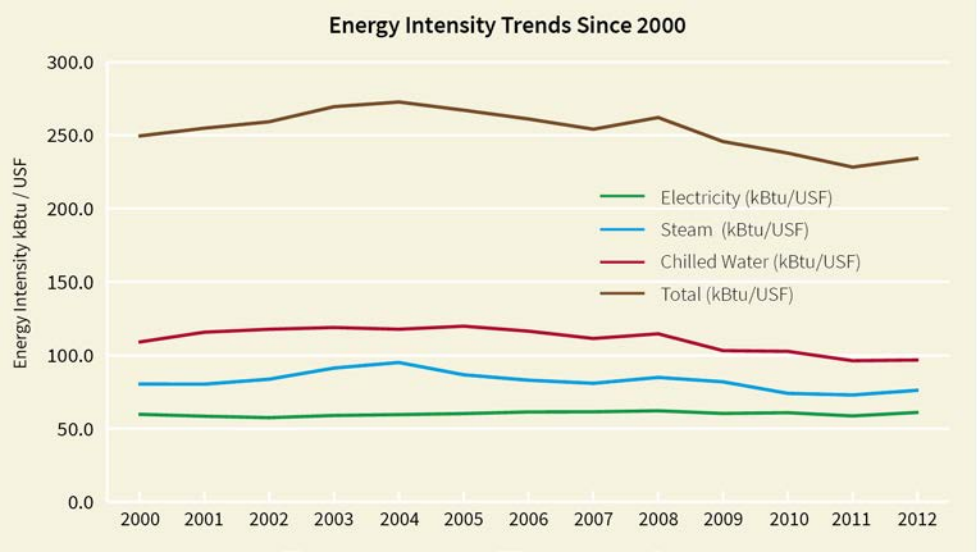
- Since 1993, the **Energy Retrofit Program** has provided rebates to Stanford Utility users who install efficiency upgrades within their facilities. Rebates cover some or all of the costs of the upgrade projects, depending on the project payback period. Notable projects completed in 2012-13 included lighting upgrades at the School of Medicine's Beckman Center and Center for Clinical Sciences Research, new variable speed drives for HVAC fans in multiple Athletics buildings and LED cab lighting upgrades in several elevators across campus.

- Operations staff continue to monitor **building performance**, looking for improvement opportunities related to operating schedules, HVAC set points and maintenance work. Program highlights for 2013 included the completion of 20 building HVAC recommissioning projects covering over 1.2 million square feet. In addition, the staff continued to refine the Building Systems Performance Evaluation, which is used to probe, inspect and monitor various sensors in HVAC systems. This allows operations technicians to remotely control, adjust and repair room settings to meet user needs and optimize performance.

- The FEM team received **project rebates** from PG&E totaling $49,625.00 for 2012-13 projects, including Parking Structure 1, Psychiatry Academic and Clinic Building, Bing Concert Hall and Forsythe Data Center. Project rebates from the City of Palo Alto Utility totaled $352,178.00 for 2012-13 projects, including 3165 Porter Drive and 3155 Porter Drive.

- The FEM team assisted in the evaluation and certification process for the Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2), which earned **LEED for Existing**

Buildings: Operations & Maintenance (EBOM) Platinum certification, the highest rating awarded by the U.S. Green Building Council.



Due to the cumulative effect of these energy efficiency programs, overall energy intensity (measured in thousand British thermal units per usable square foot, kBtu/USF) remains less than it was in 2000, despite the addition of nearly 1 million square feet of new energy-intensive laboratory space. This suggests that the suite of energy-saving programs targeting large-scale building retrofits, small-scale retrofits and HVAC controls, coupled with new construction standards, has curbed the rate of increase in energy intensity.

Other notable performance trends include the following:

- Electricity consumption per USF has remained relatively constant even as energy-intensive research functions and computing needs have increased.
- Steam consumption per USF has also remained relatively flat. A notable decrease starting in 2009 correlates with the completion of major HVAC upgrade projects in multiple buildings.
- Chilled-water consumption per USF increased through 2004 but is now trending downward. This also illustrates the benefits of energy retrofits in multiple large buildings.
- The 2012-13 Winter Energy Curtailment effort allowed Stanford to avoid $254,000 in utility charges. The cumulative net energy cost savings since 2001 total $2.7 million.

Academic Integration

The FEM team engages frequently with research faculty to better understand energy demand inherent to their work and tailors program offerings accordingly:

- Stanford's Energy Conservation Incentive Program, established in 2004, provides schools and administrative units a financial incentive to use less electricity. The program sets budgets based on past consumption and lets participants "cash in" unused kilowatt-hours; those that exceed their electricity budgets pay the difference out of their own funds. FEM completed a large analysis in 2013 to recalibrate the budgets of the schools and units to more closely match them with expected performance. The analysis highlighted that on average, most units are coming in well under budget.

- In 2013, FEM staff participated in an ideation meeting with the Energy & Environment Affiliates Program. FEM provided input on the types of sensors deployed in buildings, the quality and resolution of the resultant data, how the data are currently managed and utilized, and future opportunities for improvement in sensor performance, data storage and "smart" applications for processing the data.

- FEM staff regularly interact with faculty in the Center for Integrated Facility Engineering (CIFE). FEM team members serve as guest speakers for CIFE courses, help review student projects and provide feedback on research needs regarding the operation of high-performance buildings.

- FEM provided a lecture and facility tour in support of last summer's *Energizing a Sustainable Future* Sophomore College course (CEE 13SC). The team's contribution focused on practical experiences associated with designing and operating sustainable buildings on campus.

Looking Ahead

Construction starts early this coming year on several **Whole Building Energy Retrofit Program** projects, including the Paul Allen Building, the Arrillaga Alumni Center and Green Earth Sciences. When completed, these projects will save a total of over $200,000 per year in energy costs.

The FEM team is working closely with the campus planning office to conduct a life cycle cost analysis of various new high-efficiency **outdoor lighting** technologies. Other key considerations are light quality, aesthetics and reliability. The combined effort will culminate in a deployment of retrofit solutions to reduce energy consumption by about half in important lighting applications such as parking lots, walking paths and intersections.

In the coming year additional research will be conducted on means to further improve **air flow management** in large laboratory buildings. These facilities are typically the largest energy consumers on campus due to the large air change rates required for occupant safety, which represent a large HVAC load. The university has been a leader in energy efficiency retrofits for such buildings and will seek to maintain its role as a trailblazer for new technologies and practices.

Finally, the building controls group will be developing a **controls roadmap** to outline further steps to monitor and automate operations in Stanford's facilities. A key aspect of this project is to define what it means to have "smart" buildings and what functionality the building systems need to include.

Strides in Water Efficiency and Conservation

Background

Stanford practices sustainable water use by managing available resources to meet its needs while preserving ecological systems and this vital resource for future generations. Stanford has improved campus surface water supplies, developed innovative alternative water supplies and continued water conservation efforts for its buildings and grounds.

Results

As of 2012, Stanford has reduced domestic water use on campus 21% from a 2000 baseline, despite adding more than 1 million gross square feet to the academic buildings portfolio and over 1,400 units of faculty, staff and student housing. The 2003 Water Conservation Master Plan identified 14 water conservation measures for campus implementation; today, more than 20 such measures are employed. Specific activities this year include the following:

- Staff from the School of Medicine and the Department of Sustainability & Energy Management collaborated to complete a **retrofit of large washing equipment at the School of Medicine**. The changes included three large washers and reverse-osmosis water reuse for quenching hot wastewater from washing equipment. The new equipment was installed in November 2012. After just six months, there was a 43% reduction in average daily water use compared to the previous two years (December 2010–November 2012). Based on data from the first six months, an estimated 2.2 million gallons of water and $35,000 in domestic and wastewater charge-out costs will be saved per year.

- Water efficiency (WE) staff completed a two-year study to develop **best management practices and metrics for landscape sites** on campus. WE staff collaborated with the grounds department, landscape contractors and independent consultants on this initia-

tive. Technology used included real-time water monitoring devices, water budget software and weather-based irrigation controllers.

- **Conservation measures** implemented at the Bing Nursery School include changes to the rotor spray nozzles to reduce the spray pattern radius and precipitation rate, additional irrigation valves to separate hydrozones to better align with plant watering requirements and a return to irrigation controlled by a weather-based system. After these changes were implemented in April 2012, annual water use dropped 9% compared to the previous year (May 2011 to April 2012). This reduction occurred despite the relatively dry weather, with no substantial rain since December 2012.

- Six **weather-based irrigation controllers** were installed at landscaped areas surrounding the Li Ka Shing Center for Learning and Knowledge (LKSC), Lorry I. Lokey Stem Cell Research Building (SIM1) and Center for Clinical Sciences Research (CCSR). LKSC, SIM1 and CCSR reduced their combined outdoor water consumption by almost 2 million gallons during the first part of the pilot study (May 2012 to April 2013) compared to the previous year (May 2011 to April 2012). Based on the results, the School of Medicine is planning to install additional weather-based controllers at other sites. Two more such controllers – one using new wireless valve technology – were installed in residential parks this summer.

- In 2011, the WE program started testing **real-time monitoring technology** to identify water use on a more granular basis, recognize leaks (24 hours of continuous use) and monitor landscaping and campus buildings. This technology has provided time-of-water-use information directly to customers involved in the study, which has resulted in greater attention to water consumption and increased water efficiency. Since the development of leak alerts in September 2012, over 50% of leaks metered at landscape sites have lasted less than two days and irrigation leaks have been reduced by 5,000 gallons per month, a 38% decrease.

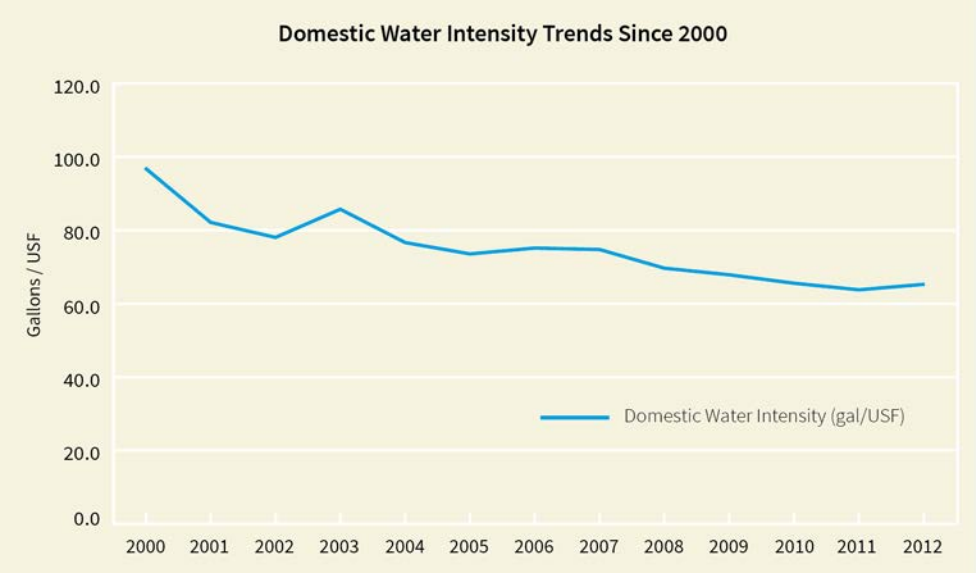
- A new environmental quality and **water efficiency website** was launched in February to make information and resources more easily accessible for the Stanford campus community. The website has proved to be a successful outreach tool.

- The water conservation program has maintained and updated an **interactive map**, featured on the water efficiency website, that details water conservation retrofit projects from 2002 to the present. A variety of sorting parameters allow users to quickly search more than 300 indoor and outdoor projects. Clicking on the map's icons provides details on the water-efficient equipment installed during retrofit projects, as well as the esti-

mated water savings, when available. The map also includes general water profiles for each new building opened since 2007.

- In May 2013, Stanford's grounds department completed an **overhaul of the Waterwise Garden** that included planting new low-water-use plants, extending the irrigation system and laying new mulch throughout the garden. The Waterwise Garden is located on Raimundo Way near Stanford Avenue.

- Stanford staff coordinated with local plumbing-product representatives to test new and **innovative water-efficient fixtures** as part of an ongoing demonstration program. Since 2010, the program has field-tested over 20 different models of low-flow fixtures, including toilets, urinals, showerheads and faucets.



The chart above shows the cumulative effect of these projects. Stanford has reduced domestic water consumption by 21% and domestic water intensity by 33% since 2000.

Looking Ahead

In 2014, the water services group will continue investigating Stanford's water resources to inform the development of a sustainable water management plan for the university. Investigations are being conducted on Stanford's surface water supplies (reservoirs and creeks), groundwater and storm water capture opportunities. A wide-ranging study of options for the future of Searsville Dam and Reservoir is well under way and, along with a concurrent public input process, is expected to be completed within the next year. Based on this information, campus leadership is expected to make decisions about the long-term future of the facility, which will then allow completion of a campus-wide Sustainable Water Master Plan.

The WE team will continue with a second phase of the real-time water monitoring pilot study that began in 2011. This phase will focus on improving leak alert notifications and communication with landscape and facility managers. Staff will develop a new pilot outdoor water survey program that addresses the top 10% of residential landscape water users. The purpose of the survey is to identify leaks, reduce irrigation runoff and improve overall efficiency while maintaining healthy plants. WE staff will continue to partner with students, faculty, staff and residents to implement projects that promote water conservation.

Distinction in Building Design, Construction, & Renovations

Background

To evolve as a center of learning, pursue world-changing research and respond to pressing environmental concerns, Stanford designs and creates buildings that use resources wisely and provide healthy, productive learning environments. Buildings represent one of the university's greatest sustainability opportunities and challenges. Energy generation for building heating, cooling and electricity accounts for the majority of Stanford's carbon emissions – and from 2000 to 2025, the university expects to build 2 million square feet of academic facilities, as well as housing for 2,400 students, faculty and staff.

The Department of Project Management (DPM) oversees major construction on campus. Advancements in high-performance building design, construction and renovation continue to ensure that Stanford delivers and maintains new facilities in accordance with its project delivery process manual. In 2008, Stanford updated the manual to include aggressive energy and water reduction goals. The DPM now incorporates sustainability through guidelines for life cycle cost analysis, sustainable buildings and salvage and recycling programs, as well as a strong emphasis on commissioning.

Results

New construction and major renovation projects on campus typically use 30% less energy than building codes allow and consume 25% less potable water than comparable campus buildings. All new buildings must comply with the Santa Clara County Green Building ordinance, which requires projects to reduce energy consumption 10% below the amount allowed by California Title 24 and water use 20% below the California Building Code standard. In addition, Stanford continues to explore methods to increase space efficiency to reduce the need for new construc-

tion. Designing buildings to be more efficient reduces the demands on the main campus heating, cooling and electrical systems, creating a ripple effect of cost savings and environmental benefits.

The specific examples below highlight achievements from 2012-13 that help the Stanford campus progress towards this goal.

- The Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2) was designed to conserve natural resources and offer an extraordinary learning environment. Y2E2's innovative design delivers substantial efficiency gains over similar standard buildings, and it continues to serve as a learning tool for both building occupants and the campus community. In summer 2013, Y2E2 earned **LEED for Existing Buildings: Operations & Maintenance (EBOM) Platinum certification**, the highest rating awarded by the U.S. Green Building Council. As the first LEED-EBOM certification on campus, Y2E2 allowed Stanford to evaluate the benefits of the certification process and further investigate opportunities in design and operation of high-performance buildings.

- The Anderson Art Collection building is under construction, with completion scheduled for December 2013. This 30,000-square-foot gallery will house a permanent collection of 121 works by 86 artists. In addition to an innovative heating, ventilation and air conditioning system, the Anderson building also uses a **state-of-the-art LED lighting system** that meets the curators' demands for high-quality display lighting, yet uses significantly less energy and produces much less heat than standard art display lighting. The energy reduction target for this building is 32%.

- The fourth and final building in the Science and Engineering Quad (SEQ), BioEngineering and Chemical Engineering, has been under construction and will be complete in December of this year. This building employs the same high-performance features that define the other SEQ buildings, including a high-performance building envelope and a **large (125kW) photovoltaic (PV) system**. Key features include variable volume fume hoods, zone-level heating and cooling and heat recovery (systems similar to those in the Lokey Stem Cell Research Building, completed in 2010 and performing 43% better than required by the energy code). Since research laboratories typically represent the largest energy use on campus, the benefits of these high-efficiency building components are magnified.

- In March 2012, the Knight Management Center, home to the Graduate School of Business (GSB), received formal **LEED for New Construction Platinum certification**, the highest rating awarded by the U.S. Green Building Council. To determine if the Knight Management Center is meeting the ambitious energy and water design goals, a team

from the GSB, the Department of Sustainability and Energy Management and Arup Consulting sifted through over a year's worth of data from the elaborate submetering and building energy management systems. After rerunning the energy models with the actual consumption data from the lighting, plug loads, and heating, cooling and ventilation systems, the team determined that the buildings were using 33.2% less energy than the code baseline. Furthermore, the PV system is producing over 12% (557,000 kWh/year) of the electricity needs, slightly exceeding the design predictions. On the water side, a combination of rainwater tanks and efficient water fixtures resulted in combined indoor and outdoor water savings of 78%.

- The 21,330-square-foot Stanford Research Computing Facility at SLAC was completed in the summer of 2013. The dean of research, in conjunction with IT Services, has proposed a new modular, scalable, **energy-efficient and high-density** scientific research computing facility that will support the university's and SLAC's growing research computing requirements.

- Construction continued on several components of the Stanford University Medical Center Renewal Project, including the Welch Road Utility Project, renovation of the Hoover Pavilion and site work for the Lucile Packard Children's Hospital (LPCH) expansion. Both the LPCH expansion and the new Stanford Hospital are expected to achieve **LEED New Construction Silver** equivalency.

- Finding **new uses for older buildings** is now a common practice at Stanford. What was once the home of the GSB will now contain the East Asian collection, Academic Computing Services and other programs currently housed in Meyer Library.

Academic Integration

Collaboration with faculty and research staff, particularly in the programming of interdisciplinary space, remains a DPM hallmark. The school/department user group is the program advocate throughout each project. This group may include the dean/director, faculty, staff and/or students. It designates a representative who is responsible for gathering and disseminating information, communicating it from the project team to the group and vice versa, within project schedule constraints. The DPM project manager coordinates directly with this representative. DPM relies on this collaboration to express the needs of the program to the university administration and to manage communication and decision making within the school/department.

One great example from 2012-13 is the Start.House. The two-bedroom, one-bath house is Stanford's entrant in the Solar Decathlon, a biennial competition run by the U.S. Department of En-

ergy that challenges students to design and build innovative solar houses that will help usher green technology into modern home construction. Students worked with faculty and campus staff to design and begin construction of this house, which demonstrates sustainability by example.

Looking Ahead

To support excellence in building design, post-occupancy energy studies of high-performance buildings will continue. These studies create two significant benefits: trend information to determine building use and better understanding of building systems. Stanford uses this information to further optimize building operation and help inform future design decisions to optimize conservation of resources in future buildings.

The "Old Chemistry Building," built in 1903 but not occupied since the 1989 earthquake, will be transformed into the Science Teaching and Learning Center and will promote sustainability through reuse of materials. The building will include teaching laboratories for chemistry and biology and a new library facility. With a prime location facing Palm Drive, this building will create a new formal entrance to the Biology/Chemistry District. While the design team is still working to determine the specific water and energy targets, the building is expected to combine the best of historic Stanford architecture with innovative energy features found in the rest of the recently completed laboratories on campus.

Also being built is the highly anticipated Windhover Contemplation Center. The one-story, 4,000-square-foot center is tentatively scheduled to be completed in spring 2014. The new center will include three rooms featuring four large paintings by late Stanford art Professor Nathan Oliveira. Outside landscaping will feature a reflection pool and garden areas for meditation. The building will be enclosed in glass, allowing for viewing of the Oliveira paintings even from outside.

Additional high-performance renovation and construction projects under consideration for the 2013-14 academic year include Comstock Graduate Housing, Crown Quad Renovation, C. J. Huang (780 Welch), the Manzanita and Lagunita undergraduate dorms and McMurtry Art and Art History.

Stanford Energy System Innovations construction, including construction of the new, state-of-the-art central energy facility, will continue through 2015. Continued renovation of Panama Mall, to be completed in 2013, will fully convert a former back alley into an open boulevard and inviting academic space.

Together, these construction projects will ensure that Stanford has the most environmentally responsible and innovative facilities possible, allowing the university to fulfill its academic mission.

Expanded Offerings in Transportation

Background

An essential part of Stanford's sustainability effort, the Transportation Demand Management (TDM) program to reduce university-related traffic impacts is one of the most comprehensive in the country. In 2012, TDM hosted a 10-year celebration of the Stanford Commute Club, which rewards commuters for primarily using sustainable transportation. Hundreds of Commute Club members attended and were featured in subsequent TDM marketing outreach. The Commute Club has grown from 3,600 members to over 8,300, with each member currently receiving up to $300 a year from Stanford for commuting by alternative transportation.

Stanford is also transitioning to more sustainable campus shuttles and fleet vehicles, expanding electric vehicle (EV) charging stations and increasing shuttle route efficiency. Annual ridership of the university's free Marguerite shuttle has risen to 1.9 million. By replacing other buses with fuel-efficient Sprinter vans on selected routes, the university has reduced emissions by 132 metric tons and fuel consumption by 13,000 gallons.

In addition, Stanford has continued to expand other transportation programs, including car sharing, which has grown from three Zipcars in 2007 to more than 60 cars at 23 locations today, making it the largest university Zipcar program in the nation.

Designated the nation's first and thus far only Platinum-Level Bicycle-Friendly University (2011-15), Stanford has expanded its bicycle program to accommodate the estimated 13,000 bikes on campus each day. The expansion has included the addition of bicycle safety repair stands, which now total six, and an increase in bicycle parking capacity. Stanford now has 365 secure bike parking spaces (256 bike lockers and 109 bike cage spaces). In addition, bike racks provide more than 18,000 bike parking spaces on campus.

These TDM advances, coupled with extensive marketing outreach and promotions, enabled Stanford to reduce its drive-alone rate from 72% in 2002 to 47% in 2012, with more than half of university employee commuters now primarily using sustainable transportation. Demand for parking at Stanford has dropped more than 6% since 2002, despite campus growth.

Results

In academic year 2012-13, the university continued to expand its sustainable transportation efforts, including the introduction of electric buses to its fleet in a pilot project that will assess their performance on Stanford routes with the highest ridership.

The university developed a long-term Transportation Sustainability Plan, which will be regularly updated and expands on the successful TDM program. The plan positions Stanford not only to continue to satisfy the 2000 General Use Permit's trip-limit goals, but also to reduce transportation-related emissions, satisfy impending state and national regulations and be poised for transportation-related carbon reduction programs.

The 2012-13 performance achievements are listed below:

- In 2012, the employee drive-alone rate dropped to 47%, compared to 72% in 2002 at the inception of the enhanced TDM program. More than 3,800 Stanford commuters started using alternative transportation during this period. Commute-related emissions remain below 1990 levels. The Commute Club has more than doubled its membership since 2002.
  Marguerite shuttle passenger numbers rose from 1.7 million in 2011 to 1.9 million in 2012. Stanford added free Wi-Fi to three main commuter routes. The university continued to conserve fuel and reduce emissions and operating costs by adding three electric buses. This pilot project will assess whether electric buses should be incorporated in the university's fleet of 57 vehicles, which includes five diesel-electric hybrid transit buses.

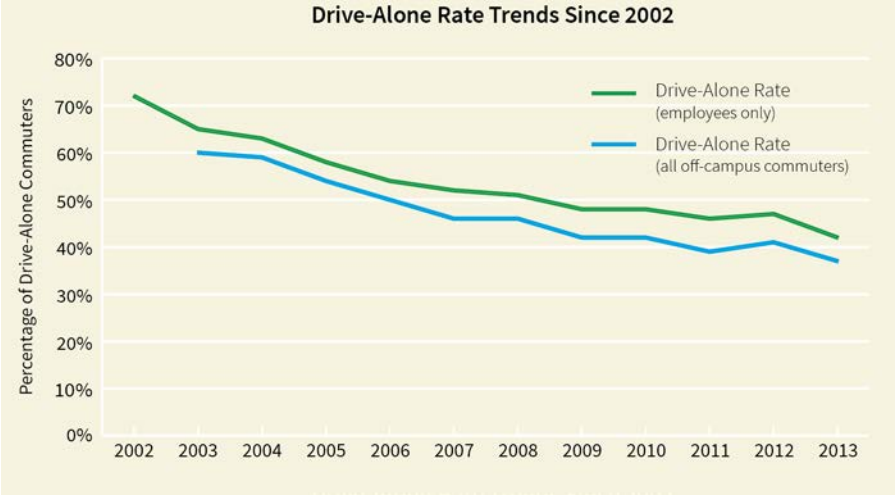
- Bike to Work Day saw an increase of 500 Stanford riders over the previous year. Among the more than 1,870 Stanford riders, 715 commuters reported their mileage, logging a total of 3,820 miles and averaging 5.3 miles per trip. By biking instead of driving, these commuters eliminated an estimated 3,460 pounds of CO_2 emissions on Bike to Work Day.

- In 2012-13, the Commute Club marketed a special offer of one month of free transit parking for targeted drive-alone commuters to encourage them to try the train or express bus. A "Tell Us Your Story" promotion and new "Tell a Friend" online system rewarded Commute Club members for sharing their stories and encouraging friends to choose biking, walking, carpooling, vanpooling or riding transit.

- Larger buses were added to the East Bay Ardenwood Express route to serve growing ridership.

- Over one-third of Stanford's 1,300 fleet vehicles are electric, and the number of hybrid vehicles increases each year. The fleet also includes one experimental solar vehicle. The

Marguerite shuttle fleet includes five diesel-electric hybrid buses and 52 buses fueled by biodiesel.



Academic Integration

To reduce traffic congestion and vehicle emissions, Stanford launched Capri (Congestion and Parking Relief Incentives) in April 2012. The innovative research pilot project uses radio-frequency identification technology to track when participating commuters enter and exit campus and reward off-peak commutes. In 2013, Capri introduced the My Beats app to reward bike and walk commuters.

With My Beats and the original Capri program, participants receive credits for bike or walk commuting or driving during off-peak times. They can redeem the credits in a game that offers multiple opportunities to win cash prizes. The research team's goal is to change commuter behavior. In the process, they hope to determine optimum incentives, how to incorporate a game to engage and motivate commuters and how to leverage social networks to increase participation.

Looking Ahead

Many new and exciting TDM initiatives are in development, including plans for long-term growth and the expected launch of the second phase of the Capri program in 2013-14. In an effort to reduce wasted time, resources and emissions from cars circling full parking lots in search of spaces, this phase will reward drivers who park in lots with lower space utilization.

The existing EV charging policy is undergoing a review that includes assessing the number and location of stations to be installed in the future and determining charging-level options. Six EV charging stations on campus are available to Stanford commuters, residents and the public. In keeping with the university's addition of new photovoltaic solar arrays on campus to increase

renewable and efficient energy supplies through the Stanford Energy System Innovations program, the university is developing plans to potentially expand the number of EV charging stations on campus.

In August 2013, three electric buses were added to the Marguerite fleet as a trial project. The buses will be evaluated on the busiest commuter routes, and their use may expand across the fleet if they meet performance expectations. Stanford's Parking & Transportation Services is assessing various aspects of campus growth in its continued commitment to support the academic mission of the university. TDM remains a priority sustainability program at Stanford, with implications beyond the university's main campus. With current commute trends in Silicon Valley pointing to an increase in traffic congestion, Stanford is launching a regional transportation planning initiative under the leadership of Land, Buildings & Real Estate.

Minimizing Stanford's Waste

Background

Minimizing waste contributes to a more sustainable Stanford. By using less, reusing more, recycling and composting, the university saves energy, conserves water, reduces pollution, reduces greenhouse gas emissions and preserves natural resources. Stanford has increased its landfill diversion rate from 30% in 1994 to 66% in 2012 and has reduced its landfilled tonnage to an all-time low.

Stanford's waste reduction, recycling and composting program serves all academic and athletic areas, student housing and dining, faculty and staff housing, Stanford University Medical Center, SLAC National Accelerator Laboratory and construction sites. The university continually improves and expands recycling and composting collection activities, identifies new markets for waste materials and recyclables and raises awareness so that "reduce, reuse, recycle and compost" becomes an ingrained set of behaviors. Stanford partners with Peninsula Sanitary Service, Inc. (PSSI), its recycling and waste management service provider, to reduce waste, increase landfill diversion and move closer to zero waste (defined as at least 90% diversion).

Results

Efforts to reduce waste have steadily decreased the total amount of material Stanford sends to the landfill. Only 7,900 tons were landfilled in 2012, the lowest value recorded since tracking formally began. This year:

- Stanford's recycling rate (also referred to as a "diversion rate," the percentage of total waste diverted from the landfill) increased from 30% in 1994 to 66% in 2012. Stanford continues to pursue a 75% recycling rate as an interim step towards the end goal of virtually no waste.

- Stanford's R&DE Student Housing worked with students to pilot compost collection in graduate housing, undergraduate housing and administrative buildings and to expand its student move-out program with a Give & Go campaign. This year, over 2,000 students participated in the move-out campaign, donating over 97,500 pounds of useable goods to local charities and diverting at least 15% of the total waste generated during move out from the landfill.

- In the RecycleMania 2013 contest, Stanford scored in the top 20 in five of the eight categories: Gorilla (7th), paper (17th), cardboard (20th), bottles and cans (17th) and food waste (17th). In addition, the university achieved its best score since first entering the contest seven years ago in the landfill per person category (meaning its lowest number of landfill tons per person).

- The Rainbow School followed Bing Nursery School's example this year by starting a composting program for its food waste.

- A deskside recycling and mini–trash can program was implemented in the Y2E2 Building, making paper recycling more convenient and bringing the building's recycling rate up to 74%.

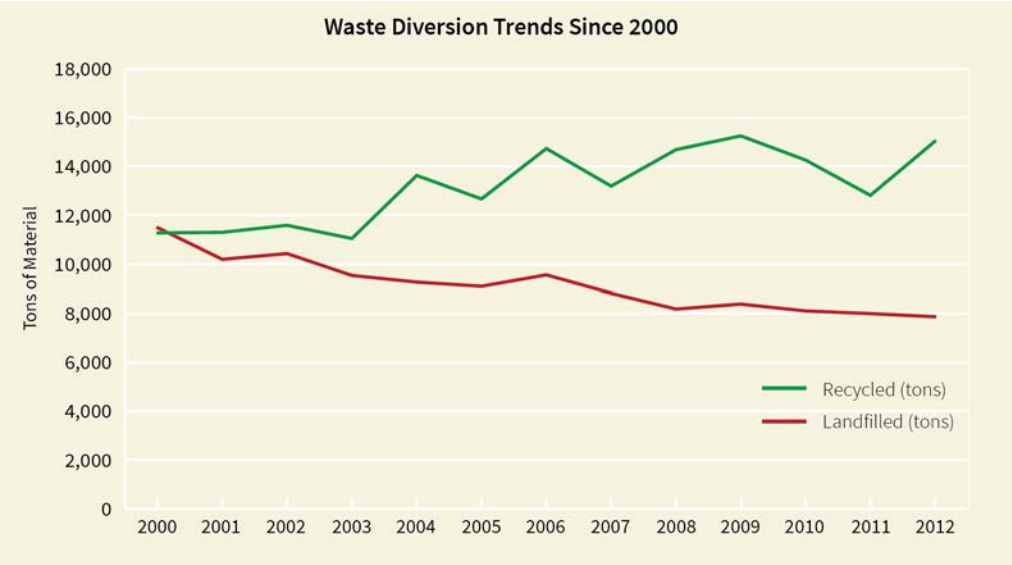
- SLAC National Accelerator Laboratory expanded its food waste and paper towel composting program to additional office buildings as well as its premier experimental facility, the Linac Coherent Light Source (LCLS). Approximately one-third of SLAC's 1,500 staff and LCLS's visiting research scientists are now participating in the program.

- Waste reduction has become a part of campus culture in many different areas, including construction. This year 92% of the construction and demolition waste generated from campus projects was recycled.

- PSSI, Students for a Sustainable Stanford and Union Underground cohosted a film screening and discussion of *Trashed*, a documentary on the global waste crisis. More than 50 people attended the event.

- Regular waste audits of campus buildings continued to provide valuable information to the Stanford community. More than 50% of the items Stanford sends to the landfill are

either recyclable or compostable. Food waste makes up the largest percentage of material sent to the landfill and remains the primary target for program development.



Academic Integration

PSSI regularly partners with faculty and student groups to conduct waste audits across campus. These events enable the campus community to experience Stanford's waste story in a hands-on setting while providing valuable data to PSSI about the content of campus landfill bins. In addition, PSSI opened its doors this year to provide tours of the university's recycling facility to classes and other groups on campus. In keeping with a tradition of engaging students with ideas for improving Stanford's waste program, PSSI worked this year to advise students on a variety of initiatives. Student projects on waste-related issues ranged from using recycled plastic on Rwandan rooftops to designing zero-waste systems and even determining what kind of bacteria one is exposed to when dumpster diving. PSSI also organized a field trip for students to visit the Newby Island Compost Facility, where Stanford sends its compostable materials.

Looking Ahead

The state of California (through AB 341) has set a policy goal of a 75% recycling rate by 2020. Building upon the best practices put in place to achieve the current 66% diversion rate, Stanford plans to meet and exceed this new target by drafting a **comprehensive and long-range waste management plan** using all its traditional and new and innovative elements of waste management. This collaborative effort will be in progress for a number of years.

In addition, PSSI will continue to focus on **increasing the availability of composting services** on campus by expanding compost collection in offices, cafés and student housing, as well as at Stanford Stadium and other event venues, using the pervasive waste audit results as a guide for expanded implementation.

PSSI will work with the Department of Athletics, R&DE and the Office of Sustainability to improve **recycling and composting at the stadiums** and increase green cleaning program practices. These projects will be part of the efforts related to Stanford's membership in the Green Sports Alliance.

Expansion of the **deskside recycling and mini–trash can system** to more campus buildings will continue to make paper recycling more convenient. Finally, to provide more detailed information to the campus community, PSSI will partner with the Office of Sustainability in an effort to determine and track **building-level waste data**, which will bring relevant information to the building rating system the Office of Sustainability is developing for 2014.

Enriched Sustainable Food and Living Programs

Background

Residential & Dining Enterprises (R&DE), which comprises Student Housing, Stanford Dining, Stanford Hospitality & Auxiliaries, Stanford Conferences and Central Support Services, is one of Stanford's largest auxiliary departments. R&DE has strategically aligned itself with the academic mission of the university by providing the highest-quality services to students and other members of the university community in a sustainable and fiscally responsible manner.

R&DE provides housing and food for nearly 12,000 students and family dependents and hosts over 20,000 summer conference visitors each year in nearly 350 buildings making up one-third of the campus. R&DE is the largest provider of food service on campus, serving more than 4 million meals annually. R&DE's efforts directly impact student learning, the overall campus culture and the lives of Stanford's students after graduation.

Making sustainability a way of life is a core value within R&DE, which has two full-time sustainability professionals on staff. While there are numerous sustainability initiatives across R&DE, the best known and most visible are R&DE Student Housing's Sustainable Living Program and R&DE Stanford Dining's Sustainable Food Program. Both programs seek to create positive impacts by collaborating with strategic partners such as vendors, suppliers, students, staff, faculty and other campus stakeholders; reporting on sustainability indicators; providing education and

outreach for staff and students by lecturing, teaching and hosting sustainability events; and auditing operational practices and standards for conservation.

The **Sustainable Living Program** is committed to influencing generations of students to lead sustainable lifestyles. The program creates awareness on everything from how students can set up their rooms using environmentally preferred purchasing to the impact of plug loads and how they should interact with their residences' building design and heating and cooling systems. The program fosters behavioral change through residence workshops, competitions and campaigns that incentivize individual action. Many residences are also equipped with energy- and water-saving features to support recycling, composting and student organic gardening, thus making a sustainable lifestyle convenient.

The **Sustainable Food Program** is committed to meaningfully participating in the education of the world's future leaders by sharing knowledge and creating awareness of food culture, food systems and food production. Purchasing guidelines favor food grown using environmentally sound practices that are earth-friendly and encourage biodiversity, by farms that respect the land and are committed to ensuring future generations' food supply without compromise. Hands-on experience is offered for students throughout the year in cooking classes and at organic gardens at all of the major dining halls. The program is aligned with wellness through the EatWell program. Often the freshest, seasonal, sustainably grown ingredients not only are more nutritious, but also taste better.

Results

Key programs in the 2012-13 academic year included the following:

- A new internship program connected student interests in creating more sustainable residences with mentorship and the staff and financial resources needed for success. The program ran the full academic year, with eight students working on waste reduction, individual incentive programs and energy usage awareness. The interns received education on behavioral change and how to manage a successful project, as well as recognition for their results at the end of the year.

- The Green Move Out program, aimed at reducing waste sent to the landfill as students move out at the end of the academic year, was redesigned to increase participation and diversion. The program was rebranded as Give & Go to motivate students to "give" to their local community conveniently as they "go" on to their next adventure. The program increased outreach materials and visibility, broadened availability to multiple locations at all residences, added incentives to better track student participation and developed new service agreements with local charities to measure the donations received/waste diverted.

- Eco-charrettes were held to identify key sustainability features for upcoming new graduate and undergraduate residences. Projects will be designed to achieve 25% savings in water and energy beyond current building code requirements and will incorporate programming that supports waste diversion.

- In anticipation of offering composting across R&DE Student Housing in 2013-14, pilot projects introducing a composting option were completed in an undergraduate residence (Branner), graduate apartments (EV Studios) and an administrative office space to provide better understanding of the relevant costs, educational needs and implementation barriers. While results are pending for the graduate residence pilot, both the undergraduate and the administrative office space pilots yielded a 50% reduction in landfill waste.

- R&DE Stanford Dining/Stanford Hospitality & Auxiliaries focus on buying local, organic and fair food. Food is sourced from 200 local farmers and 21 local manufacturers, and 40% of food purchases are locally grown, raised or processed. R&DE Stanford Dining's commitments include organic apples (apples are number one on the pesticide list); organic, local spring mix from Earthbound Farms (new in 2012-13); produce from ALBA Organics (a local group that educates and provides opportunities for low-income farmworkers to start their own farms); organic, local tofu; organic, local nonfat milk from Clover Stornetta; cage-free eggs (both liquid and whole) from Wilcox Farms; Monterey Bay Aquarium Seafood Watch "good" and "best" choice sustainable seafood; 15,000 pounds of wild Alaskan salmon from Taku River Reds each year; local, grass-fed hamburger patties from Marin Sun Farms; fair-trade coffee from Starbucks; and sustainably raised pork butt from Niman Ranch.

- In partnership with the Stanford Food Project, R&DE sponsored Farm to Fork, an informal series of talks and workshops on everything from sustainable fisheries to starting your own farm. Several hundred undergraduate and graduate students participated in Farm to Fork events.

- R&DE hosted the first annual Earth Day dinner in Arrillaga Family Dining Commons. The dining hall was converted into a farmers' market, local farms and vendors gave out samples to students and students planted herb seedlings.

- R&DE eliminated all disposable utensils in the dining halls and eliminated most disposable coffee cups. The annual Spring Faire, which featured global street food, was attended by approximately 3,000 undergraduates, graduate students, faculty and staff, and was fully zero waste.

- R&DE's ongoing Love Food Hate Waste campaign encourages students and employees to actively participate in reducing food waste. Reduced plate sizes, appropriately sized food portions, a voluntary trayless program and having diners scrape their own plates to witness the amount of food waste they are responsible for have significantly reduced food waste (and cultivated healthier eating habits) and have reduced water and energy usage for cleaning trays.

- The majority of the 200 residential conferences held during the summer of 2012 reduced paper usage and printing by eliminating conference program booklets and instead dispersing documents on USB thumb drives or storing them in an accessible cloud for attendees. In addition, many gave stainless steel water bottles as gifts to reduce bottled-water and canned-beverage service for meals and breaks.

Academic Integration

R&DE works with many schools and academic disciplines to benefit from the extensive resources of Stanford's renowned faculty. In partnership with Residential Education, R&DE supports student community building in the living and learning environment of the residential community–based dining halls. R&DE's program includes sponsoring a faculty speaker series, partnering with faculty and teaching in various classes throughout the university, and promoting food as a multidisciplinary educational experience. R&DE engages students in food issues such as those related to health, the environment, social equity and the global economy. Examples of these offerings include the Food Summit (an interdisciplinary food conference involving all seven schools at Stanford) and the Farm to Fork lecture/workshop series. Faculty regularly collaborate with R&DE to provide educational opportunities to students. In 2012-13, Maya Adam's Human Biology class *Introduction to Child Nutrition* worked with R&DE chefs who taught the students how to cook healthy, sustainable food.

In addition, R&DE hires a group of eight student gardeners each year to manage seven organic gardens across campus. These gardens, strategically located adjacent to campus dining halls, are designed to provide an experiential model of the food system for students to observe at every meal.

R&DE also supports student groups, students working on class projects and student interns implementing projects within residences and dining halls. For example, the Green Living Council trains student coordinators in each residence who educate their peers about sustainable living and work to make their residences more sustainable.

R&DE partners with students looking to perform academic research in its facilities. This year two doctoral students studied how composting awareness and education influenced the behaviors of hundreds of graduate students in Escondido Village. Undergraduate students from

Ricker researched student behavior in regard to eating less meat as part of their Mix-It-Up-Mondays program. Staff also worked with students on academic projects in journalism, design, philosophy and other classes.

Looking Ahead

R&DE's sustainability programs have many enhancements under way. Next year's projects include the following:

- Rolling out education and infrastructure for composting at all residences, dining halls and cafes
- Evaluating procurement policies and service agreements to further enhance environmentally preferred purchases of everything from paper and cleaning products to food
- Continuing to move forward on improving utilities management through a new platform that allows more access and flexibility with usage data and installation of more smart meters
- Developing additional food-related curricula with faculty that explore theoretical frameworks through the lens of meaningful, practical and hands-on experiences. Next fall, R&DE will bring back the popular *Grow It, Cook It, Eat It* class and plans to create more hands-on workshops and classes for students and staff in the gardens.
- Continuing to design awareness events and ongoing sustainability campaigns in alignment with and support of R&DE's strategic partners
- Expanding opportunities for students to design, implement and manage Sustainable Food Program and Sustainable Living Program initiatives
- Integrating R&DE's internships with other sustainability internships under the new Sustainable Stanford Internship Program
- Establishing an ongoing initiative with faculty, researchers and student groups to implement creative design solutions that promote and encourage healthy and sustainable behaviors in the dining halls and residences
- Fully integrating R&DE's culinary standards and sustainable food purchasing metrics into its internal reporting processes, with the goal of doubling sustainable food purchases by 2015

- Achieving 100% transparency for all food purchases, including origin, production method, ownership structure and labor practices
- Working with the Department of Athletics to implement sustainable food management at concessions at stadiums as part of the university's efforts as a member of the Green Sports Alliance

Recognition & Awards 2012-2013

Stanford's long history of sustainability-focused operations and academic research has been recognized by regional, national, and international organizations. The spectrum of Stanford's awards and commendations highlights the multifaceted nature of sustainability and spans a wide range of topics. Presented below are selections of the most significant campus sustainability initiatives to receive formal recognition.

Third-Party Evaluations of Sustainable Stanford

2014 Green Honor Roll, The Princeton Review, Stanford was named one of twenty two colleges and universities as the most environmentally friendly schools in the nation, having earned 99 points in the survey conducted for 832 schools.

***Sierra* Magazine's "Cool Schools",** Stanford ranked in the top 10 for the fourth consecutive year.

Gold Rating, Association for the Advancement of Sustainability in Higher Education (AASHE), Stanford maintains a Gold rating from AASHE under the first comprehensive sustainability performance assessment and national rating system. This is the highest rating level awarded by AASHE to date.

Operations

LEED for Existing Building: Operations & Maintenance Platinum certification, Jerry Yang and Akiko Yamazaki Environment and Energy Building (Y2E2), the first large-scale, high-performance building at Stanford, received the highest rating awarded by the U.S. Green Building Council. (2013)

LEED for New Construction Platinum certification, Knight Management Center, home to the Graduate School of Business (GSB), received formal, the highest rating awarded by the U.S. Green Building Council (2012)

Effective and Innovative Practices Award, APPA, Stanford Energy System Innovations (SESI) program was recognized this summer by APPA, the largest international association of educational institutions and their facilities and physical plant departments, for the innovative design of the new heat recovery system and central energy facility at Stanford. (2013)

Gold Award, Best Workplaces for Commuters, Stanford's transportation demand management program. Stanford was one of 23 employers nationwide recognized in the organization's Race to Excellence.

Finalist, Green Enterprise IT Awards, the Uptime Institute honored Stanford's case study, featuring server consolidation at the Clark Center, one of the top five energy-consuming buildings on campus. The Clark Center IT group was able to relocate servers from the building, where research space is at a premium, over to a new centralized data center, where servers are able to operate at much higher efficiencies.

RecycleMania Results (2013): top 20 in five of the eight categories: Gorilla (7th), paper (17th), cardboard (20th), bottles and cans (17th) and food waste (17th)

Research & Academic

Best Paper in Geophysics Award, Geophysics, Mark McClure/Roland Horne, for the technical paper entitled *Investigation of injection-induced seismicity using a coupled fluid flow and rate/state friction model* (2012)

Cox Medal for Faculty Excellence Fostering Undergraduate Research, Kate Maher. The medal was established in memory of the late Allan V. Cox, a former professor of geophysics and dean of the School of Earth Sciences, who was a strong supporter of faculty-student research collaboration. (2012)

Early Career Award, DOE Office of Science, Dao Xiang, for his work on on a technique known as "external seeding" for improving the function of X-ray free electron lasers and Leonardo Senatore, for his work on applying particle physics techniques to answer questions in cosmology. (2012)

Greenman Award, Sally Benson, for her vital contributions towards progressing the carbon capture and storage technologies and enhancing the international understanding of the process of mitigating greenhouse gas emissions. (2012)

Ian Campbell Medal, Gordon Brown, for pioneering the use of synchrotron radiation in Earth sciences. He was also recognized for his contributions as an educator, administrator and public servant. (2012)

Melvin P. Klein Scientific Development Award, Tim Miller, for his leadership and ingenuity in establishing a new type of experimental capability that enables ultrafast X-ray experiments at the Stanford Synchrotron Radiation Lightsource. (2012)

Robert R. Wilson Prize , John Galayda, for his leadership and outstanding and pioneering contributions to the development, construction and commissioning of the Linac Coherent Light Source and his contri-

butions to the construction of the Advanced Photon Source and the National Synchrotron Light Source. (2012)

Top Young Innovator, MIT Technology Review, William Chueh, for developing a technology using heat that is otherwise wasted to boost the efficiency of solar fuel production. (2012)

Ecological Society of America's Sustainability Science Award, Pamela Matson, for Seeds of sustainability: Lessons from the birthplace of the green revolution. The award recognizes the authors of the peer reviewed paper published in the past five years that makes the greatest contribution to the emerging science of ecosystem and regional sustainability through the integration of ecological and social sciences. (2013)

Elected to National Academy of Sciences, Greg Asner, of the Carnegie Department of Global Ecology, for his distinguished and continuing achievements in original research. (2013)

Louis Néel Medal, Mark Zoback, for his outstanding and seminal contributions to rock physics and geomechanics, in particular for applying geomechanics to solve a wide range of problems of scientific, engineering and economic importance. (2013)

Max Planck Research Prize, Chris Field, for having significantly increased our knowledge of how life on Earth responds to climate change, and what reactions can be anticipated between the biosphere and the atmosphere. (2013)

Michel Boudart Award for the Advancement of Catalysis, Jens Nørskov, for his pioneering work on understanding trends in catalyst activity and developing catalyst design principles based on reactivity descriptors. (2013)

National Academy of Sciences Advisory Group for Gulf of Mexico Program, Chris Field and Mark Zoback are among 24 advisors chosen for the program focused on human health, environmental safety and oil system safety for the area. Zoback served on the committee investigating the Deepwater Horizon event, while Field is a member of the National Academy of Sciences. (2013)

National Medal of Science, Sidney Drell, for contributions to quantum field theory and quantum chromodynamics, application of science to inform national policies in security and intelligence, and distinguished contributions as an advisor to the United States Government. (2013)

Schmidt-MacArthur Fellowship, Ernestine Fu, Martin Fischer, for their research on circular economy , a generic term for an industrial economy that is, by design or intention, restorative and in which materials flows are of two types, biological nutrients, designed to reenter the biosphere safely, and technical nutrients, which are designed to circulate at high quality without entering the biosphere. (2013)

Appendix F
Summary of Alternate Means Program, Santa Clara County Green Building Ordinance

APPENDIX F
STANFORD ALTERNATIVE MEANS
Annual Reporting of Select LEED Credits

SSc4.1-4, Alternative Transportation
Reference annual GUP reporting on net trips during peak commuting hours
Stanford's annual reporting on "no net new commute trips" is provided in Appendix B (Condition G.4) and in Appendix D.

Submit an updated Transportation Demand Management Program document or similar narrative that describes alternative transportation services
Stanford's annual reporting on the TDM Program is provided in Appendix B (Condition G.2).

WEc1, Water Efficient Landscaping
Report the annual percentage of lakewater vs. potable water in the lakewater irrigation system
The groundwater percentage in the lakewater system remained under 50 percent.

Lakewater Irrigation System Supply Sources				
	Surface Water		Groundwater	
Year	Quantity (acre-feet)	Percentage	Quantity (acre-feet)	Percentage
2010	882	72%	336	28%
2011	1,054	89%	134	11%
2012	1,032	82%	238	18%
2013	1,056	77%	311	23%

EAp3, Fundamental Refrigerant Management
Report when phase-out of CFC refrigerants in the central plant is complete.
The scheduled phase-out described in EAp3 has not changed. The central energy plant will be free of prohibited CFC refrigerant by 2015.

This will also indicate when EAc4, Enhanced Refrigerant Management, may be submitted for campus-wide pre-approval.
The Central Energy Plant refrigeration calculation described in EAp4 has not changed. Each building will continue to fill out the template to show full compliance with this credit.

MRp1, Storage & Collection of Recyclables; MRc2.1-2.2, Construction Waste Management
Confirm that PSSI is still Stanford University's waste contractor, and that PSSI's waste diversion programs are ongoing.
PSSI is Stanford University's waste contractor, and their waste diversion programs are ongoing.

Appendix F
Stanford Alternative Means

Reference reporting already sent to the County under the Solid Waste Management Act of CA (AB 939)
Stanford submitted the County of Santa Clara Countywide AB 939 Quarterly Summary to the Santa Clara County Integrated Waste Management Program on or before March 2, May 30, August 30, and November 30, 2013.

IDc1.3, Green Housekeeping
Confirm that Unicco is Stanford University's cleaning service provider.
Unicco is Stanford University's cleaning service provider.

IDc1.4, Green Campus Operations Education
Provide update on any new green campus operations, education campaigns, newsletters, or other forms of green campus operations education
The description of green campus operations provided in the Green Building Ordinance materials did not change during this year.

ISc1.6, Green Dining
Provide an update on any green dining initiatives or education
The description of green dining initiatives and education provided in the Green Building Ordinance materials did not change during this year.

Water Reduction Credits
Report on 'water bank' balance using water calculation template.
The reporting period for this credit is July 1 to June 30, to coincide with Stanford's annual GUP water consumption reporting period for SFPUC purchases and water conservation projects. There were no building projects that affected the water bank balance during this period.

Water Bank Balance			
Year	Projects	Change (mgd)	Cumulative Balance (mgd)
2010	Previous Projects under GUP	0.683880	0.683880
2011	Water conservation projects	0.012446	0.696326
2012	Water conservation projects	0.009141	0.705467
2013	Water conservation projects	0.017884	0.723351