

**Plans Review Comments From Stanford University
Environmental Quality Program
Utilities Division**

Plan Name:	Building ID #:
Project Name:	Project Manager:
Project Number:	Reviewer:
Plan date:	Review date:
<p>The checked boxes below are applicable to your project. Stanford University discharges its wastewater to the City of Palo Alto wastewater treatment plant, therefore the Palo Alto Sewer Ordinance requirements apply. Although not all plans go to the City of Palo Alto for plan check the following items are required. Due to General Use Permit Requirements, all the projects must provide information about estimated water consumption and water conservation; see section below. <i>If you have questions, please contact the Environmental Quality Program at 725-7864 or 723-9747 or 736-1946.</i>¹</p>	
REQUIREMENTS	ADDITIONAL COMMENTS
I. DEMOLITION AND CONSTRUCTION	
Construction debris may not be placed or washed into any storm drain. [P.A Ordinance, 16.09.117(d)]	For stormwater BMPs, see: http://www.cabmphandbooks.com/
Clean out catch basins at the end of each project. [Stanford Utilities Division]	
Sites covered under the GUP and submitting plans for ASA approval must prepare SWPPPs (storm water pollution prevention plan) before site disturbance [General Use Permit Condition of Approval (N6 + N7), 2000 GUP].	
II. EXTERNAL BUILDING REQUIREMENTS	
Loading docks where chemicals, hazardous materials, grease, oil, or waste products are handled must be connected to the sanitary sewer. [P.A. Ordinance, 16.09.032(b)(4)(D)] ²	
Roof drains may discharge to the storm drain system if all rooftop equipment (except equipment used to hold or carry clean water) is secondarily contained. [P.A. Ordinance, 16.09.032(b)(6)] ³	
Minimize the use of copper materials in roof architectural design and finishes.	
III. INTERNAL BUILDING REQUIREMENTS	
All mechanical equipment should be double contained if floor drains are to be installed and connected to the sanitary sewer. [P.A. Ordinance, 16.09.032(b)(1)]	
Building interior floor drains must not connect to the storm drain. [P.A. Ordinance, 16.09.032(b)(3)]	
Boiler drain lines must connect to the sanitary sewer. [P.A. Ordinance, 16.09.032(b)(7)]	
Elevator sumps or any sumps that may collect hydraulic fluid cannot be connected to stormdrains or sanitary sewer. Please show how hydraulic fluid will be contained in sump.	
Condensate lines must connect to the sanitary sewer. [P.A. Ordinance, 16.09.032(b)(8)] Condensate from water vapor (and is not in contact with any pollutants) can be discharged to landscaping. Note: Steam condensate must be connected to the Stanford condensate system. The mechanical area must be planned so that condensate is not allowed to flow into the storm drain system.	
Copper, Copper alloys, lead and lead alloys, including brass, shall not be used in the sewer lines, connectors, or seals coming in contact with sewage, except for sink traps and associated pipes. [P.A. Ordinance, 16.09.032(b)(9)]	

Since February 2004, the domestic water Stanford purchases from San Francisco PUC has been chloraminated (ammonia and chlorine used for disinfection). All building projects that include water treatment need to ensure the water treatment systems will treat chloraminated water.	
Since February 2004, the domestic water Stanford purchases from San Francisco PUC has been chloraminated (ammonia and chlorine used for disinfection). All rubberized components within the building must be chloramine compatible and/or resistant.	
Parking garage floor drains on interior levels shall be connected to an interceptor and to the sanitary sewer system. [P.A. Ordinance, 16.09.032(b)(17)]	
Effective January 1, 2006 , non-emergency discharges from once-through cooling systems using potable water as a coolant shall not be discharged to the sanitary sewer system, except for once-through cooling water used for bench-top reflux or distillation, or other similar activities, and for short-term use approved by the superintendent. [P.A Ordinance, 16.09.105]]	
Fire flow testing must be directed into sanitary sewer system.	
IV. LABORATORIES	
Except for aspirators designed for transferring acids and bases from stationary permanent laboratory sinks to	
All laboratory sinks (including cup sinks) must have lips that protect sink drains from spills. [P.A. Ordinance, 16.09.032(b)(13)] ² Lips shall be designed directly around sink, not around sink counter. Please provide detail showing lip height, trap type and material (see: "sink drain trap" # 4).	
Chemical storage shelves should not be placed above laboratory sinks. [P.A. Ordinance, 16.09.091] ¹	
Sink drain traps must be transparent (e.g. made of glass) and easy to inspect, or have drain plugs to facilitate mercury spill control. [P.A. Ordinance, 16.09.032(b)(14)] ²	
Posting of work stations with signs or equally effective methods of indicating approved methods for disposition of wates and reporting requirements and instructions for accidental spills and increased loadings. [P.A. Ordinance 16.09.035 (c)(3)] Contact the Utilities Environmental Quality group at (725-7864 or 723-9747) for sample signs.	
Floor drains for safety showers should be installed with a temporary plug which remains closed except when the shower is in use, or protected from spills by a covered sump or berm system. [P.A. Ordinance, 16.09.032(b)(1)(B)]	
Lab wastewater lines shall be separate from domestic sewage and a sampling point shall be installed in an easily accessible location outside the building. Please provide lab sampling port detail, including access, depth to waste line, diameter of sampling port (should be =>2"). See spec. at http://facilities.stanford.edu/environment/ [P.A. Ordinance, 16.09.060] ² . In addition to lab wastewater, all photo labs, autoclaves, and dishwashing shall be connected to the lab waste lines. Please provide isometric diagram, if available, showing all lab waste connections, room numbers, sampling locations, for all building floors and basement.	

Photo labs and Dark rooms: Areas for storing photo processing chemicals **shall not be adjacent to or connected to sinks or floor drains.** If floor drains are part of design for these areas, then the drain shall have a 0.5 to 1 inch berm to prevent inadvertent discharges of chemicals to the lab waste lines and sanitary sewer. Stanford Project Managers need to review new photo-processing equipment to ensure discharges are compliant (no spent fixer discharged, sewer limit for silver is 0.25mg/l). All site-specific designs have to be reviewed and approved by Stanford's Environmental Compliance Group prior to submittal for building permits from Santa Clara County. **Please provide detail** illustrating location of chemical storage, sinks, photoprocessing equipment, and location of all lab waste drain connections. See photoprocessor requirements on web site.

V. KITCHENS	
Food service facilities must have a utility sink or other protected area for cleaning floor mats, large equipment, and containers. The area should drain to the sanitary sewer through a grease interceptor. [P.A Ordinance, 16.09.032(b)(16)]	
No drains should be installed beneath dumpsters. If drains are installed the following regulation applies. Drains that are installed beneath dumpsters serving food service facilities shall be connected to a grease removal device. [P.A. Ordinance, 16.09.032(b)(16)]	
All new construction for food service facilities must include a covered, bermed dumpster area. The area shall be designed to prevent water run-on to the area and runoff from the area. [P.A. Ordinance, 16.09.032(b)(16)]	
All food service facilities with grease generating activities shall install a grease removal device [P.A. Ordinance, 16.09.103(c)]	
The installation of any food waste disposer (grinder) at any food service facility with one or more grease - generating activities is prohibited [P.A Ordinance, 16.09.103(e)]	
VI. WATER CONSERVATION	
A. WATER CONSERVATION FOR LANDSCAPING DESIGN (General Use Permit Condition of Approval P4, 2000 GUP)	
Provide estimated maximum daily and total annual water use for all landscaping	
Turf borders (< 10 ft) not permitted. Eliminate sloping turf that is only ornamental	
Provide details on planned ornamental fountain/water feature. Minimize water consumption in design. Estimate annual water use for routine operation. Identify minimum maintenance requirements and frequency.	If fountains are to be installed: Please see: "Decorative Fountains Guidelines" in the FDG. http://maps.stanford.edu/fdg_main
Can irrigation be stopped after 3-4 years once plants are established?	
ET controllers shall be installed on all new /renovated landscaping projects. Provide brand name. Will the ET controllers be connected to the Grounds network?	
All landscaping irrigation shall be tied into the lake system, or available recycled water, unless these systems are not available in area.	
All landscaping shall be metered separately from building or other infrastructure.	
B. WATER CONSERVATION FOR BUILDING DESIGN	
Use Performance Goals for Water Efficient equipment in new or renovated Stanford University Campus Buildings. Web site location: http://lbre.stanford.edu/sem/sites/all/lbre-shared/files/docs_public/we_performance_goals_12.18.08.pdf	SCVWD rebates may be available: http://www.scvwd.dst.ca.us/Water/Water_conservation/ln_business/Commercial_clothes_washer_rebate.shtm
Resources such as domestic water shall be conserved. Cooling systems shall not use domestic water to provide "once-through" cooling. Cooling for equipment shall be accomplished using the campus chilled water system with a heat exchanger or a stand-alone, electric drive process chiller with pump. For details, please refer to Facility Design Standard Section 15000-G. Provisions should be made to accommodate research and equipment pressure needs, such as installation of pressure reducing valves.	
All house vacuum systems shall use "dry vacuum pumps not "liquid ring" pumps.	
Provide estimated maximum daily and total annual water use for building	
Please estimate volume (gals/day) of wastewater from domestic water treatment; e.g. to produce Reverse Osmosis and/or De-ionized water.	
Provide a "water use information" table for water-consuming equipment and bathroom fixtures, include number of units and estimated water uses for each floor of the building, including the following categories: a) Brand b) # of units c) estimated annual water consumption per each unit (additional requested information is in parentheses)	Water mizers are required on all equipment requiring quenching with cold water to reduce the temperature of wastewater.
Bathroom Equipment: Bathroom Fixtures: toilets (gallons per flush), urinals (gallons per flush), faucets (gallons per minute), other sinks (gallons per minute), and showerheads (gallons per minute).	Please install water-efficient bathroom fixtures, Water-efficiency Goals can be found at:

	http://lbre.stanford.edu/sem/sites/all/lbre-shared/files/docs_public/we_performance_goals_12.18.08.pdf
Other equipment: Glassware washer, Autoclave, Deionization or water purification unit, Washing machine, Cage washer, Cooling tower, Water tanks [e.g. Large fish tanks, Tanks for hydraulic experiments], Photo processing equipment, or any other water-consuming equipment.	
1. Environmental Quality Program, Utilities Div, Stanford University ph: 725-7864 or 723-9747 or 736-1946	
2. Contact the Utilities Division before design document preparation or finalization.	
3. Palo Alto Sewer Use Ordinance:	
http://www.amlegal.com/nxt/gateway.dll/California/paloalto_ca/title16buildingregulations*/chapter1609seweruseordinance*?f=templates\$fn=altmain-nf.htm\$3.0#JD_Chapter16.09	