STAFF SUMMARY RECOMMENDATION

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY

Fourth Amendment to Resolution No. 255

May 26, 2016

PRIOR AMOUNT APPROVED:	\$300,000,000
PRIOR APPROVAL DATES:	April 24, 2008, as amended on March 17, 2010, April 25, 2013, and April 24, 2014
FINANCING TEAM:	Please see Attachment 2 to identify possible conflicts of interest
LOCATION:	Stanford, CA, Santa Clara County

<u>PURPOSE OF THE AMENDMENT</u>: The Board of Trustees of the Leland Stanford Junior University ("Stanford") seeks Authority approval of a Fourth Amendment to Resolution No. 255 (the "Resolution") to amend the authorized project list to include additional projects.

BACKGROUND: In April 2008, the Authority approved the Resolution for the benefit of Stanford, authorizing the issuance, from time to time, of tax-exempt commercial paper notes in an aggregate principal amount not to exceed, at any one time, \$300,000,000. Proceeds of such commercial paper notes were authorized to be used for the purposes of funding various capital projects. The Resolution was amended in March 2010, April 2013, and April 2014 to include additional projects to the authorized project list.

At this time, Stanford requests the Authority's approval to amend the authorized project list to include additional projects, as identified in Attachment 1 of this Staff Report and Exhibit A of the Resolution.

Environmental Benefits: As part of Stanford's Capital Plan, they adopted an Energy and Climate Plan, known as the "Stanford Energy System Innovations (SESI)" designed to provide the campus with a more efficient central energy facility (CEF) that would include a heat recovery design, and reduce greenhouse gas emissions and total campus water consumption. This new system was operational in April 2015 and along with Stanford's solar power procurement, is anticipated to reduce campus emissions approximately 68% from 2014 levels and save 15% of campus potable water. The energy and cost efficiencies from the SESI project is projected to save Stanford \$420 million over the next 35 years.

<u>DUE DILIGENCE</u>: Staff has received and reviewed the Eligibility, Legal Review, Religious Due Diligence, and CEQA documentation. All documentation satisfies the Authority's requirements.

<u>RECOMMENDATION</u>: Staff recommends that the Authority approve the Fourth Amendment to Resolution No. 255, subject to all prior provisions and conditions remaining unchanged and in full effect.

ATTACHMENT 1

Projects

100 Gigabyte Border Routers Upgrade 100 Gigabyte Connectivity to Corporation for Education Network Initiatives in California (CENIC) 1047 Campus Drive -Bathroom & Miscellaneous Repairs 1520 Page Mill Road Tenant Improvements 1651 Page Mill Renovation 2370 Watson Court Tenant Improvements 408 Panama Mall Office Building Academic Equipment Access Ramps Accessible Parking Accessible Pathways Accessible Restrooms Add Chilled Water Heat Exchanger to Highland Hall Administrative Systems Infrastructure Alumni Center Distributed Digital Control Upgrade Always Seismic Renovation Americans with Disabilities Act compliance at various buildings (ADA) Anderson Collection at Stanford University (formerly Anderson Gallery Building) Anne T. and Robert M. Bass Biology Research Building and Connective Elements Arguello Domestic Water Main Arguello Way Storm Drain Upgrade Arillaga Family Sport Center Backfill Arrillaga Family Sports Center Addition Backup/Storage Improvements Barnes Living/Learning and Security Upgrades Barriers Removal Bicycle and Pedestrian Paths & Lighting **BioChem Quad Utilities** Biomedical Innovation Building and Tunnel Infrastructure Boiler Feed Water Piping Systems Building Energy Retrofit Program **Building Expansions Building Renovations** C.J. Huang Building Campus Drive 24 inch Chilled Water - Roth/Quarry Campus Drive at Bowdoin Domestic Water Campus Drive at Galvez Domestic Water Campus Energy Management Control System (EMCS) Upgrade Campus Hot Water-Galvez to Arguello Campus Transit Improvements Capital Utilities Program (CUP) Central Energy Facility Eyewash Showers Central Energy Facility Controls Upgrade Central Energy Facility Distributed Control System/Instrument Upgrade Central Energy Facility Site Improvement/Pump house Central Loading Dock and Stauffer III Demolition

Chi Theta Chi Row House Renovation Chilled Water Extensions Chilled Water Heat Exchangers Chilled Water Metering CJ Huang Tenant Improvement Build-out Clark Center Whole Building Energy Retrofit Program Client/Server Hardware Columbae Life Safety and Code Compliance and Miscellaneous Upgrades Communications & Networking Systems Conduit-Welch Rd Reinforcement Copper Cable Crothers Way 12-Inch Domestic Waterline Replacement CUP - All Other CUP - Chilled Water CUP - Creek/Pump Stations CUP - Department Firewalls CUP - Domestic Water CUP - Fish Ladders CUP - Hot Water CUP - IT & CS CUP - Lake Water CUP - Other CUP - Reservoirs CUP - Sewer CUP - Steam CUP - Storm Drains CUP System Expansion and CUP System Replacement Current Good Manufacturing Practice (cGMP) Facility Data Center Power and Cooling Upgrade David and Joan Traitel Building and Connective Elements Deferred/Planned Maintenance Departmental Firewall Refresh Dolores Knob, Tube & Misc. Scope and Design Domestic Water Facilities Domestic Water Inter-Tie Upgrade Domestic Water Supervisory Control and Data Acquisition Domestic Water System Bowdoin Pressure Reducing Valve Stations Domestic Water Transmission Drainage Drainage System Upgrades Dry Land Diving Facility Durand Knob, Tube & Misc. Scope and Design Edwards Seismic Retrofit El Camino Swale Rehab Electric Motor Replacement Electric Vehicle Service Equipment Expansion Project **Electrical Smart Meters** Electrical Upgrade Backlog Scope & Design **Electricity Metering Projects** Electronic Communications Hub (ECH)/Enterprise Data Center Cable & Conduit Electronic Communications Hub Improvement & Expansions - East Campus

Elevator Upgrade Elevators **Emergency Generators and Fueling Project** Emergency Management & Control Systems (EMCS) Energy Retrofit Program Energy Retrofit Program - Medical School of Business Air Handler Energy Retrofit Program Heating, Ventilation and Air Conditioning Upgrades at Arillaga Center for Sports and Recreation Energy Retrofit Program Heating, Ventilation and Air Conditioning Upgrades at Arillaga Family Sports Center Energy Retrofit Program-Maples Control System Escondido Road Lake Water Escondido South Hot Water Line Escondido South Interiors Reno Escondido Village Barnes Sprinkler, Roof & Miscellaneous Escondido Village Graduate Residences and Parking Garage Escondido Village High-rise Sprinklers Installation Escondido Village Hulme Midrise Renovation Escondido Village Low-Rise Fire Alarm Escondido Village Site Lighting Escondido Village Slab Heat Renovation Escondido Village Slab Replacement Exterior Backlog Scope & Design Exterior Backlog Stern Windows Fiber cables Fire Alarms Forsythe Fiber and Managed Machine Room Switch Freidenrich Center for Translation Research Fremont Road Longitudinal Welded Pipe Upgrade French Knob, Tube & Misc. Scope and Design Furniture Fixture & Equipment (FF&E) & Vehicles Galvez Mall Lake Water Pipe Galvez Street Storm Drain Upgrade Garbage Disposal Code Upgrades and Grease Containment Gender-Neutral Restroom Conversions General Use Permit (GUP) Mitigation Projects Governor's Corner Interim improvement Governor's Corner Renovation Graduate School of Business Bio-Retention Renewal Grove Life Safety and Code Compliance and Miscellaneous Upgrades Heating, Ventilation, and Air Conditioning (HVAC) Highland Hall (formerly, Stanford Graduate School of Business Graduate Residences, formerly Graduate School of Business Housing Expansion) High Voltage Cable Replacement High Voltage (HV) Infrastructure Upgrade and HV Transmission System Improvements High Voltage Replacements High Voltage Supervisory Control and Data Acquisition (SCADA) Upgrades Hoskins Sprinkler, Living/Learning, Security Upgrade Hot Water Pipe Via Ortega, Via Pueblo Information Technology & Communication Systems Information Technology System (ITS) Communications Cable

Information Technology System (ITS) Communications Conduit Information Technology System (ITS) Conduit - Conduit to Scientific Research Computing Facility Information Technology System (ITS) Fiber to Scientific Research Computing Facility @ SLAC Information Technology System (ITS) Improvements Information Technology System (ITS) Networking Systems Cable Infrastructure Improvements Infrastructure Upgrade Infrastructure Upgrade Lagunita Interiors Backlog Hammarskjold Interiors Backlog Scope & Design Interiors Backlog Toilet Retrofits Hulme Interiors Backlog Toilet Retrofits Phi Sigma Interiors Backlog Toilet Retrofits Synergy Irrigation System Upgrade ITS Conduit for New Northwest Data Center and Communications Hub ITS Conduit: New Windhover ITS Conduit: New Bass Building ITS Conduit: Porter Drive ITS Copper: AT&T Minimum Point of Entry Copper ITS Copper: New Manzanita Residences ITS Copper: New McMurtry Building ITS Fiber for New Northwest Data Center and Communications Hub ITS Fiber: Beckman - Fairchild ITS Fiber: Forsythe-Polya ITS Fiber: Jenkins - Mirrielee ITS Fiber: Jenkins to Rains ITS Fiber: Maples to Police Compound ITS Fiber: Medical Electronic Communications Hub to Beckman ITS Fiber: New Manzanita Residences ITS Fiber: New McMurtry Building ITS Fiber: Northwest Data Center and Communications Hub to Puichon ITS Fiber: Press Electric Communication Hub Reinforcements ITS Fiber: Quad Electric Communication Hub-Aero/Astro ITS Fiber: Quad Electric Communication Hub-Li Ka Shing Center ITS Fiber: Sunken Diamond ITS Fiber: West Electronic Communications Hub - Pine Hall ITS Fiber: Stadium to Maples ITS Fiber: East Electric Communications Hub-Bonair Electric Communication Hub ITS Fiber: East Electric Communications Hub-Jenkins Electric Communications Hub ITS Fiber: Haas 0.1 to Mayfield ITS Fiber: Medical Electric Communication Hub Reinforcement ITS Fiber: Northwest Data Center Communications Hub Electric Communications Hub to Beckman ITS Fiber: Press Electric Communications Hub-Bldg 02-500 Jen-Hsun Huang Engineering Center Junipero Serra Boulevard Lake Water Lake Lagunita to Campus East Junipero Serra Boulevard Lake Water Replacement Fremont to Lake Lagunita Kairos Knob, Tube & Misc. Scope and Design Knight Management Center

Knob, Tube & Misc. Scope and Design Projects Lagunita Bathrooms Upgrade Lagunita Court Refurbishment Lagunita Lakeside Patio Pergola Lake Water Filtration Lake Water Supervisory Control and Data Acquisition Lasuen Knob & Tube & Misc. Upgrades Scope and Design Li Ka Shing Center for Learning & Knowledge Life Safety and Code Compliance and Miscellaneous Upgrades Life Safety and Code Compliance Backlog Life Safety and Code Compliance Backlog - Haus Mitteleuropa Life Safety and Code Compliance Backlog - Synergy Life Safety and Code Compliance Fire Alarms Life Safety and Code Compliance Fire Alarms - STERN BURBANK Life Safety and Code Compliance - Fire Alarms-STERN DONNER Life Safety and Code Compliance-Fire Alarms-STERN LARKN N Life Safety and Code Compliance-Fire Alarms-STERN LARKN W Life Safety and Code Compliance-Fire Alarms-STERN SERRA Life Safety and Code Compliance-Fire Alarms-STERN TWAIN E Life Safety and Code Compliance-Fire Alarms-STERN TWAIN N Life Safety and Code Compliance-Fire Alarms-STERN ZAPATA Life Safety and Code Compliance - Fire Sprinklers Life Safety and Code Compliance Fire Sprinklers - FRENCH HOUSE Life Safety and Code Compliance Fire Sprinklers - BARNES Life Safety and Code Compliance Fire Sprinklers - Escondido Village Center Life Safety and Code Compliance Fire Sprinklers - HULME Life Safety and Code Compliance Fire Sprinklers - MIRRIELEES Life Safety and Code Compliance Fire Sprinklers - SAE Living/Learning Upgrades Loading Docks Lorry I Lokey Stem Cell Research Building Manzanita Park Refurbishment Manzanita Undergraduate Dormitory (formerly New Manzanita Undergraduate Dormitory) Manzanita, Graduate School of Business Housing, Schwab Hot Water Mars Knob, Tube & Misc. Scope and Design McCullough Energy Efficiency Mechanical, Electrical and Plumbing, Sewer & Exterior Infrastructure Meters & Backflow Preventer Meters and Backflows Miranda Avenue Domestic Water System Reconfiguration Miranda Domestic Water Upgrade Muwekma Life Safety and Code Compliance and Miscellaneous Upgrades Network Taps Network-Backbone Networking Load Balancer System Networking Special Projects New Buildings New Dining & Kitchens and Renovations New Residences at Lagunita Court (formerly Lagunita Court Addition) New Water Well #3 New Wells & Rehabilitations

Northwest Data Center and Communications Hub Northwest Data Center and Communications Hub Computer Cabinet Buildout On Campus Photovoltaics Outdoor Lighting LED Retrofit Panama Street Utility Relocation Paul Allen Building Annex Distributed Digital Control Upgrade Paul Allen Building Distributed Digital Control Upgrade Phi Psi Knob, Tube & Misc. Scope and Design Photovoltaics Power Generation **Pump Stations** Rains Houses Renovation Recycled Water System Refrigerant Leak Alarm System Renovation /Refresh-Escondido Village South Interiors **Renovations and Seismic Projects** Replacement Boiler Plant Replacement Central Energy Facility Site Camera and Card Reader Addition Research Animal Facility 1 and Research Animal Facility 2 Rehabilitation & Retrofit Residential & Dining Enterprise (R&DE) Deferred Maintenance Backlog projects Residential & Dining Enterprise (R&DE) Major Renovation Plan (formally Capital Project Program (CPP) and Capital Improvement Program (CIP)) **Residential Computing Wireless** Roads Roble Dining Hall Expansion Roble/Lagunita Outdoor Dining Enhancements **Roof Replacement** Roofs and Maintenance Equipment Backlog Construction Stern Roofs and Maintenance Equipment Backlog Scope & Design Roofs and Maintenance Equipment Backlog-Synergy Roth Knob, Tube & Misc. Scope and Design Row House Kitchen Replacements Row House Knob/Tube & Miscellaneous Upgrade Row House Renovations Row Kitchen Renovations Salvatierra St Domestic Water Replacement San Juan Hill Drainage Improvements San Juan Reservoir Rehabilitation Sanitary Sewer Rehabilitation Science Teaching and Learning Scientific Research Computing Facility - Backbone and Firewall Refresh Scientific Research Computing Facility "Uplift" Racks Refresh Sewer and Domestic Water Line Replacement Sewer Replacement - Galvez Shriram Center for Bioengineering and Chemical Engineering Siebel Golf Practice Remodeling Sigma Nu Knob, Tube & Misc. Scope and Design Site Improvements Slab Heating Replacement Slavianski Dom Life Safety and Code Compliance and Miscellaneous Upgrade Software Systems Special Fast Track Cable

Stadium Field House Stanford Ave Storm Drain Replacement Stanford CheM-H and the Stanford Neurosciences Institute (SNI) (formerly Chemical Biology/Neurosciences) Stanford Energy System Innovation & High Voltage Substation Stanford Energy System Innovation Piping & Building Conversion Stanford in Redwood City Stanford Infrastructure Program (SIP) Steam Metering Stern Hall Window Replacement Stern Larkin Resident Fellow Apartment Expansion/Reconfiguration/Renovation Stern-Twain Resident Fellow Apartment Expansion and Renovation Storm Drain Improvements Storm Drainage Supervisory Control and Data Acquisition (SCADA) System Upgrade Sweet Hall/Galvez Lake Water Upgrade Trails Undergraduate Housing and Dining Underground Utilities Infrastructure Improvements Uninterruptable Power Supply (UPS) University Terrace (previously named California Avenue Homes) Utility Metering, Billing, Reporting and Sustainability Systems Integration Utility Upgrades Site & Safety Improvements Waste Collection System Water Conservation & Recycling Plan Implementation Water Conservation Program Water Mains Water Wells Rehabilitation Well 3R Electrical Upgrade West Campus Detention Facilities Whole Building Energy Retrofit Program (WBERP) Whole Building Energy Retrofit Program (WBERP) - Mechanical Engineering Research Lab (MERL) Whole Building Energy Retrofit Program (WBERP) - Varian William H. Neukom Building (Law School Clinics & Faculty Office Building) Wireless Access Points for Central Energy Facility and Substation Wireless Infrastructure Wiremold Replacement Yang & Yamazaki Environment and Energy Building

ATTACHMENT 2

Financing Team The Board of Trustees of the Leland Stanford Junior University Commercial Paper Notes

Borrower:	The Board of Trustees of the Leland Stanford Junior University
Agent for Sale:	California State Treasurer
Issuer's Counsel:	Attorney General's Office
Bond Counsel:	Orrick, Herrington & Sutcliffe LLP
Issuer's Financial Advisor	Public Financial Management, Inc.
Dealers:	Goldman, Sachs & Co. Barclays Capital Inc.
Borrower's Counsel:	Ropes and Gray, LLP
Paying Agent:	US Bank, NA
Rating Agencies:	Moody's Investors Service Standard & Poor's Fitch Ratings
Auditor to the Borrower:	PricewaterhouseCoopers LLP

FOURTH AMENDMENT TO RESOLUTION NO. 255

RESOLUTION OF THE CALIFORNIA EDUCATIONAL FACILITIES AUTHORITY AMENDING THE PROJECTS SET FORTH IN RESOLUTION NO. 255, AS AMENDED, AUTHORIZING THE ISSUANCE FROM TIME TO TIME OF COMMERCIAL PAPER REVENUE NOTES TO FINANCE AND/OR TO REFINANCE EDUCATIONAL FACILITIES FOR THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY

May 26, 2016

WHEREAS, the California Educational Facilities Authority (the "Authority"), a public instrumentality of the State of California, is authorized and empowered by the provisions of the California Educational Facilities Authority Act (the "Act") to issue bonds, notes, debentures or other securities, including commercial paper notes, to finance and refinance the acquisition, construction, expansion, rehabilitation, remodeling, renovation and equipping of educational facilities by participating private colleges (as defined in the Act) situated within the State of California;

WHEREAS, The Board of Trustees of the Leland Stanford Junior University (the "Borrower") applied to the Authority for the issuance of its commercial paper notes in an aggregate principal amount not to exceed \$300,000,000 (the "Commercial Paper Notes"), to be issued from time to time on behalf of the Borrower to provide financial assistance to the Borrower to finance and refinance the acquisition, construction, expansion, rehabilitation, remodeling, renovation and equipping of certain of the Borrower's educational facilities, as more fully described in Exhibit A attached to and incorporated in the Commercial Paper Resolution and the Amendments to the Resolution (each as defined below) (collectively, the "Prior Projects");

WHEREAS, the Authority authorized the Commercial Paper Notes with the adoption of Resolution No. 255 on April 24, 2008 (the "Commercial Paper Resolution");

WHEREAS, on March 17, 2010, on April 25, 2013 and on April 24, 2014, the Authority adopted resolutions amending the projects described in Exhibit A attached to the Commercial Paper Resolution (collectively, the "Amendments to the Resolution");

WHEREAS, the Borrower has determined that it is desirable to amend the projects for which the Commercial Paper Notes will be issued from time to time on behalf of the Borrower to provide financial assistance to the Borrower to finance and refinance the acquisition, construction, expansion, rehabilitation, remodeling, renovation and equipping of certain of the Borrower's educational facilities, more fully described in Exhibit A attached hereto and incorporated herein (the "Projects"); and

WHEREAS, the Borrower has provided documentation to the Authority demonstrating that all parts of the Projects have complied with Division 13 (commencing with Section 21000) of the Public Resources Code, or are not projects under that division;

NOW, THEREFORE, BE IT RESOLVED by the California Educational

Facilities Authority as follows:

<u>Section 1</u> The Commercial Paper Resolution, as amended by the Amendments to the Resolution, is hereby supplemented and amended as follows: (a) Exhibit A, which describes the Prior Projects, as attached to the Commercial Paper Resolution, as amended by the Amendments to the Resolution, and referred to in the fourth WHEREAS clause of the Commercial Paper Resolution, shall be amended by Exhibit A, which describes the Projects, attached hereto and incorporated herein; (b) Section 15 is added to the Commercial Paper Resolution and reads: "<u>Section 15</u>. The provisions of the Authority's Resolution No. 2014-03 apply to the documents and actions approved in this Resolution" and (c) Section 16 is added to the Commercial Paper Resolution and reads: "Section 16. The aggregate principal amount of <u>Commercial Paper Notes Outstanding at any one time shall not exceed the difference between</u> \$550,000,000 and the aggregate principal amount of California Educational Facilities Authority <u>Revenue Bonds (Stanford University) Series U-7 originally issued."</u>

<u>Section 2</u> Except as herein amended and supplemented, all of the findings, terms and provisions of the Commercial Paper Resolution, as amended by the Amendments to the Resolution, are hereby ratified, confirmed and approved.

<u>Section 3</u> This amendment shall take effect from and after the date of adoption.

Date of Adoption:

EXHIBIT A

PROJECTS DESCRIPTION

"*Projects*" means, collectively, all of the projects listed in Exhibit A to the original Commercial Paper Resolution, as amended by the Amendments to the Resolution, which are incorporated herein by reference, plus the following additional educational facilities of the Borrower, but only to the extent that the cost thereof has been financed or refinanced from proceeds of the Commercial Paper Notes:

100 Gigabyte Border Routers Upgrade 100 Gigabyte Connectivity to Corporation for Education Network Initiatives in California (CENIC) 1047 Campus Drive -Bathroom & Miscellaneous Repairs 1520 Page Mill Road Tenant Improvements 1651 Page Mill Renovation 2370 Watson Court Tenant Improvements 408 Panama Mall Office Building Academic Equipment Access Ramps **Accessible Parking** Accessible Pathways Accessible Restrooms Add Chilled Water Heat Exchanger to Highland Hall Administrative Systems Infrastructure Alumni Center Distributed Digital Control Upgrade **Always Seismic Renovation** Americans with Disabilities Act compliance at various buildings (ADA) Anderson Collection at Stanford University (formerly Anderson Gallery Building) Anne T. and Robert M. Bass Biology Research Building and Connective Elements Arguello Domestic Water Main Arguello Way Storm Drain Upgrade Arillaga Family Sport Center Backfill Arrillaga Family Sports Center Addition Backup/Storage Improvements Barnes Living/Learning and Security Upgrades **Barriers Removal** Bicycle and Pedestrian Paths & Lighting **BioChem Ouad Utilities** Biomedical Innovation Building and Tunnel Infrastructure **Boiler Feed Water Piping Systems Building Energy Retrofit Program Building Expansions Building Renovations** C.J. Huang Building Campus Drive 24 inch Chilled Water - Roth/Quarry

Campus Drive at Bowdoin Domestic Water Campus Drive at Galvez Domestic Water Campus Energy Management Control System (EMCS) Upgrade Campus Hot Water-Galvez to Arguello **Campus Transit Improvements** Capital Utilities Program (CUP) Central Energy Facility Eyewash Showers Central Energy Facility Controls Upgrade Central Energy Facility Distributed Control System/Instrument Upgrade Central Energy Facility Site Improvement/Pumphouse Central Loading Dock and Stauffer III Demolition Chi Theta Chi Row House Renovation **Chilled Water Extensions Chilled Water Heat Exchangers** Chilled Water Metering CJ Huang Tenant Improvement Build-out Clark Center Whole Building Energy Retrofit Program Client/Server Hardware Columbae Life Safety and Code Compliance and Miscellaneous Upgrades **Communications & Networking Systems** Conduit-Welch Rd Reinforcement Copper Cable Crothers Way 12-Inch Domestic Waterline Replacement CUP - All Other CUP - Chilled Water CUP - Creek/Pump Stations **CUP** - Department Firewalls CUP - Domestic Water CUP - Fish Ladders CUP - Hot Water CUP - IT & CS CUP - Lake Water CUP - Other **CUP** - Reservoirs CUP - Sewer CUP - Steam **CUP** - Storm Drains CUP System Expansion and CUP System Replacement Current Good Manufacturing Practice (cGMP) Facility Data Center Power and Cooling Upgrade David and Joan Traitel Building and Connective Elements Deferred/Planned Maintenance

Departmental Firewall Refresh

Dolores Knob, Tube & Misc. Scope and Design

Domestic Water Facilities

Domestic Water Inter-Tie Upgrade

Domestic Water Supervisory Control and Data Acquisition Domestic Water System Bowdoin Pressure Reducing Valve Stations **Domestic Water Transmission** Drainage Drainage System Upgrades Dry Land Diving Facility Durand Knob, Tube & Misc. Scope and Design **Edwards Seismic Retrofit** El Camino Swale Rehab **Electric Motor Replacement Electric Vehicle Service Equipment Expansion Project Electrical Smart Meters** Electrical Upgrade Backlog Scope & Design **Electricity Metering Projects** Electronic Communications Hub (ECH)/Enterprise Data Center Cable & Conduit Electronic Communications Hub Improvement & Expansions - East Campus Elevator Upgrade Elevators **Emergency Generators and Fueling Project** Emergency Management & Control Systems (EMCS) **Energy Retrofit Program** Energy Retrofit Program - Medical School of Business Air Handler Energy Retrofit Program Heating, Ventilation and Air Conditioning Upgrades at Arillaga Center for Sports and Recreation Energy Retrofit Program Heating, Ventilation and Air Conditioning Upgrades at Arillaga Family Sports Center Energy Retrofit Program-Maples Control System Escondido Road Lake Water Escondido South Hot Water Line Escondido South Interiors Reno Escondido Village Barnes Sprinkler, Roof & Miscellaneous Escondido Village Graduate Residences and Parking Garage Escondido Village High-rise Sprinklers Installation Escondido Village Hulme Midrise Renovation Escondido Village Low-Rise Fire Alarm Escondido Village Site Lighting Escondido Village Slab Heat Renovation Escondido Village Slab Replacement Exterior Backlog Scope & Design Exterior Backlog Stern Windows Fiber cables Fire Alarms Forsythe Fiber and Managed Machine Room Switch Freidenrich Center for Translation Research Fremont Road Longitudinal Welded Pipe Upgrade French Knob, Tube & Misc. Scope and Design

Furniture Fixture & Equipment (FF&E) & Vehicles Galvez Mall Lake Water Pipe Galvez Street Storm Drain Upgrade Garbage Disposal Code Upgrades and Grease Containment Gender-Neutral Restroom Conversions General Use Permit (GUP) Mitigation Projects Governor's Corner Interim improvement Governor's Corner Renovation Graduate School of Business Bio-Retention Renewal Grove Life Safety and Code Compliance and Miscellaneous Upgrades Heating, Ventilation, and Air Conditioning (HVAC) Highland Hall (formerly, Stanford Graduate School of Business Graduate Residences, formerly Graduate School of Business Housing Expansion) High Voltage Cable Replacement High Voltage (HV) Infrastructure Upgrade and HV Transmission System Improvements High Voltage Replacements High Voltage Supervisory Control and Data Acquisition (SCADA) Upgrades Hoskins Sprinkler, Living/Learning, Security Upgrade Hot Water Pipe Via Ortega, Via Pueblo Information Technology & Communication Systems Information Technology System (ITS) Communications Cable Information Technology System (ITS) Communications Conduit Information Technology System (ITS) Conduit - Conduit to Scientific Research **Computing Facility** Information Technology System (ITS) Fiber to Scientific Research Computing Facility @ SLAC Information Technology System (ITS) Improvements Information Technology System (ITS) Networking Systems Cable Infrastructure Improvements Infrastructure Upgrade Infrastructure Upgrade Lagunita Interiors Backlog Hammarskjold Interiors Backlog Scope & Design Interiors Backlog Toilet Retrofits Hulme Interiors Backlog Toilet Retrofits Phi Sigma Interiors Backlog Toilet Retrofits Synergy Irrigation System Upgrade ITS Conduit for New Northwest Data Center and Communications Hub ITS Conduit: New Windhover ITS Conduit: New Bass Building **ITS Conduit: Porter Drive** ITS Copper: AT&T Minimum Point Of Entry Copper ITS Copper: New Manzanita Residences ITS Copper: New McMurtry Building ITS Fiber for New Northwest Data Center and Communications Hub

ITS Fiber: Beckman - Fairchild

ITS Fiber: Forsythe-Polya

ITS Fiber: Jenkins - Mirrielee

ITS Fiber: Jenkins to Rains

ITS Fiber: Maples to Police Compound

ITS Fiber: Medical Electronic Communications Hub to Beckman

ITS Fiber: New Manzanita Residences

ITS Fiber: New McMurtry Building

ITS Fiber: Northwest Data Center and Communications Hub to Puichon

ITS Fiber: Press Electric Communication Hub Reinforcements

ITS Fiber: Quad Electric Communication Hub-Aero/Astro

ITS Fiber: Quad Electric Communication Hub-Li Ka Shing Center

ITS Fiber: Sunken Diamond

ITS Fiber: West Electronic Communications Hub - Pine Hall

ITS Fiber: Stadium to Maples

ITS Fiber: East Electric Communications Hub-Bonair Electric Communication Hub

ITS Fiber: East Electric Communications Hub-Jenkins Electric Communications Hub

ITS Fiber: Haas 0.1 to Mayfield

ITS Fiber: Medical Electric Communication Hub Reinforcement

ITS Fiber: Northwest Data Center Communications Hub Electric Communications Hub to Beckman

ITS Fiber: Press Electric Communications Hub-Bldg 02-500

Jen-Hsun Huang Engineering Center

Junipero Serra Boulevard Lake Water Lake Lagunita to Campus East

Junipero Serra Boulevard Lake Water Replacment Fremont to Lake Lagunita

Kairos Knob, Tube & Misc. Scope and Design

Knight Management Center

Knob, Tube & Misc.. Scope and Design Projects

Lagunita Bathrooms Upgrade

Lagunita Court Refurbishment

Lagunita Lakeside Patio Pergola

Lake Water Filtration

Lake Water Supervisory Control and Data Acquisition

Lasuen Knob & Tube & Misc. Upgrades Scope and Design

Li Ka Shing Center for Learning & Knowledge

Life Safety and Code Compliance and Miscellaneous Upgrades

Life Safety and Code Compliance Backlog

Life Safety and Code Compliance Backlog - Haus Mitteleuropa

Life Safety and Code Compliance Backlog - Synergy

Life Safety and Code Compliance Fire Alarms

Life Safety and Code Compliance Fire Alarms - STERN BURBANK

Life Safety and Code Compliance - Fire Alarms-STERN DONNER

Life Safety and Code Compliance-Fire Alarms-STERN LARKN N

Life Safety and Code Compliance-Fire Alarms-STERN LARKN W

Life Safety and Code Compliance-Fire Alarms-STERN SERRA Life Safety and Code Compliance-Fire Alarms-STERN TWAIN E Life Safety and Code Compliance-Fire Alarms-STERN TWAIN N Life Safety and Code Compliance-Fire Alarms-STERN ZAPATA Life Safety and Code Compliance - Fire Sprinklers Life Safety and Code Compliance Fire Sprinklers - FRENCH HOUSE Life Safety and Code Compliance Fire Sprinklers - BARNES Life Safety and Code Compliance Fire Sprinklers - Escondido Village Center Life Safety and Code Compliance Fire Sprinklers - HULME Life Safety and Code Compliance Fire Sprinklers - MIRRIELEES Life Safety and Code Compliance Fire Sprinklers - SAE Living/Learning Upgrades Loading Docks Lorry I Lokey Stem Cell Research Building Manzanita Park Refurbishment Manzanita Undergraduate Dormitory (formerly New Manzanita Undergraduate Dormitory) Manzanita, Graduate School of Business Housing, Schwab Hot Water Mars Knob, Tube & Misc. Scope and Design McCullough Energy Efficiency Mechanical, Electrical and Plumbing, Sewer & Exterior Infrastructure Meters & Backflow Preventer Meters and Backflows Miranda Avenue Domestic Water System Reconfiguration Miranda Domestic Water Upgrade Muwekma Life Safety and Code Compliance and Miscellaneous Upgrades Network Taps Network-Backbone Networking Load Balancer System **Networking Special Projects** New Buildings New Dining & Kitchens and Renovations New Residences at Lagunita Court (formerly Lagunita Court Addition) New Water Well #3 New Wells & Rehabilitations Northwest Data Center and Communications Hub Northwest Data Center and Communications Hub Computer Cabinet Buildout **On Campus Photovoltaics Outdoor Lighting LED Retrofit** Panama Street Utility Relocation Paul Allen Building Annex Distributed Digital Control Upgrade Paul Allen Building Distributed Digital Control Upgrade Phi Psi Knob, Tube & Misc. Scope and Design Photovoltaics Power Generation **Pump Stations Rains Houses Renovation**

Recycled Water System Refrigerant Leak Alarm System Renovation /Refresh-Escondido Village South Interiors **Renovations and Seismic Projects Replacement Boiler Plant** Replacement Central Energy Facility Site Camera and Card Reader Addition Research Animal Facility 1 and Research Animal Facility 2 Rehabilitation & Retrofit Residential & Dining Enterprise (R&DE) Deferred Maintenance Backlog projects Residential & Dining Enterprise (R&DE) Major Renovation Plan (formally Capital Project Program (CPP) and Capital Improvement Program (CIP)) **Residential Computing Wireless** Roads **Roble Dining Hall Expansion** Roble/Lagunita Outdoor Dining Enhancements Roof Replacement Roofs and Maintenance Equipment Backlog Construction Stern Roofs and Maintenance Equipment Backlog Scope & Design Roofs and Maintenance Equipment Backlog- Synergy Roth Knob, Tube & Misc. Scope and Design **Row House Kitchen Replacements** Row House Knob/Tube & Miscellaneous Upgrade **Row House Renovations Row Kitchen Renovations** Salvatierra St Domestic Water Replacement San Juan Hill Drainage Improvements San Juan Reservoir Rehabilitation Sanitary Sewer Rehabilitation Science Teaching and Learning Scientific Research Computing Facility - Backbone and Firewall Refresh Scientific Research Computing Facility "Uplift" Racks Refresh Sewer and Domestic Water Line Replacement Sewer Replacement - Galvez Shriram Center for Bioengineering and Chemical Engineering Siebel Golf Practice Remodeling Sigma Nu Knob, Tube & Misc. Scope and Design Site Improvements **Slab Heating Replacement** Slavianski Dom Life Safety and Code Compliance and Miscellaneous Upgrade Software Systems Special Fast Track Cable Stadium Field House Stanford Ave Storm Drain Replacement Stanford CheM-H and the Stanford Neurosciences Institute (SNI) (formerly Chemical Biology/Neurosciences) Stanford Energy System Innovation & High Voltage Substation

Stanford Energy System Innovation Piping & Building Conversion Stanford in Redwood City Stanford Infrastructure Program (SIP) Steam Metering Stern Hall Window Replacement Stern Larkin Resident Fellow Apartment Expansion/Reconfiguration/Renovation Stern-Twain Resident Fellow Apartment Expansion and Renovation Storm Drain Improvements Storm Drainage Supervisory Control and Data Acquisition (SCADA) System Upgrade Sweet Hall/Galvez Lake Water Upgrade Trails Undergraduate Housing and Dining Underground Utilities Infrastructure Improvements Uninterruptable Power Supply (UPS) University Terrace (previously named California Avenue Homes) Utility Metering, Billing, Reporting and Sustainability Systems Integration Utility Upgrades Site & Safety Improvements Waste Collection System Water Conservation & Recycling Plan Implementation Water Conservation Program Water Mains Water Wells Rehabilitation Well 3R Electrical Upgrade West Campus Detention Facilities Whole Building Energy Retrofit Program (WBERP) Whole Building Energy Retrofit Program (WBERP) - Mechanical Engineering Research Lab (MERL) Whole Building Energy Retrofit Program (WBERP) - Varian William H. Neukom Building (Law School Clinics & Faculty Office Building) Wireless Access Points for Central Energy Facility and Substation Wireless Infrastructure Wiremold Replacement Yang & Yamazaki Environment and Energy Building