

## STAFF SUMMARY RECOMMENDATION

### STANFORD UNIVERSITY

Fifth Amendment to Resolution No. 255

February 28, 2019

PRIOR AMOUNT APPROVED:	\$300,000,000
PRIOR APPROVAL DATES:	April 24, 2008, as amended on March 17, 2010, April 25, 2013, April 24, 2014 and May 26, 2016
FINANCING TEAM:	Please see Attachment 2 to identify possible conflicts of interest
LOCATION:	Stanford, CA, Santa Clara County

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**PURPOSE OF THE AMENDMENT:** Stanford University (“Stanford”) seeks Authority approval of a Fifth 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, April 2014 and May 26, 2016 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.

**DUE DILIGENCE:** Staff has received and reviewed the Eligibility, Legal Review, Religious Due Diligence, and CEQA documentation. All documentation satisfies the Authority’s requirements.

**RECOMMENDATION:** Staff recommends that the Authority approve the Fifth 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 CENIC  
408 Panama Mall Office Building  
565 Cowell-Electrical Service  
1651 Page Mill Human Immune Monitoring Center (HIMC) Project  
1651 Page Mill Post Proj Scope  
1651 Page Mill Renovation  
1701 Page Mill Road Tenant Improvements  
2017 Campus Drainage Improvements  
2370 Watson Court Tenant Improvements  
3145 Porter Drive Tenant Improvements  
3172 Porter Drive Tenant Improvements  
Academic Equipment  
Access Ramps  
Accessible Parking  
Accessible Pathways  
Accessible Restrooms  
Administrative Systems Infrastructure  
All-Gender Restroom Conversion  
All-Gender Restroom Conversion Lake House  
Alumni Center Distributed Digital Control Upgrade  
Americans with Disabilities Act compliance at various buildings (ADA)  
Anne T. and Robert M. Bass Biology Research Building and Connective Elements  
Arguello Way Storm Drain Upgrade  
Arrillaga Family Dining Commons Robotic Autobagger  
Arrillaga Family Sports Center Backfill  
Arrillaga Hall (formerly Cardinal Hall)  
Auxiliary Equipment  
Backbone & Firewall Refresh @ Porter Drive & SCRF  
Backup/Storage Improvements  
Barriers Removal  
Bicycle and Pedestrian Paths & Lighting  
BioChem Quad Utilities  
Biomedical Innovation Building  
Boiler Feed Water Piping Systems  
Building Access Door Refresh  
Building Energy Retrofit Program  
Building Expansions  
Building Renovations  
Cabrillo-Dolores Faculty Homes  
Campus Central Management & Control System Upgrade  
Campus Drainage Improvements  
Campus Drive at Galvez Domestic Water  
Campus Drive East Domestic Water Replacement  
Campus Drive East Lake Water Line Replacement  
Campus Drive West Domestic Water Replacement  
Campus Energy Management Control System (EMCS) Upgrade  
Campus Transit Improvements  
Capital Utilities Program (CUP)  
Casper Domestic Hot Water System Renewal  
Casper-Kimball Resident Fellow Apartment Renovation  
Center for Academic Medicine (formerly Clinical Excellence Center)  
Central Energy Facility Eyewash Showers

Central Energy Facility Low Temperature Hot Water System Improvements  
Central Loading Dock and Stauffer III Demolition  
Chilled Water Extensions  
Chilled Water Heat Exchangers  
Chilled Water Metering  
Clark Center Whole Building Energy Retrofit Program  
Client/Server Hardware  
Communications & Networking Systems  
Communications Services Conduits  
Copper Cable  
CUP - All Other  
CUP - Chilled Water  
CUP - Creek/Pump Stations  
CUP - Department Firewalls  
CUP - Domestic Water  
CUP - Fish Ladders  
CUP - Hot Water  
CUP - Information Technology (IT) & Communication Systems (CS)  
CUP - Lake Water  
CUP - Other  
CUP - Reservoirs  
CUP - Sewer  
CUP - Steam  
CUP - Storm Drains  
CUP System Expansion and CUP System Replacement  
Data Center Power and Cooling Upgrade/Improvements  
Data Center Power Improvements  
Deferred/Planned Maintenance  
Denning House  
Department Firewalls Refresh Forsythe  
Department Firewalls Refresh Northwest Data Center and Communication Hub  
Departmental Firewall Refresh  
Distributed Digital Control (DDC) Retrofit  
District Work Centers  
Dolores Knob, Tube & Misc Upgrade  
Domestic Hot Water Improvements for Memorial Auditorium  
Domestic Water (DW) Facilities  
Domestic Water Inter-Tie Upgrade  
Domestic Water Supervisory Control and Data Acquisition Improvements (SCADA)  
Domestic Water System Bowdoin Pressure Reducing Valve (PRV) Stations  
Drainage  
Drainage System Upgrades  
Duena Sanitary Sewer Improvements  
Durand Domestic Hot Water (DHW) System Renewal  
Durand Knob, Tube & Misc Scope and Design  
Durand Phase 4 DDC  
East Campus Infrastructure  
East Campus Networking & Communication Redevelopment  
El Camino Swale Rehab  
Electrical Smart Meters  
Electrical Upgrade Backlog - Synergy

Electricity Metering Projects  
Electronic Communications Hub (ECH)/Enterprise Data Center Cable & Conduit  
Elevator Upgrade  
Elevators  
Emergency Generators and Fueling Project  
Emergency Management & Control Systems (EMCS)  
Emergency Operations Center and Electronic Communications Hub Building (EOC and ECH Bldg)  
Energy Retrofit - CCSR  
Energy Retrofit Program  
Energy Retrofit Program - Air Handler  
Energy Retrofit Program - Avery Pool Controller  
Energy Retrofit Program - Medical School Lab Surge Glass Wash Variable Air Volume System  
Energy Retrofit Program - Medical School Office Building Air Handler  
Energy Retrofit Program Heating, Ventilation and Air Conditioning Upgrades at Arrillaga Center for Sports and Recreation  
Energy Retrofit Program-Maples Control System  
Enterprise Data Center Cable & Conduit  
Environmental Health & Safety (EH&S) Tenant/Occupant Improvements  
Environmental Health & Safety Facility Expansion  
Escondido Road Lake Water  
Escondido South Hot Water Line  
Escondido South Interiors Renovation  
Escondido Village Domestic Water Lateral Replacement  
Escondido Village Graduate Residences (EVGR) and Parking Garages  
Escondido Village High-rise Sprinklers Installation  
Escondido Village Low Rise Sewer Infrastructure  
Escondido Village Low-Rise Fire Alarm  
Escondido Village Low-Rise Kitchen & Bath Mockup  
Escondido Village Sewer Infrastructure Upgrades  
Escondido Village Slab Heat Renovation  
Escondido Cottage Roof Replacement  
EVGR Pavilion Emergency Generator  
Exterior Backlog Scope & Design  
Exterior Backlog Stern Windows  
Faculty Staff Area Drainage Improvement  
Felt Lake Water Line Replacement  
Felt Lake Water Line Replacement Phase 2  
Fiber cables  
Fire Alarms  
Fire Sprinkler for Campus Parking Structure V (PV)  
Forsythe Backbone & Firewall Refresh  
Forsythe Power Distribution Units (PDU) Replacement  
Fremont Road Longitudinal Welded Pipe Upgrade  
French Knob, Tube & Misc. Upgrades  
Furniture, Fixtures & Equipment (FF&E)  
Galvez Mall and Law School Lake Water  
Galvez Mall Lake Water Pipe  
Galvez Mall Sanitary Sewer Improvements  
Galvez Street Storm Drain Upgrade  
Gender-Neutral Restroom Conversions Initiatives  
General Use Permit (GUP) Mitigation Projects

Golf Course Lake Water Line Replacement  
Golf to Felt Lake Water Line Replacement  
Governor's Corner Suites Improvements  
Governor's Corner Suites Dining Societies Key Card Access  
Green Earth Sciences Whole Building Energy Retrofit Project (WBERP)  
GSB Bio-Retention Renewal  
Heating, Ventilation, and Air Conditioning (HVAC)  
High Voltage (HV) Infrastructure Upgrade and HV Transmission System Improvements  
High Voltage Cable Replacement  
High Voltage Infrastructure for ChEM-H  
High Voltage Replacements  
High Voltage Supervisory Control and Data Acquisition (SCADA) Upgrades  
Hohbach Hall (Redevelopment of Green East, 1st Floor)  
Home of Champions  
Hot Water Pipe Via Ortega, Via Pueblo  
HV Infrastructure Upgrade  
Information Technology & Communication Systems  
Information Technology System (ITS) Communications Cable  
Information Technology System (ITS) Communications Conduit  
Information Technology System (ITS) Improvements  
Information Technology System (ITS) Networking Systems Cable  
Infrastructure Improvements  
Infrastructure Upgrade  
Infrastructure Upgrade Lagunita  
Interiors Backlog Hammarskjold  
Interiors Backlog Toilet Retrofits Synergy  
ITS Conduit: California Ave Faculty Residences  
ITS Conduit: East Campus  
ITS Conduit: East Campus Plan  
ITS Conduit: Kingscote Renovation  
ITS Conduit: Lagunita New Wings  
ITS Conduit: MH Security  
ITS Copper: 408 Panama  
ITS Copper: East Campus Redevelopment  
ITS Copper: Forsythe/QUAD-VG  
ITS Copper: Frost Amphitheater  
ITS Copper: Kingscote Renovation  
ITS Copper: Manzanita Relocate  
ITS Copper: New Adult Hospital  
ITS Copper: New Bass Biology  
ITS Copper: New ChEM-H Bldg  
ITS Copper: New Childrens Hospital  
ITS Copper: New Denning House  
ITS Copper: New Manzanita Residence Hall  
ITS Copper: New Siebel Golf  
ITS Copper: Parking Structure 10  
ITS Copper: Traitel Conference Ctr.  
ITS Fiber Northwest Data Center and Communications Hub (NDCCH) to Medical ECH  
ITS Fiber Northwest Data Center and Communications Hub (NDCCH) to Puichon  
ITS Fiber: 408 Panama  
ITS Fiber: Arboretum Childcare

ITS Fiber: Beckman to Edwards  
ITS Fiber: Beckman to Loading Dock  
ITS Fiber: Beckman to West ECH  
ITS Fiber: Bonair to Stadium SM  
ITS Fiber: East Campus Redevelopment  
ITS Fiber: East ECH to Press ECH  
ITS Fiber: East ECH to Quad ECH  
ITS Fiber: Frost Amphitheater  
ITS Fiber: Haas 0.1 to Mayfield  
ITS Fiber: Kingscote Renovation  
ITS Fiber: Knoll to 670 Lomita  
ITS Fiber: Lagunita New Wings  
ITS Fiber: Maples to Police Co  
ITS Fiber: Medical ECH Reinforcement  
ITS Fiber: Medical ECH to Beckman  
ITS Fiber: Med ECH to Beckman  
ITS Fiber: Med ECH to Falk Center  
ITS Fiber: NDCCH 1.2 to 1.3  
ITS Fiber: NDCCH to ATT Ring  
ITS Fiber: NDCCH to East ECH  
ITS Fiber: NDCCH to Forsythe DC  
ITS Fiber: NDCCH to MH B12-30  
ITS Fiber: NDCCH to Ped SM  
ITS Fiber: NDCCH to Puichon  
ITS Fiber: NDCCH/Med/West  
ITS Fiber: New Bass Biology  
ITS Fiber: New California Ave Faculty Residences  
ITS Fiber: New ChEM-H Bldg  
ITS Fiber: New Child Care Center  
ITS Fiber: New Childrens Hospital  
ITS Fiber: New Denning House  
ITS Fiber: New Hospital-Med ECH  
ITS Fiber: New Manzanita Residence  
ITS Fiber: New Siebel Golf  
ITS Fiber: New Stanford HealthCare Parking Structure (PS)  
ITS Fiber: Parking Structure 10  
ITS Fiber: Press ECH IDFs  
ITS Fiber: Press ECH Reinforce  
ITS Fiber: PS5 (Oak) Reinforce  
ITS Fiber: Puichon to EH&S  
ITS Fiber: Redwood City Campus  
ITS Fiber: Quad ECH-Aero/Astro  
ITS Fiber: Stadium to Maples  
ITS Fiber: Stern Hall to Wings  
ITS Fiber: Sunken Diamond  
ITS Fiber: Traitel Conference Center  
ITS Fiber: West ECH to East ECH  
ITS Fiber: West ECH to NDCCH  
ITS Fiber: West ECH to Quad ECH  
ITS Fiber: Women's Softball  
Jen-Hsun Huang Engineering Center

Junipero Serra Boulevard Lake Water Lake Lagunita to Campus East  
Junipero Serra Boulevard Lake Water Line Replacement  
Junipero Serra Boulevard Lake Water Replacement Fremont to Lake Lagunita  
Kairos Knob, Tube & Misc Scope and Design  
Kingscote/Denning Hot Water/Chilled Water  
Knob, Tube & Misc. Scope and Design Projects  
Lagunita Court Refurbishment  
Lagunita Dining Sewer Ejection  
Lagunita Stucco Restoration  
Lake Water Filtration  
Lake Water Supervisory Control and Data Acquisition  
Lasuen Escondido Main Quad DW  
Lasuen Lake Water Replacement  
Lasuen Mall Sewer  
Lauren Knob & Tube & misc. upgrade  
Lauren Knob & Tube & Misc. upgrade Scope and Design  
Li Ka Shing Center for Learning & Knowledge  
Li Ka Shing Center Renovation  
Life Safety and Code Compliance - Fire Sprinklers  
Life Safety and Code Compliance and Miscellaneous Upgrades  
Life Safety and Code Compliance Backlog  
Life Safety and Code Compliance Backlog Stern Elevator  
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 Sprinklers - SIGMA ALPHA EPSILON (SAE)  
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  
Loading Docks  
Lokey WBERP Project  
Lorry I Lokey Stem Cell Research Building  
Main Quad DW Replacement  
Manzanita Park Refurbishment  
Mars Knob, Tube & Misc. Scope and Design  
McCullough Energy Efficiency  
Mechanical, Electrical and Plumbing, Sewer & Exterior Infrastructure  
Medical School Office Building (MSOB) Renovation 3rd Floor Wing  
Meters & Backflow Preventer  
Meters and Backflows  
Middle Plaza (formerly 500 El Camino Real Residential Project)  
Midrise Generator Replacements  
Miranda Avenue Domestic Water System Reconfiguration  
Miranda Domestic Water Upgrade  
Munger 4 - Green Room Restroom  
Munger Domestic Hot Water Heat Exchanger Modifications  
Munger Paul Brest Audio/Visual System  
N4 DDC Migrations

Near East & West ECH UPS Refresh  
Network Refresh (MMR) at Livermore, West ECH, East ECH  
Network Taps  
Network-Backbone  
Networking Load Balancer  
Networking Load Balancer Refresh  
Networking Load Balancer System  
Networking Special Projects  
Networking Systems Copper Cable  
Networking Systems Fiber Cable  
New Buildings  
New Dining & Kitchens and Renovations  
New Residences at Lagunita  
New Wells & Rehabilitations  
North-South Axis DW Replacement  
North-South Axis to Roth DW Replacement  
Northwest Data Center and Communications Hub  
On Campus Photovoltaics  
Panama Mall Lake Water (LW) Replacement  
Panama Street Utility Relocation  
Physics-Astro HVAC Upgrades  
Pine Hall Electronic Communications Hub Uninterruptable Power Supply Refresh  
Pump Stations  
Quad 1 Exterior LED Lights  
Quad 14 Exterior LED Lights  
Quad 2 Exterior LED Lights  
Quad 3 Exterior LED Lights  
Quad 6 & 7 Exterior LED Lights  
Quad 8 Exterior LED lights  
Quarry Road HV Service Upgrade  
Rains Houses Renovation  
Recreation Sport Court Center  
Recycled Water System  
Refrigerant Leak Alarm System  
Renovation/Construction/Relocation of administrative Office Space (R&DE)  
Renovations and Seismic Projects  
Replacement Boiler Plant  
Replacement Central Energy Facility Site Camera and Card Reader Addition  
Reservoir 2 Pump Station Replacement  
Research Animal Facility 1 and Research Animal Facility 2 (RAF) Rehabilitation & Retrofit  
Research Park Dry Lab Space TI  
Resident Fellow Apartment Renovations  
Residential & Dining Enterprise (R&DE) Capitalized Operational Improvements  
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 & Dining Enterprises (R&DE) Deferred Maintenance Backlog  
Residential Computing Wireless  
Roads  
Roof Replacement  
Roofs and Maintenance Equipment Backlog Construction SAE

Roofs and Maintenance Equipment Backlog Scope & Design  
Row Kitchen Renovations  
Salvatierra St Domestic Water Replacement  
San Juan Hill Drainage Improvements  
San Juan Hill Sewer Replacement  
San Juan Reservoir Rehabilitation  
Sanitary Sewer Instrumentation  
Sanitary Sewer Lift Station Replacement  
Sanitary Sewer Rehabilitation  
Sapp Center for Science Teaching and Learning (formerly Science Teaching and Learning)  
Scientific Research Computing Facility - Backbone and Firewall Refresh  
Scientific Research Computing Facility "Uplift" Racks Refresh  
SCRL Street Light LED Retrofit  
Serra Mall DW Replacement  
Service Center Equipment  
Sewer and Domestic Water Line Replacement  
Sherlock Cluster Uplift  
Shriram Center for Bioengineering and Chemical Engineering  
Site Improvements  
Slab Heating Replacement  
Software Systems  
Special Fast Track Cable  
Spilker DDC Controls Upgrade  
Stanford Ave Storm Drain Replacement  
Stanford ChEM-H and the Wu Tsai (formerly Stanford ChEM-H and the Stanford Neurosciences Institute (SNI))  
Stanford in Redwood City  
Stanford in Redwood City Occupant/Interior Improvements  
Stanford Infrastructure Program (SIP)  
Steam Metering  
Stern Complex Basement Piping  
Stern Hall Window Replacement  
Storey DHW System Renewal  
Storm Drain Improvements  
Storm Drainage  
Student Computing Infrastructure - Farmshare  
Supervisory Control and Data Acquisition (SCADA) System Upgrade  
Sweet Hall/Galvez Lake Water Upgrade  
Terman Engineering Laboratory WBERP Project  
Trails  
Undergraduate Housing and Dining  
Underground Utilities Infrastructure Improvements  
Uninterruptable Power Supply (UPS)  
University Terrace (previously named California Avenue Homes)  
UPS Refresh at Forsythe, Livermore, NDCCH, Press  
UPS Refresh at Quad & Puichon  
Utility Metering, Billing, Reporting and Sustainability Systems Integration  
Utility Upgrades Site & Safety Improvements  
Wallenberg Hall DDC Retrofit  
Waste Collection System  
Water Conservation & Recycling Plan Implementation

Water Conservation Program  
Water Mains  
Water Wells Rehabilitation  
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  
Whole Building Energy Retrofit Program Keck 1st Floor  
Wilbur Dining Doors & Hardware  
Wilbur Roof Backlog & Asset Renewal  
Wireless Infrastructure  
Wiremold Replacement  
Yang & Yamazaki Environment and Energy Building  
Zone 2 DW Main Replacement

## **ATTACHMENT 2**

### **Financing Team**

Stanford University

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: KNN Public Finance LLC

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

**FIFTH 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**

February 28, 2019

**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, on April 24, 2014, and on May 26, 2016 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:

**Section 1** The Commercial Paper Resolution, as amended by the Amendments to the Resolution, are hereby supplemented and amended as follows: 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.

**Section 2** 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.

**Section 3** The provisions of the Authority's Resolution No. 2018-01 apply to the documents and actions approved in the Commercial Paper Resolution, as amended by the Amendments to the Resolution.

**Section 4** 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 CENIC  
408 Panama Mall Office Building  
565 Cowell-Electrical Service  
1651 Page Mill Human Immune Monitoring Center (HIMC) Project  
1651 Page Mill Post Proj Scope  
1651 Page Mill Renovation  
1701 Page Mill Road Tenant Improvements  
2017 Campus Drainage Improvements  
2370 Watson Court Tenant Improvements  
3145 Porter Drive Tenant Improvements  
3172 Porter Drive Tenant Improvements  
Academic Equipment  
Access Ramps  
Accessible Parking  
Accessible Pathways  
Accessible Restrooms  
Administrative Systems Infrastructure  
All-Gender Restroom Conversion  
All-Gender Restroom Conversion Lake House  
Alumni Center Distributed Digital Control Upgrade  
Americans with Disabilities Act compliance at various buildings (ADA)  
Anne T. and Robert M. Bass Biology Research Building and Connective Elements  
Arguello Way Storm Drain Upgrade  
Arrillaga Family Dining Commons Robotic Autobagger  
Arrillaga Family Sports Center Backfill  
Arrillaga Hall (formerly Cardinal Hall)  
Auxiliary Equipment  
Backbone & Firewall Refresh @ Porter Drive & SCRF  
Backup/Storage Improvements  
Barriers Removal  
Bicycle and Pedestrian Paths & Lighting  
BioChem Quad Utilities  
Biomedical Innovation Building  
Boiler Feed Water Piping Systems  
Building Access Door Refresh  
Building Energy Retrofit Program  
Building Expansions  
Building Renovations  
Cabrillo-Dolores Faculty Homes  
Campus Central Management & Control System Upgrade  
Campus Drainage Improvements  
Campus Drive at Galvez Domestic Water  
Campus Drive East Domestic Water Replacement  
Campus Drive East Lake Water Line Replacement  
Campus Drive West Domestic Water Replacement

Campus Energy Management Control System (EMCS) Upgrade  
Campus Transit Improvements  
Capital Utilities Program (CUP)  
Casper Domestic Hot Water System Renewal  
Casper-Kimball Resident Fellow Apartment Renovation  
Center for Academic Medicine (formerly Clinical Excellence Center)  
Central Energy Facility Eyewash Showers  
Central Energy Facility Low Temperature Hot Water System Improvements  
Central Loading Dock and Stauffer III Demolition  
Chilled Water Extensions  
Chilled Water Heat Exchangers  
Chilled Water Metering  
Clark Center Whole Building Energy Retrofit Program  
Client/Server Hardware  
Communications & Networking Systems  
Communications Services Conduits  
Copper Cable  
CUP - All Other  
CUP - Chilled Water  
CUP - Creek/Pump Stations  
CUP - Department Firewalls  
CUP - Domestic Water  
CUP - Fish Ladders  
CUP - Hot Water  
CUP - Information Technology (IT) & Communication Systems (CS)  
CUP - Lake Water  
CUP - Other  
CUP - Reservoirs  
CUP - Sewer  
CUP - Steam  
CUP - Storm Drains  
CUP System Expansion and CUP System Replacement  
Data Center Power and Cooling Upgrade/Improvements  
Data Center Power Improvements  
Deferred/Planned Maintenance  
Denning House  
Department Firewalls Refresh Forsythe  
Department Firewalls Refresh Northwest Data Center and Communication Hub  
Departmental Firewall Refresh  
Distributed Digital Control (DDC) Retrofit  
District Work Centers  
Dolores Knob, Tube & Misc Upgrade  
Domestic Hot Water Improvements for Memorial Auditorium  
Domestic Water (DW) Facilities  
Domestic Water Inter-Tie Upgrade  
Domestic Water Supervisory Control and Data Acquisition Improvements (SCADA)  
Domestic Water System Bowdoin Pressure Reducing Valve (PRV) Stations  
Drainage  
Drainage System Upgrades  
Duena Sanitary Sewer Improvements  
Durand Domestic Hot Water (DHW) System Renewal  
Durand Knob, Tube & Misc Scope and Design

Durand Phase 4 DDC  
East Campus Infrastructure  
East Campus Networking & Communication Redevelopment  
El Camino Swale Rehab  
Electrical Smart Meters  
Electrical Upgrade Backlog - Synergy  
Electricity Metering Projects  
Electronic Communications Hub (ECH)/Enterprise Data Center Cable & Conduit  
Elevator Upgrade  
Elevators  
Emergency Generators and Fueling Project  
Emergency Management & Control Systems (EMCS)  
Emergency Operations Center and Electronic Communications Hub Building (EOC and ECH Bldg)  
Energy Retrofit - CCSR  
Energy Retrofit Program  
Energy Retrofit Program - Air Handler  
Energy Retrofit Program - Avery Pool Controller  
Energy Retrofit Program - Medical School Lab Surge Glass Wash Variable Air Volume System  
Energy Retrofit Program - Medical School Office Building Air Handler  
Energy Retrofit Program Heating, Ventilation and Air Conditioning Upgrades at Arrillaga Center for Sports and Recreation  
Energy Retrofit Program-Maples Control System  
Enterprise Data Center Cable & Conduit  
Environmental Health & Safety (EH&S) Tenant/Occupant Improvements  
Environmental Health & Safety Facility Expansion  
Escondido Road Lake Water  
Escondido South Hot Water Line  
Escondido South Interiors Renovation  
Escondido Village Domestic Water Lateral Replacement  
Escondido Village Graduate Residences (EVGR) and Parking Garages  
Escondido Village High-rise Sprinklers Installation  
Escondido Village Low Rise Sewer Infrastructure  
Escondido Village Low-Rise Fire Alarm  
Escondido Village Low-Rise Kitchen & Bath Mockup  
Escondido Village Sewer Infrastructure Upgrades  
Escondido Village Slab Heat Renovation  
Escondido Cottage Roof Replacement  
EVGR Pavilion Emergency Generator  
Exterior Backlog Scope & Design  
Exterior Backlog Stern Windows  
Faculty Staff Area Drainage Improvement  
Felt Lake Water Line Replacement  
Felt Lake Water Line Replacement Phase 2  
Fiber cables  
Fire Alarms  
Fire Sprinkler for Campus Parking Structure V (PV)  
Forsythe Backbone & Firewall Refresh  
Forsythe Power Distribution Units (PDU) Replacement  
Fremont Road Longitudinal Welded Pipe Upgrade  
French Knob, Tube & Misc. Upgrades  
Furniture, Fixtures & Equipment (FF&E)

Galvez Mall and Law School Lake Water  
Galvez Mall Lake Water Pipe  
Galvez Mall Sanitary Sewer Improvements  
Galvez Street Storm Drain Upgrade  
Gender-Neutral Restroom Conversions Initiatives  
General Use Permit (GUP) Mitigation Projects  
Golf Course Lake Water Line Replacement  
Golf to Felt Lake Water Line Replacement  
Governor's Corner Suites Improvements  
Governor's Corner Suites Dining Societies Key Card Access  
Green Earth Sciences Whole Building Energy Retrofit Project (WBERP)  
GSB Bio-Retention Renewal  
Heating, Ventilation, and Air Conditioning (HVAC)  
High Voltage (HV) Infrastructure Upgrade and HV Transmission System Improvements  
High Voltage Cable Replacement  
High Voltage Infrastructure for ChEM-H  
High Voltage Replacements  
High Voltage Supervisory Control and Data Acquisition (SCADA) Upgrades  
Hohbach Hall (Redevelopment of Green East, 1st Floor)  
Home of Champions  
Hot Water Pipe Via Ortega, Via Pueblo  
HV Infrastructure Upgrade  
Information Technology & Communication Systems  
Information Technology System (ITS) Communications Cable  
Information Technology System (ITS) Communications Conduit  
Information Technology System (ITS) Improvements  
Information Technology System (ITS) Networking Systems Cable  
Infrastructure Improvements  
Infrastructure Upgrade  
Infrastructure Upgrade Lagunita  
Interiors Backlog Hammarskjold  
Interiors Backlog Toilet Retrofits Synergy  
ITS Conduit: California Ave Faculty Residences  
ITS Conduit: East Campus  
ITS Conduit: East Campus Plan  
ITS Conduit: Kingscote Renovation  
ITS Conduit: Lagunita New Wings  
ITS Conduit: MH Security  
ITS Copper: 408 Panama  
ITS Copper: East Campus Redevelopment  
ITS Copper: Forsythe/QUAD-VG  
ITS Copper: Frost Amphitheater  
ITS Copper: Kingscote Renovation  
ITS Copper: Manzanita Relocate  
ITS Copper: New Adult Hospital  
ITS Copper: New Bass Biology  
ITS Copper: New ChEM-H Bldg  
ITS Copper: New Childrens Hospital  
ITS Copper: New Denning House  
ITS Copper: New Manzanita Residence Hall  
ITS Copper: New Siebel Golf

ITS Copper: Parking Structure 10  
ITS Copper: Traitel Conference Ctr.  
ITS Fiber Northwest Data Center and Communications Hub (NDCCH) to Medical ECH  
ITS Fiber Northwest Data Center and Communications Hub (NDCCH) to Puichon  
ITS Fiber: 408 Panama  
ITS Fiber: Arboretum Childcare  
ITS Fiber: Beckman to Edwards  
ITS Fiber: Beckman to Loading Dock  
ITS Fiber: Beckman to West ECH  
ITS Fiber: Bonair to Stadium SM  
ITS Fiber: East Campus Redevelopment  
ITS Fiber: East ECH to Press ECH  
ITS Fiber: East ECH to Quad ECH  
ITS Fiber: Frost Amphitheater  
ITS Fiber: Haas 0.1 to Mayfield  
ITS Fiber: Kingscote Renovation  
ITS Fiber: Knoll to 670 Lomita  
ITS Fiber: Lagunita New Wings  
ITS Fiber: Maples to Police Co  
ITS Fiber: Medical ECH Reinforcement  
ITS Fiber: Medical ECH to Beckman  
ITS Fiber: Med ECH to Beckman  
ITS Fiber: Med ECH to Falk Center  
ITS Fiber: NDCCH 1.2 to 1.3  
ITS Fiber: NDCCH to ATT Ring  
ITS Fiber: NDCCH to East ECH  
ITS Fiber: NDCCH to Forsythe DC  
ITS Fiber: NDCCH to MH B12-30  
ITS Fiber: NDCCH to Ped SM  
ITS Fiber: NDCCH to Puichon  
ITS Fiber: NDCCH/Med/West  
ITS Fiber: New Bass Biology  
ITS Fiber: New California Ave Faculty Residences  
ITS Fiber: New ChEM-H Bldg  
ITS Fiber: New Child Care Center  
ITS Fiber: New Childrens Hospital  
ITS Fiber: New Denning House  
ITS Fiber: New Hospital-Med ECH  
ITS Fiber: New Manzanita Residence  
ITS Fiber: New Siebel Golf  
ITS Fiber: New Stanford HealthCare Parking Structure (PS)  
ITS Fiber: Parking Structure 10  
ITS Fiber: Press ECH IDFs  
ITS Fiber: Press ECH Reinforce  
ITS Fiber: PS5 (Oak) Reinforce  
ITS Fiber: Puichon to EH&S  
ITS Fiber: Redwood City Campus  
ITS Fiber: Quad ECH-Aero/Astro  
ITS Fiber: Stadium to Maples  
ITS Fiber: Stern Hall to Wings  
ITS Fiber: Sunken Diamond

ITS Fiber: Traitel Conference Center  
ITS Fiber: West ECH to East ECH  
ITS Fiber: West ECH to NDCCH  
ITS Fiber: West ECH to Quad ECH  
ITS Fiber: Women's Softball  
Jen-Hsun Huang Engineering Center  
Junipero Serra Boulevard Lake Water Lake Lagunita to Campus East  
Junipero Serra Boulevard Lake Water Line Replacement  
Junipero Serra Boulevard Lake Water Replacement Fremont to Lake Lagunita  
Kairos Knob, Tube & Misc Scope and Design  
Kingscote/Denning Hot Water/Chilled Water  
Knob, Tube & Misc. Scope and Design Projects  
Lagunita Court Refurbishment  
Lagunita Dining Sewer Ejection  
Lagunita Stucco Restoration  
Lake Water Filtration  
Lake Water Supervisory Control and Data Acquisition  
Lasuen Escondido Main Quad DW  
Lasuen Lake Water Replacement  
Lasuen Mall Sewer  
Lauren Knob & Tube & misc. upgrade  
Lauren Knob & Tube & Misc. upgrade Scope and Design  
Li Ka Shing Center for Learning & Knowledge  
Li Ka Shing Center Renovation  
Life Safety and Code Compliance - Fire Sprinklers  
Life Safety and Code Compliance and Miscellaneous Upgrades  
Life Safety and Code Compliance Backlog  
Life Safety and Code Compliance Backlog Stern Elevator  
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 Sprinklers - SIGMA ALPHA EPSILON (SAE)  
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  
Loading Docks  
Lokey WBERP Project  
Lorry I Lokey Stem Cell Research Building  
Main Quad DW Replacement  
Manzanita Park Refurbishment  
Mars Knob, Tube & Misc. Scope and Design  
McCullough Energy Efficiency  
Mechanical, Electrical and Plumbing, Sewer & Exterior Infrastructure  
Medical School Office Building (MSOB) Renovation 3rd Floor Wing  
Meters & Backflow Preventer  
Meters and Backflows  
Middle Plaza (formerly 500 El Camino Real Residential Project)  
Midrise Generator Replacements

Miranda Avenue Domestic Water System Reconfiguration  
Miranda Domestic Water Upgrade  
Munger 4 - Green Room Restroom  
Munger Domestic Hot Water Heat Exchanger Modifications  
Munger Paul Brest Audio/Visual System  
N4 DDC Migrations  
Near East & West ECH UPS Refresh  
Network Refresh (MMR) at Livermore, West ECH, East ECH  
Network Taps  
Network-Backbone  
Networking Load Balancer  
Networking Load Balancer Refresh  
Networking Load Balancer System  
Networking Special Projects  
Networking Systems Copper Cable  
Networking Systems Fiber Cable  
New Buildings  
New Dining & Kitchens and Renovations  
New Residences at Lagunita  
New Wells & Rehabilitations  
North-South Axis DW Replacement  
North-South Axis to Roth DW Replacement  
Northwest Data Center and Communications Hub  
On Campus Photovoltaics  
Panama Mall Lake Water (LW) Replacement  
Panama Street Utility Relocation  
Physics-Astro HVAC Upgrades  
Pine Hall Electronic Communications Hub Uninterruptable Power Supply Refresh  
Pump Stations  
Quad 1 Exterior LED Lights  
Quad 14 Exterior LED Lights  
Quad 2 Exterior LED Lights  
Quad 3 Exterior LED Lights  
Quad 6 & 7 Exterior LED Lights  
Quad 8 Exterior LED lights  
Quarry Road HV Service Upgrade  
Rains Houses Renovation  
Recreation Sport Court Center  
Recycled Water System  
Refrigerant Leak Alarm System  
Renovation/Construction/Relocation of administrative Office Space (R&DE)  
Renovations and Seismic Projects  
Replacement Boiler Plant  
Replacement Central Energy Facility Site Camera and Card Reader Addition  
Reservoir 2 Pump Station Replacement  
Research Animal Facility 1 and Research Animal Facility 2 (RAF) Rehabilitation & Retrofit  
Research Park Dry Lab Space TI  
Resident Fellow Apartment Renovations  
Residential & Dining Enterprise (R&DE) Capitalized Operational Improvements  
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 & Dining Enterprises (R&DE) Deferred Maintenance Backlog  
Residential Computing Wireless  
Roads  
Roof Replacement  
Roofs and Maintenance Equipment Backlog Construction SAE  
Roofs and Maintenance Equipment Backlog Scope & Design  
Row Kitchen Renovations  
Salvatierra St Domestic Water Replacement  
San Juan Hill Drainage Improvements  
San Juan Hill Sewer Replacement  
San Juan Reservoir Rehabilitation  
Sanitary Sewer Instrumentation  
Sanitary Sewer Lift Station Replacement  
Sanitary Sewer Rehabilitation  
Sapp Center for Science Teaching and Learning (formerly Science Teaching and Learning)  
Scientific Research Computing Facility - Backbone and Firewall Refresh  
Scientific Research Computing Facility "Uplift" Racks Refresh  
SCRL Street Light LED Retrofit  
Serra Mall DW Replacement  
Service Center Equipment  
Sewer and Domestic Water Line Replacement  
Sherlock Cluster Uplift  
Shriram Center for Bioengineering and Chemical Engineering  
Site Improvements  
Slab Heating Replacement  
Software Systems  
Special Fast Track Cable  
Spilker DDC Controls Upgrade  
Stanford Ave Storm Drain Replacement  
Stanford ChEM-H and the Wu Tsai (formerly Stanford ChEM-H and the Stanford Neurosciences Institute (SNI))  
Stanford in Redwood City  
Stanford in Redwood City Occupant/Interior Improvements  
Stanford Infrastructure Program (SIP)  
Steam Metering  
Stern Complex Basement Piping  
Stern Hall Window Replacement  
Storey DHW System Renewal  
Storm Drain Improvements  
Storm Drainage  
Student Computing Infrastructure - Farmshare  
Supervisory Control and Data Acquisition (SCADA) System Upgrade  
Sweet Hall/Galvez Lake Water Upgrade  
Terman Engineering Laboratory WBERP Project  
Trails  
Undergraduate Housing and Dining  
Underground Utilities Infrastructure Improvements  
Uninterruptable Power Supply (UPS)  
University Terrace (previously named California Avenue Homes)

UPS Refresh at Forsythe, Livermore, NDCCH, Press  
UPS Refresh at Quad & Puichon  
Utility Metering, Billing, Reporting and Sustainability Systems Integration  
Utility Upgrades Site & Safety Improvements  
Wallenberg Hall DDC Retrofit  
Waste Collection System  
Water Conservation & Recycling Plan Implementation  
Water Conservation Program  
Water Mains  
Water Wells Rehabilitation  
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  
Whole Building Energy Retrofit Program Keck 1st Floor  
Wilbur Dining Doors & Hardware  
Wilbur Roof Backlog & Asset Renewal  
Wireless Infrastructure  
Wiremold Replacement  
Yang & Yamazaki Environment and Energy Building  
Zone 2 DW Main Replacement