



**REQUEST FOR QUOTE
COMMISSIONING AGENT SERVICES**

**NEW ACADEMIC SUPPORT &
FACULTY OFFICES
AT LAS POSITAS COLLEGE**

New Academic Support & Office Building (B2100)

July 2, 2019

COVER LETTER

July 2, 2019
Ann Kroll
Las Positas College
3000 Campus Hill Drive
Livermore, California

RE: New Academic Support & Office Building (B2100)

Dear Ann,

We know that the Las Positas's New Academic Support & Office Building is going to change the campus. It will be a place of growth and inspiration, the home base of the university. As a university that prides themselves on best value, small class sizes, and state-of-the-art buildings, we understand that quality is a priority. As public private partners on MSU Denver's campus, we believe in the power of education and quality buildings to allow students to thrive to their potential.

As commissioning engineers our focus is to set the university up for success with a custom plan on how to best approach your building. We are delighted for the opportunity to continue working with Las Positas College by providing commissioning services in accordance with the LEED v4 Fundamental and Enhanced Commissioning requirements by proposing on the New Academic Support & Office Building. We are additionally presenting pricing options for LEED Enhanced Credits Monitoring Based and Building Envelope commissioning.

Ambient Energy has reviewed the District's standard Professional Service Agreement in attachment C of the RFQ and accepts all terms and conditions.

We will be staffing this project from our San Francisco office located at 580 California Street. Hector Encarnacion will serve as the Project Manager and Commissioning Agent. Hector will be supported by Scott Wayland as a Commissioning Engineer. Hector lives in Antioch and Scott lives in Danville, both look forward to working on a project that is relatively close to home. Ambient Energy has commissioned over 10 higher education projects totaling 1.1 million square feet. Higher education represents 20% of our project portfolio. Relevant projects for commissioning classroom and academic support spaces include:

- UCD North Classroom (lab and classroom renovation) with Saunders
- Front Range Community College Health Care Careers Center (classroom, lab and office) with Haselden
- School of Mines Welcome Center(student center)
- UCCS Lane Center for Academic Health Sciences (lab and classroom)
- California College of the Arts (making space and classroom)

Upon notice to proceed and signed proposal, Ambient Energy will begin the commissioning service. Thank you for the opportunity to efforts to improve the overall performance of the New Academic Support and Office Building project.

Best Regards,



Clayton Bartczak, Project Manager (of sustainability services)
Steven Anticknap, Commissioning Team Leader

DESIRED KNOWLEDGE AND RELEVANT EXPERIENCE

Demonstrated success on past projects of similar scope and complexity

Ambient Energy has provided project cutsheets for 4 previous projects in the following section to demonstrate our success on past projects of similar scope and complexity. Our project cutsheets also provide greater detail on the building components, references, project team, and services provided.

Ambient Energy is a member of the Building Commissioning Association (BCA). Greg Evans, Senior Commissioning Engineer, is Treasurer for the Southwest Chapter of the BCA. In addition, we are active members of the Association of Physical Plant Administrators (APPA) and the US Green Building Council (USGBC).

Additional firm credentials include:

- 15 year history as a company
- 4 Professional Engineers
- 11 LEED Accredited Professionals
- 4 Certified Energy Managers
- 2 Certified Commissioning Professionals
- 1 Commissioning Agent Building Envelope
- 1 Building Envelope Commissioning Professional

LEED Project Experience

Ambient Energy as a company started with its roots in sustainability and the LEED process. It is strongly rooted in our culture. We see all our projects through a lens of sustainability and energy efficiency. Ambient Energy has worked on 180+ LEED projects and has commissioned 41 LEED projects, several with net zero and innovation strategies. The Ambient Energy team presented in this proposal has 2 LEED Accredited Professionals assigned to this project team.

Ambient Energy satisfies the requirements to serve as Commissioning Authority for LEED Fundamental and Enhanced Commissioning. We offer all LEEDv4 Fundamental and Enhanced Commissioning services and perform monitoring-based commissioning and building enclosure commissioning internally.

Monitoring-Based Commissioning Experience

Ambient Energy has performed monitoring-based commissioning on almost all of our projects over the past four years which is approximately 15 projects.

Monitoring-Based commissioning combines Ambient Energy's staff expertise in building systems, equipment controls, and operations with continuous automated data analytics linked to the building automation system. Your staff receives actionable information presented in an easy to understand "problem + solution" format with details about specific equipment issues and potential corrective action. We work with you to help prioritize and schedule work orders. MBCx can be an effective tool to manage controls contractors and other team members for peak performance. Long-term success for Las Positas College should thoughtfully consider incorporating continuing fault-detection diagnostics and monitoring-based commissioning after turn-over to keep a close eye on the system's first-year performance for fine-tuning as it is being operated. SkySpark is the tool that we use for Monitoring-Based Commissioning which provides the following benefits:

- Save as much as 10% on bills
- 100% sampling of systems during testing

- Improved mechanical, electrical and plumbing performance
- Resolves issues early to reduce occupant generated work orders and energy spikes
- Continued persistence of energy over time

We utilize monitoring-based commissioning as a tool for early feedback prior to functional testing for a higher level of quality control and post-construction for long term performance.

Building Envelope Commissioning Experience

Ambient Energy has demonstrated experience for building envelope commissioning for a diverse group of projects including:

- University of Colorado Denver Wellness Center
- Google Pearl Place Phase 1 and Phase 2
- Aspen Police Department and City Hall
- 3850 York Street
- Front Range Community College Health Care Career Center
- Adams 12 Thunder Vista P-8

Ambient Energy self-performed the BECx for 3850 York Street, Front Range Community College Health Care Career Center, and Adams 12 Thunder Vista P-8, and managed subcontractors for the other projects.

Integrated System Testing

Integrated Systems Testing (IST) is a terminal test typically performed prior to turnover to confirm that myriad disparate building systems interact and perform as specified. IST has many purposes including but not limited to verifying standby power operation of building systems, confirmation of integration and operation of fire / life-safety systems, and validation of mission critical system redundancies.

Typical commissioning tests validate the actual function and performance of equipment and sub-systems whereas Resiliency Testing validates the integration and interoperability of building systems. To be clear, Resiliency Testing isn't just turning off utility power to see if the generator starts. There are modes and transitions to monitor along with the operation of building systems.



Image credit: Studio Gang Architects



California College of the Arts, 1111 8th Street, San Francisco, CA

PROJECT TEAM

Client:

Elevent Project Management, LLC

Owner:

California College of the Arts

Architect:

Studio Gang Architects

Contractor:

TBD

DESCRIPTION

California College of the Arts is bringing together two campuses to create a unified, innovative and vibrant institution in San Francisco. The existing 1111 8th Street academic building will be combined with a new 90,000 square foot studio dedicated primarily to heavy making spaces along with studios and classrooms.

This project is pursuing a LEED Gold certification. Ambient Energy is providing Fundamental and Enhanced Commissioning Services to support LEED and Title 24.

This project has high sustainability objectives. Ambient Energy is helping the College realize their goals of being carbon neutral, conserve and reuse water and energy and support health air quality by coordinating and verifying performance of the California Title 24 and LEED requirements in the Mechanical, Plumbing, and Electrical design. The project is currently evaluating energy microgrids and wastewater reuse.

REFERENCE

Kacie Renc
Owner's Representative
Elevent Project Management, LLC
krenc@eleventpm.com
(415) 310-4910
1111 8th Street
San Francisco, CA

DETAILS

Services Provided: LEED Fundamental, Enhanced and Title 24 Commissioning

Service Period: October 2018 to April 2021

Project Size: 90,000 sf

Construction Budget: TBD

Certification: LEED v4 Gold

Construction Type: Design Bid Build

Construction Schedule: TBD

Change Order Percentage: N/A

Particular Considerations and/or Challenges Addressed: High sustainability objectives including a potential photovoltaic system with battery back-up to create an 'island affect' on the campus to run on 100% renewable energy as desired.



Image Credit: Hord Coplan Macht



Front Range Community College Health Care Careers Center Fort Collins, CO

PROJECT TEAM

Client:

Front Range Community College

Owner:

Front Range Community College

Architect:

Hord Coplan Macht

Contractor:

Haselden Construction

DESCRIPTION

Two-story 61,000 square foot classroom building located on the northwest corner of the Front Range Community College Larimer Campus in Fort Collins CO. This building will offer vocational training for careers in the nursing, EMS, dental and integrative health fields. This building will utilize a high efficiency variable volume air distribution system with hot water reheat.

Ambient Energy is serving as the Commissioning Authority of this project in its pursuit of a LEEDv4 Gold certification. Ambient Energy is providing the credit requirements for all points associated with fundamental and enhanced commissioning including monitoring based and building envelope commissioning.

Ambient Energy is also providing a 100% sample rate of all HVAC equipment by implementation remote, automated testing. Ambient Energy is also providing a quantitative analysis of BAS PID loop tuning in order to determine the efficiency of response times and equipment control.

REFERENCE

Stephen Graziano, Managing Architect
Front Range Community College
Stephen.graziano@frontrange.edu
(303) 404-5161
4616 S Shields St.
Fort Collins, CO 80526

DETAILS

Services Provided: Fundamental Commissioning, Enhanced Commissioning, Monitoring Based Commissioning, Building Envelope Commissioning, Automated Testing

Service Period: December 2018 to June 2021

Project Size: 61,000 sf

Construction Budget: \$25 Million

Certification: LEEDv4 Gold

Construction Type: Design Build

Project and Construction Cost: \$25 Million

Construction Schedule: April 2019 to June 2020

Change Order Percentage: N/A

Particular Considerations And/Or Challenges Addressed: The Front Range Community College – Health Care Careers Center utilized multiple space types including skills labs, offices, classrooms, training rooms and commercial kitchens.



Image Credit: Steven Wancewicz



University of Colorado, Denver North Classroom Denver, CO

PROJECT TEAM

Client:

University of Colorado, Denver

Owner:

University of Colorado, Denver

Architect:

Stantec

Contractor:

Saunders Construction

DESCRIPTION

This significant renovation updates the North Classroom Building on the Auraria Campus which originally opened in 1987. The 200,000 sf building houses Geography and Environmental Sciences, Physics, and Psychology Departments. The classrooms, physics laboratories, offices and atrium are reconfigured with new HVAC, lighting, daylighting, and technology systems, ADA accommodations and aesthetic improvements. Commissioned systems include seven updated existing air handling units, three new air handling units, new chiller plant and new hot water plant.

The five phases of the renovation were conducted while the building was occupied, making coordination with contractor, test and balance, and functional testing imperative during the commissioning process.

Ambient Energy performed testing while at night while the building was not occupied and used Fault Detection Diagnostics to enable automated testing to minimize disruption and condense the schedule. The sampling rate for equipment testing was close to 100% allowing issues to be quickly identified and addressed. During the warranty period, Ambient Energy continues to provide monitoring-based commissioning services.

REFERENCE

Kim Griffin
Project Manager
University of Colorado, Denver
kimberly.griffin@ucdenver.edu (303)
724-0755
1200 Larimer St.
Denver CO 80204

DETAILS

Services Provided: Fundamental and Enhanced Commissioning, Monitoring-Based Commissioning (MBCx)

Service Period: 2016 to 2019 with on-going MBCx

Project Size: 200,000 sf

Construction Budget: \$33 million

Construction Type: Design Bid Build

Project and Construction Cost: April 2017 to November 2018

Change Order Percentage: N/A

Particular Considerations And/Or Challenges Addressed: UCD North Classroom was a phased project of a continuously occupied building.



Image Credit: AHEC



AHEC Auraria Library Renovation Denver, CO

PROJECT TEAM

Client:
Auraria Higher Education Center

Owner:
Auraria Higher Education Center

Architect:
Studiotrope Design Collective

Contractor:
Saunders Construction

DESCRIPTION

Originally constructed in 1976, the library on the Auraria Higher Education Campus (AHEC) serves as a central location for students and staff to meet and collaborate. The major renovation refreshes exterior and interior and upgrades the HVAC systems and lighting and controls for increased comfort and energy efficiency. HVAC upgrades include a new heating plant, air distribution systems, building automation system to control the building systems and increase energy efficiency, new energy efficient lighting and lighting controls. The rare book collection received a humidification system and a vapor barrier for isolation. The renovation occurred while the building was occupied.

Ambient Energy supported the phased construction and worked around the occupied schedule to minimize occupant disruption during commissioning. Significant water savings were achieved through monitoring-based commissioning by identifying and correcting draining of evaporative cooling multiple times a day. Other issues were corrected that help to support occupant comfort and equipment longevity.

REFERENCE

Clayton Neiman, Project Manager
Saunders Construction
c.neiman@saundersinc.com
(720) 383-0085

Mike Turman, Director, Operational
Assessment & Project Management
Auraria Higher Education Center
Mike.Turman@AHEC.edu
(303) 556-2394
1068 9th Street Park
Denver, CO 80204

DETAILS

Services Provided: Sustainability Consulting, Fundamental and Enhanced Commissioning, Monitoring-Based Commissioning (MBCx)

Service Period: 2013 to 2018 with ongoing MBCx

Project Size: 185,000 sf

Construction Budget: \$20,000,000

Certification: LEED Gold

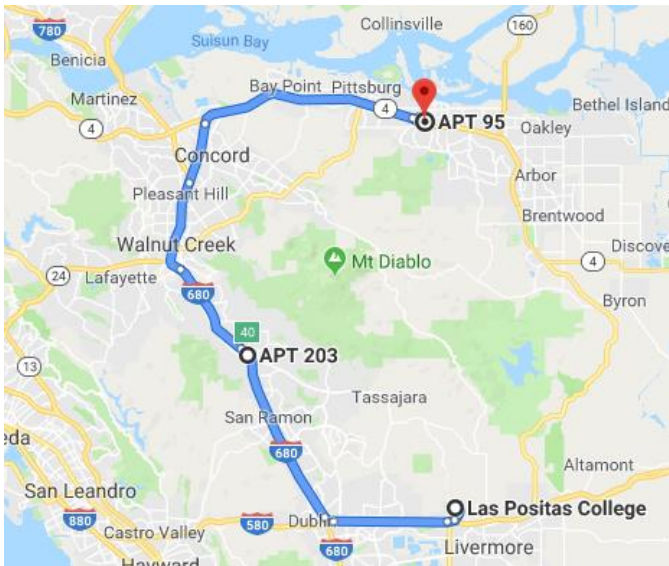
Construction Type: Design Bid Build

Construction Schedule: 2015 to 2017

Change Order Percentage: N/A

Particular Considerations And/Or Challenges Addressed: The AHEC Library Renovation was a multiple phase project of a continuously occupied building.

PROJECT TEAM



PROJECT PRINCIPAL
Steven Anticknap
 PE, CCP, CEM, LEED AP



PROJECT MANAGER
Hector Encarnacion



COMMISSIONING ENGINEER
Jeffrey McEntee
 CCP, CEM, BECxP, CxA+BE



COMMISSIONING ENGINEER
Scott Wayland
 PE, LEED AP

Travel requirements for the Ambient Energy team will be minimal. Ambient Energy will staff this project from our headquarters in San Francisco, California office located at 580 California Street. This office location is 41 miles from the project site.

However, Hector lives in Antioch, 34 miles from the project. Scott lives in Danville, 26 miles from the project. Either Hector or Scott could be available on site with short notice to resolve design and construction issues.



Steven Anticknap, PE, CCP, CEM, LEED AP

Commissioning Team Leader

As Commissioning Team Leader, Steven Anticknap is responsible for making sure that Hector Encarnacion has the resources and time required to fully support the projects. Steven continuously guides the team to do what is needed to make a project successful. Steven coaches the commissioning team to be responsive and actively involved in projects. He will apply his experience with design build projects to provide guidance early in the project on what needs attention and what to look out for during construction.

Education

Ba.Sc. Industrial System Engineering, University of Regina- Regina, SK, 1996

Years of Experience

22

Registrations and Certifications

Professional Engineer, Colorado, #0052829, 2017
 Leadership in Energy & Environmental Design Accredited Professional (LEED AP) United States Green Building Council (USGBC)
 Certified Commissioning Professional (CCP)
 Building Commissioning Association (BCA)
 Certified Energy Manager (CEM)
 Association of Energy Engineers (AEE)

Publications

ASHRAE Journal, December 2011, Testing for Leakage in Underfloor Plenums

California College of the Arts

- Task: Commissioning services for renovation and addition to create a unified campus from the design phase through construction and occupancy. The project includes heavy making spaces, studios and classrooms. EAp1 Fundamental, EAc3 Enhanced commissioning services and Title 24 Commissioning.

- Role: Commissioning Management
- Size: 90,000 sf

University of Colorado Denver, North Classroom, Denver, CO

- Task: Commissioning services for renovation of HVAC for an existing building at the AHEC campus. The project includes a boiler plant, chiller plant, laboratory spaces, nine VAV AHUs, and over 300 VAVs. EAp1 Fundamental, EAc3 Enhanced commissioning services and Monitoring-Based Commissioning.

- Role: Commissioning Management
- Size: 241,000 sf

Front Range Community College, Fort Collins, CO

- Task: Provided predesign through post occupancy phase commissioning services for LEED v4 Fundamental and Enhanced Commissioning. Additionally, the team provided remote automated testing, trend analysis, data analytics, and building enclosure commissioning.

- Role: Commissioning Management
- Size: 61,000 sf

University of Colorado Denver, Wellness Center, Denver, CO

- Task: Commissioning services for new construction at the AHEC campus. Project meets LEEDv2009 commissioning requirements. The project includes a boiler plant, water-cooled chiller plant, pool area, gymnasium, and VAV AHUs. EAp1 Fundamental, EAc3 Enhanced commissioning services and Envelope Commissioning.

- Role: Commissioning Management
- Size: 92,000 sf

Chase Center: Golden State Warriors Office Towers

- Task: Providing LEED Fundamental, Enhanced commissioning services and Title 24 Commissioning for the office towers and parking garage structure for the new Chase Center. Ambient Energy has been involved from design and will be conducting measurement and verification after project occupancy.

- Role: Commissioning Engineer
- Size: 580,000 sq-ft

San Francisco International Airport Boarding Area B, San Francisco, CA

- Task: Subject matter consultant for Commissioning and Sustainably. Boarding Area B (B/A B) will provide h improved passenger circulation and access to its 24 gates, new passenger loading bridges and concessions.

- Role: Commissioning Engineer
- Size: 825,000 sf building which attained LEED Gold Certification, NetZero Building, CalGreen and Title 24 compliance



Hector Encarnacion

Project Manager & Commissioning Engineer

"Sustainability, whether planning or building towards it, is just common sense."

Hector as the Project Manager and Commissioning Authority is the single point of contact for commissioning between the Ambient Energy team, Las Positas College project team, design team, and construction team through project completion. Hector will apply his 6 years of experience as a commissioning engineer in the San Francisco area and before that spent 5 years as a control's technician. Hector will attend OAC meetings, produce commissioning documentation and final LEED deliverables. Hector performs functional and enhanced commissioning, preliminary design reviews on MEP systems, controls, and sequences of operation, and generates pre-functional and functional test reports and final LEED documentation. Hector provides invaluable reviews and insight to engineers, building owners, and construction project teams.

Education

BA Mechanical Engineering, State University of New York Maritime College, NY, 2012

Years of Experience

11

Memberships

US Green Building Council,
Northern California Association of Energy Engineers

California College of the Arts

- Task: Commissioning services for renovation and addition to create a unified campus from the design phase through construction and occupancy. The project includes heavy making spaces, studios and classrooms. EAp1 Fundamental, EAc3 Enhanced commissioning services and Title 24 Commissioning.
- Role: Commissioning Engineer
- Size: 90,000 sf

Chase Center: Golden State Warriors Office Towers

- Task: Providing LEED Fundamental, Enhanced commissioning services and Title 24 Commissioning for the office towers and parking garage structure for the new Chase Center. Ambient Energy has been involved from design and will be conducting measurement and verification after project occupancy.
- Role: Commissioning Engineer
- Size: 580,000 sq-ft

San Francisco International Airport Boarding Area B, San Francisco, CA

- Task: Subject matter consultant for Commissioning and Sustainably. Boarding Area B (B/A B) will provide h improved passenger circulation and access to its 24 gates, new passenger loading bridges and concessions.
- Role: Commissioning Engineer
- Size: 825,000 sf building which attained LEED Gold Certification, NetZero Building, CalGreen and Title 24 compliance

Teach for America, San Francisco*

- Task: A new commercial office building development pursuing LEED for New Construction Silver certification. Tasks include energy modeling for LEED and Title 24 fundamental and enhanced commissioning, sustainability narratives, sustainable design consulting, drawing and specification reviews and LEED documentation using LEED for New Construction.
- Role: Commissioning Engineer
- Size: 11,474 sq-ft

Salesforce Tower, San Francisco, California*

- Task: A new commercial office building development pursuing LEED for New Construction Silver certification. Tasks include energy modeling for LEED and Title 24 fundamental and enhanced commissioning, sustainability narratives, sustainable design consulting, drawing and specification reviews, and LEED documentation using LEED for New Construction.
- Role: Commissioning Engineer
- Size: 1,400,000 sq-ft



Jeff McEntee, CCP, CxA+BE, BECxP, CEM, CAPM, CDSM

Commissioning Engineer

Jeff McEntee has over ten years of new construction commissioning experience with an emphasis on building enclosure construction and testing. Jeff is a preferred consultant for his repeat higher education clients and provides a single point of contact for pursuing all LEEDv4 Commissioning Prerequisites and Credits (Fundamental Cx, Enhanced Cx, Monitoring Based Cx, and Building Envelope Cx). If the building envelope commissioning option is selected, Jeff will conduct envelope design reviews, site observations, and consult with the Las Positas College about their testing needs.

Education

MBA Finance, University of Colorado at Denver
 B.S Physics, Minor in Mathematics, Metropolitan State College of Denver

Years of Experience

8

Certifications

Certified Associate of Project Management (CAMP)
 Certified Energy Manager (CEM) Certified Demand Side Manager (CDSM)
 Certified Commissioning Professional (CCP)
 Building Envelope Commissioning Process Provider (BECxP)
 Commissioning Authority + Building Envelope (CxA+BE) Infiltration and Duct Leakage Certified (IDL)

University of Colorado Denver, North Classroom, Denver, CO

- Task: Commissioning services for renovation of HVAC for an existing building at the AHEC campus. The project includes a boiler plant, chiller plant, laboratory spaces, nine VAV AHUs, and over 300 VAVs. EAp1 Fundamental, EAc3 Enhanced commissioning services and Monitoring-Based Commissioning.
- Role: Test Execution
- Size: 241,000 sf

Front Range Community College, Fort Collins, CO

- Provided predesign through post occupancy phase commissioning services for LEED v4 Fundamental and Enhanced Commissioning. Additionally, Jeff provided remote automated testing, trend analysis, data analytics, and building enclosure commissioning.
- Role: Design Reviews, Specification Writing, Commissioning Management, Troubleshooting, Test Writing, Test Execution, Energy Management
- Size: 61,000 sf

School District 27J Quist Middle School, Thornton, CO

- Task: A new 2 story 6-8 grade school in Thornton, CO. Tasks included HVAC and Low-Voltage system commissioning. Systems include a central heating and chilled water plant with multi-zone VAV AHUS.
- Role: Design Reviews, Specification Writing, Commissioning Management, Troubleshooting, Test Writing, Test Execution
- Size: 138,000sf

Adams 12 New PK-8 School, Broomfield, CO

- Task: A new 3 story K-12 school in Broomfield, CO pursuing a Collaboration for High Performance Schools (CHPS) certification. Tasks included Commissioning, Enhanced Commissioning and Building Envelope Commissioning. Systems included over 100 ground source heat pumps with dedicated energy recovery ventilators.
- Role: Commissioning Management, Troubleshooting, Test Writing, Test Execution, Energy Management
- Size: 130,000sf

Northfield Fire Station, Denver, CO

- New fire station pursuing LEED for New Construction Gold rating. Tasks include energy consulting for design and LEED documentation, fundamental and enhanced commissioning.
- Role: Design Reviews, Specification Writing, Commissioning Management, Troubleshooting, Test Writing, Test Execution
- Size: 14,000 sf

Broomfield Service Center, Broomfield, CO

- Task: A high performance new department of public works administrative and vehicle maintenance facility. Tasks include energy consulting, life-cycle cost analysis, and commissioning.
- Role: Design Reviews, Specification Writing, Commissioning Management, Troubleshooting, Test Writing, Test Execution, Energy Management
- Size: 75,000 sf



Scott Wayland, PE, LEED AP

Commissioning Engineer

Scott brings over 26 years of design, energy analysis, management and training experience in the HVAC, energy, solar, and sustainability engineering business to ambient energy. Scott has worked as a consulting-specifying engineer, solar designer, energy analyst and project manager. Scott is a Past President of the Golden Gate Chapter of ASHRAE and currently serves society in Regional leadership. Scott's role will be commissioning engineer on this project.

Education

B.S. Mechanical Engineering, California Polytechnic State University, San Luis Obispo

Years of Experience

26

Registrations

LEED AP
U.S. Green Building Council

Affiliations

ASHRAE – Region X
Member's Council
Representative
2017-2020

United Airlines terminal expansion, San Francisco International Airport, San Francisco, CA

- Task: gut rehab and replacement of all MEP systems at Terminal 3
- Role: Mechanical Design Engineer

Signature Flight, San Francisco International Airport, San Francisco, CA

- Task: upgrade and expansion of the private terminal
- Role: Mechanical Engineer

Chemistry Lab VAV Fume Hood upgrade, University of California, Davis

- Task: Convert newly improved laboratory with variable-air-volume control of ventilation systems.
- Role: Mechanical Engineer

UC Riverside Entomology Building

- Task: New construction laboratory building
- Role: Mechanical Engineer

Stanford University Housing

- Task: New construction housing
- Role: Mechanical Engineer

Notre Dame De Namur Student Housing

- Task: New construction housing
- Role: Mechanical Engineer

UC Davis Segundo Commons

- Task: New construction food service facility
- Role: Mechanical Engineer



ambient energy

COMMISSIONING

“Ambient Energy has not asked for any change orders and has been very accommodating to work with, flexible, and very responsive... We look forward to working with Ambient Energy on our future projects as a trusted partner.”

–Mitch Blain, Director of Project Management, CBRE

Services

- New Building Commissioning
- LEED Fundamental & Enhanced Commissioning
- Existing Building Commissioning (Re-Commissioning & Retro-Commissioning)
- IECC/Title24 Code Compliance Commissioning
- Monitoring Based Commissioning
- Measurement & Verification
- Thermography Inspections & Blower Door Testing
- Indoor Air Quality Testing
- ASHRAE Level I, II, & III Energy Audits
- ENERGY STAR Portfolio Manager Documentation
- Ongoing Commissioning



**Millenium Partners,
706 Misson**
San Francisco, CA



Google, Pearl Place
Boulder, CO



**Denver International
Airport, Hotel &
Transit Center**
Denver, CO

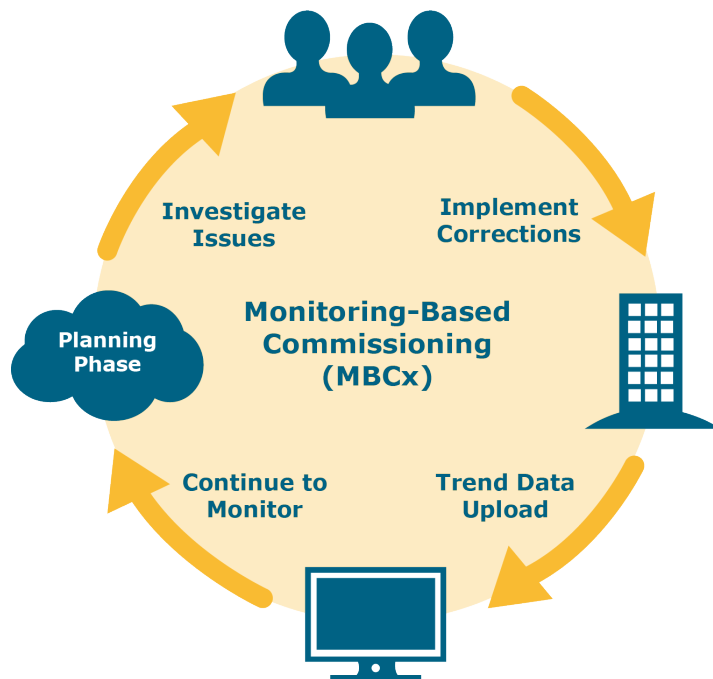
Ambient Energy commissioning processes optimize building performance by:

- Facilitation of a collaborative design process with increased communication with the project team and owner
- Established and verifiable project goals
- Manage Commissioning Issues log with project team through to resolution
- Confirmation that the building performance and energy efficiency is achieved
- Thorough training for O&M staff on high performance system operations to confirm continued energy savings in accordance with the design intent
- Fulfillment of schedule, costs, safety and quality of the owners project requirements
- Review turnover documents and verify thoroughness
- Coordinate with project team to integrate commissioning schedule into project schedule
- Write thorough functional tests of systems to ensure hardware and software are tested to design intent.
- Experienced engineering staff with excellent troubleshooting skills and commitment to properly working facilities.

Monitoring-Based commissioning combines Ambient Energy’s staff expertise in building systems, equipment controls, and operations with continuous automated data analytics linked to the building automation system. Your staff receives actionable information presented in an easy to understand “problem + solution” format with details about specific equipment issues and potential corrective action. We work with you to help prioritize and schedule work orders. MBCx can be an effective tool to manage controls contractors and other team members for peak performance.

Benefits

- Save as much as 10% on bills
- 100% sampling of systems during testing
- Improved mechanical, electrical and plumbing performance
- Resolves issues early to reduce occupant generated work orders and energy spikes
- Continued persistence of energy over time



Planning Phase

- Creates Monitoring-Based Commissioning Plan to identify points to be trended by the BAS

Investigation & Implementation Phase

- Set up project with rules
- Identify corrective actions to achieve and maintain optimal performance of the facility
- Issue monthly or quarterly reports and meetings

Ongoing Support

- After first year, Ambient Energy will provide Monitoring-Based Commissioning final report
- Owner may choose to purchase the software and/or have Ambient Energy continue summarize the data
- Owner may choose to apply process to additional buildings or systems

Project Experience

Higher Education

- AHEC Library
- AHEC North Classroom
- UCCS VAPA
- UCD Wellness Center








Aviation

- SFO Terminal 1 Center
- SFO Boarding Area B
- DEN Hotel and Transit Center

Office

- Google Pearl Place Phase 1
- Google Pearl Place Phase 2

Symbol Legend

Issue Type Description	
	Maintenance Savings
	Actuator / Sensor Issue
	Occupant Comfort
	Sequence Programming Issue
	Cost Savings
	Energy Savings
	Water Savings

Building Envelope Commissioning (BECx)

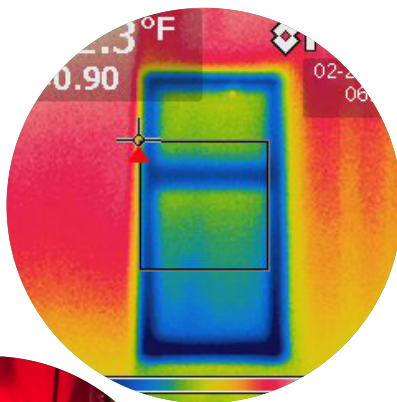
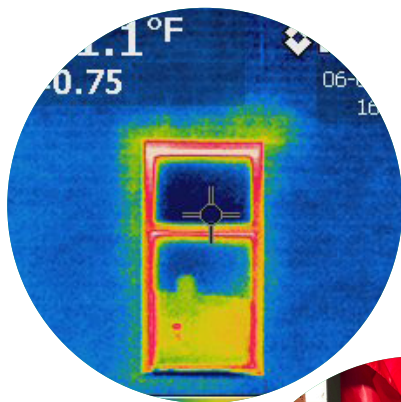


Building envelopes account for approximately 34% of the energy load in commercial buildings. Building Envelope Commissioning (BECx) is a quality assurance-based process that is intended to ensure the building envelop meets the Owner's requirements upon delivery. As building HVAC systems become more energy efficient, air and heat transfer across building enclosures present an ever-increasing source of comfort issues.

Meet the thermal envelop requirements of the 2015 IECC C402.5 code by performing a whole building air leakage test.

Keeping the Outside Environment separate from the Inside Environment

- Problems:
 1. Water intrusion
 2. Mold
 3. Drafts
 4. Increased Energy Consumption
 5. Occupant Comfort



Benefits

- Meeting code required air leakage rates can reduce energy consumption by 10%-20%
- Improved occupant comfort and indoor air quality
- Quantifiable determination of building air leakage
- Performance evaluation of the field installed envelope components

Facts

- Building envelopes account for approximately 34% of the energy load in commercial buildings.
- Meeting code required air leakage rates can result in annual energy savings of 10%-20%
- One of the compliance paths to meet the requirements of 2015 IECC C402.5 is whole building air leakage testing.

Tests

- ASTM E 783 – Window Air Leakage Test
- ASTM E 1105 – Window Spray Rack Water Leakage Test
- ASTM E 799 / ASTM E 1827 – Building Air Leakage Tests
-

ATTACHMENT D

NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA)
COUNTY OF San Francisco)

PROJECT: COMMISSIONING SERVICES

I, Renee Azerbegi, being first duly sworn, deposes and says that I am the President of Ambient Energy, the party submitting the foregoing Bid Proposal ("the Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

- 1. The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.
2. The Bid Proposal is genuine and not collusive or sham.
3. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any other bidder or anyone else to put in sham bid, or to refrain from bidding.
4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.
5. All statements contained in the Bid Proposal and related documents are true.
6. The bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this 07 day of 1, 20 19 at Denver, CO (City, County and State)

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct

Signature: Renee Azerbegi

1449 7th Street, Suite 440, Denver, CO 80204 (Address)

Renee Azerbegi Name Printed or Typed

Denver, CO (City, County and State)

(303) 278-1532 (Area Code and Telephone Number)



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