



**PROPOSAL FOR  
COMMISSIONING CONSULTING SERVICES**

**New Public Safety Complex and  
Advanced Manufacturing and  
Transportation Facility**

September 25, 2019

## COVER LETTER

September 25, 2019  
Marie Hampton  
Las Positas Community College  
7600 Dublin Boulevard  
Dublin, California

### **RE: New Public Safety Complex and Advanced Manufacturing and Transportation Facility**

Dear Marie,

We know that the Las Positas's New Public Safety Complex and Advanced Manufacturing and Transportation Facility are 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 fit your building. We are delighted for the opportunity to continue working with Las Positas College by providing commissioning services in accordance with the California Title 24 commissioning requirements by proposing on the new Public Safety Complex and Advanced Manufacturing and Transportation Facility.

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 Jeffrey McEntee as a Commissioning Engineer. Hector lives in Antioch and looks 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/event 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 (event)

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,



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

### **Field Experience in the Operation and Troubleshooting of HVAC and Energy**

#### **Management Control Systems**

Ambient Energy has significant experience in troubleshooting HVAC and energy management control systems (EMCS). During construction, our automated testing process allows us to analyze trends and quickly identify issues and provide recommendations for corrective action. Trend analysis often reveals artifacts buried within the code that potentially influence the sequence of selection and prioritization of equipment or how and when it is rotated. Building load changes, poor-staging sequences, false indicators, and invalid logic are some of the many possible issues that could be found. Ambient Energy identifies and eliminates these issues wherever they exist.

#### **Knowledge in Building Operation and Maintenance**

Ambient Energy's commissioning staff have a background in energy audits and retro-commissioning and are well versed in operations and maintenance of existing buildings. This aids in commissioning new buildings for both a new and existing building perspective.

We are advocates for the facilities staff. Our reviews and suggestions are grounded in good building operation and maintenance practices as well as constructability. Our commissioning engineers have worked through the warranty phase on most of our projects and on dozens of retro-commissioning and energy audit projects. These projects are excellent opportunities to learn about buildings from the perspective of those that operating day in and out. We bring this experience with existing building energy efficiency management to our new building construction projects through thorough reviews of controls, in depth operations and maintenance training, and thorough systems manuals.

### **Extensive Experience in Controls Strategy Optimization**

As users, reviewers, programmers, and validators of controls, Ambient Energy's expertise with control strategies help to achieve energy efficiency, comfort, and equipment operation. We facilitate a controls coordination meeting on all projects, during the design and the construction phase. We always perform detailed reviews of the engineer's sequence of operations and the controls submittals for completeness, functionality, system integration, energy efficiency, and ease of implementation. When requested by the client, we write custom sequence of operations. For the Denver Water Operations Complex Redevelopment, we reviewed and tested custom sequences for equipment that includes radiant heat, energy recovery, central plant, and energy storage for this high performing facility and will apply these skills to your project.





Image credit: Studio Gang Architects



## California College of the Arts, 1111 8<sup>th</sup> 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 8<sup>th</sup> 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 8<sup>th</sup> 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 – Heath 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](mailto:c.neiman@saundersinc.com)  
(720) 383-0085

Mike Turman, Director, Operational  
Assessment & Project Management  
Auraria Higher Education Center  
[Mike.Turman@AHEC.edu](mailto: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

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 and will be available on site with short notice to resolve design and construction issues.



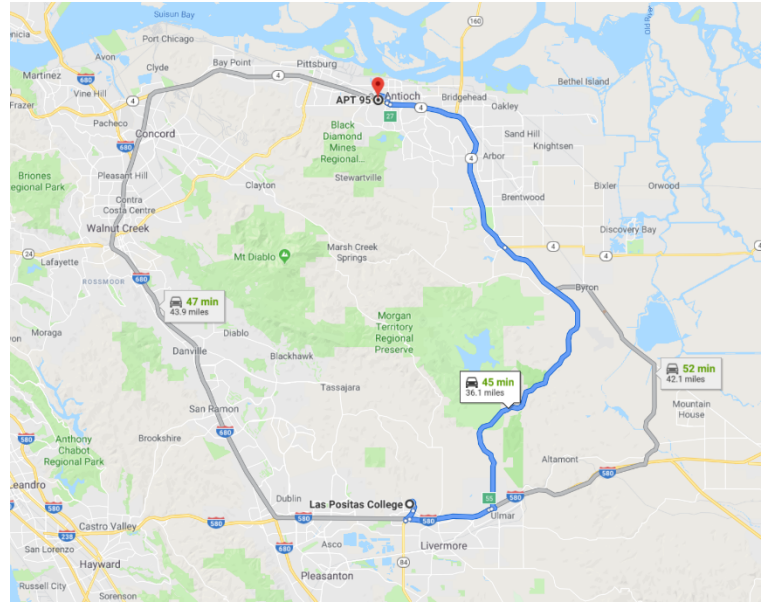
**PROJECT PRINCIPAL**  
**Steven Anticknap**  
 PE, CCP, CEM, LEED AP



**PROJECT MANAGER**  
**Hector Encarnacion**



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





## 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

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- 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

10

#### 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



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

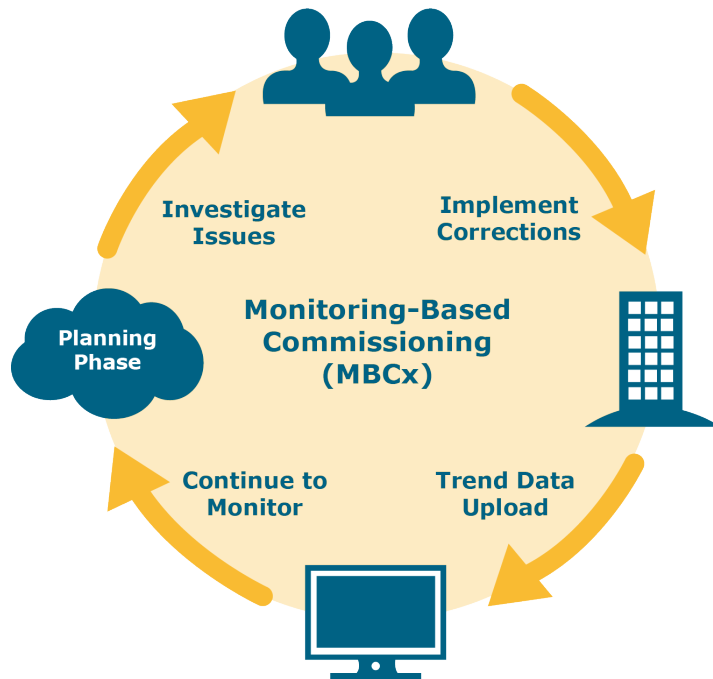
### Ambient Energy commissioning processes optimize building performance by:

- 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)

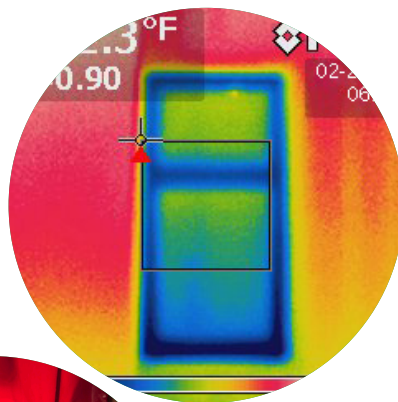
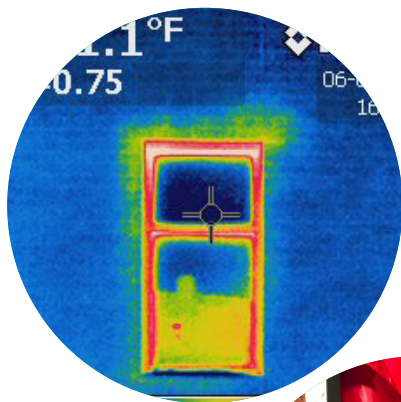


Building envelopes account for approximately 34% of the energy load in commercial buildings. Building Envelope Commissioning (BECx) is a quality assurance-based process that is intended to ensure the building envelop meets the Owner's requirements upon delivery. As building HVAC systems become more energy 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
-

**Schedule**

If the Project Schedule is extended more than 12 months past the estimated project completion date the services rendered shall be renegotiated.

**Reimbursable Expenses**


Reimbursable expenses including parking, meals, charrette folders, printing, reproductions, mileage, parking, and deliveries  are OR  are not included in this Proposal.

**Invoices**

Each invoice from Consultant to Client shall identify the Project and services performed by Consultant on the Project and the total percentage of fee worked. An invoice will be submitted to the Client on the last day of each month for services rendered for that month. Client agrees to pay Consultant the amounts set forth herein within thirty (30) calendar days of receipt of invoice by Consultant. If payment is not received within sixty (60) calendar days of receipt of invoice by Consultant, interest at the rate of one percent (1%) per month shall accrue.

The Parties acknowledge that each has fully read and understood this Proposal, and, intending to be legally bound thereby, executed this Proposal, on the date set forth above.

AMBIENT ENERGY, INC.

By:   
Name: Steven Anticknap  
Title: Commissioning Team Leader  
Date: September 25, 2019

Las Positas College

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

Attachment D, Non-Collusion Affidavit



ATTACHMENT D

NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA )
COUNTY OF San Francisco )

PROJECT: COMMISSIONING SERVICES

I, Steven Anticknap, being first duly sworn, deposes and says that I am the Principal 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 24 day of September, 2019 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.

Handwritten signature of Steven Anticknap

Signature

1449 7th Street, Suite 440

(Address)

Steven Anticknap

Name Printed or Typed

Denver, CO

(City, County and State)

( 303 ) 278-1532

(Area Code and Telephone Number)



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