



# Taylor Engineering

1080 Marina Village Parkway, Suite 501 ■ Alameda, CA 94501-6427 ■ (510) 749-9135 ■ Fax (510) 749-9136

## **TRACY L. MARCIAL, P.E.**

Tracy Marcial is a Registered Mechanical Engineer with a BS in Mechanical Engineering from the University of California, Los Angeles and an MS in Engineering Management from Santa Clara University. She has over 14 years of energy efficiency work experience including HVAC design, extensive experience with building energy analysis, simulation modeling, measurement and verification, energy auditing, and lifecycle cost analysis. During this time Ms. Marcial worked on a diverse range of projects including commercial buildings, schools and universities, laboratories, clean rooms, hospitals, and warehouse facilities.

Ms. Marcial's work experience includes energy use and life cycle cost analyses for the purpose of producing economical and energy efficient retrofit recommendations. She has conducted energy audits for several facilities of up to 4,000,000 square feet. Computer models were created during these audits through the use of DOE-2 based energy simulation programs and time-of-day based Excel Spreadsheets. Actual historical utility data and specific measured data were used to develop calibrated computer models of the facilities. The computer models were then used to analyze the economic viability of various energy conservation measures.

Upon implementation of energy conservation recommendations, Ms. Marcial assisted clients in receiving incentives from utility companies through the use of California's Standard Performance Contract (SPC) program and other similar incentive programs. This work included processing necessary application calculations and submittals through the final stages of measurement and verification of achieved savings after the first and second years of operation of the retrofitted system.

Ms. Marcial combines practical field experience, excellent engineering fundamentals, and a focus on energy usage to design complete HVAC systems for a wide variety of projects.



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## **TRACY L. MARCIAL, P.E.**

### **Education**

- 2001 Santa Clara University, M.S. Engineering Management & Leadership, graduated with High Honors
- 1998 University of California, Berkeley Extension, Certificate in HVAC&R
- 1993 University of California, Los Angeles, B.S. Mechanical Engineering

### **Registration**

- 1997 – present State of California: Mechanical Engineer, M-30412
- 1998 – present Association of Energy Engineers: Certified Energy Manager (CEM)

### **Experience**

- 2002 – present Taylor Engineering, Alameda, CA  
Mechanical Engineer. HVAC system and control system design; AutoCAD drafting and detailing; energy conservation and computerized energy analysis.
- 2000 – 2002 TECO BGA, Lafayette, CA  
Operations Manager. Supported the operation of the office through monthly invoicing, project management, proposal development and presentation, work assignments, training and supervising. Developed a database to track the status and costs associated with jobs. Continued to perform duties of an Energy Analysis Manager more than 85% of the time. Developed and used time-of-use and weather dependent spreadsheets for various air handling systems, chiller and boiler plants and lighting systems.
- 1998 – 2000 TECO BGA, Lafayette, CA  
Energy Analysis Manager. Trained and supervised other energy engineers in addition to continuing to perform the duties of an Engineer II.
- 1997 – 1998 TECO BGA, Lafayette, CA  
Engineer II. Continued duties of Engineer I. Performed project management and completed jobs from beginning to end.
- 1994 – 1997 TECO BGA, Lafayette, CA  
Engineer I. Developed fieldwork forms to assist in collection of installed HVAC system equipment information. Performed detailed, calibrated energy audits by developing computer simulations of existing facilities using DOE based programs. Performed field surveys to compare as-built drawings with installed equipment. Interviewed staff and reviewed controls systems to determine existing building/plant operating parameters. Assisted in load calculations and duct design. Wrote detailed energy reports describing the existing and proposed facility HVAC systems, lighting systems, chiller and boiler plants and any recommended system retrofits and upgrades.
- 1990 – 1994 PG&E, Various Locations



Various positions during summer internships. Created load profiles for natural gas transmission lines to determine the deficiencies of the natural gas system and to forecast the impact of future usage. Developed procedures used for shutting down portions of the natural gas transmission lines during emergencies. Created and implemented a computer inventory program and database. Investigated results of surveys to determine the necessity and cost of ergonomic equipment. Analyzed inventory to determine the need for computer upgrades

### **Professional Associations**

American Society of Heating, Refrigerating, and Air- Conditioning Engineers (ASHRAE):

Associate Member 1995 – present

Association of Energy Engineers (AEE):

Member 2002

### **Representative Projects**

733 Front St.	San Francisco, CA, 110,000 ft <sup>2</sup>
Alameda Free Library	Alameda, CA, 45,000 ft <sup>2</sup> , LEED NC
Coast Oak Maintenance Facility	Woodside, CA, 2,200 ft <sup>2</sup>
CSU Bakersfield Building	Bakersfield, CA, 54,000 ft <sup>2</sup>
Neiman Marcus	San Francisco, CA, 230,000 ft <sup>2</sup>
Orinda New City Offices	Orinda, CA, 12,000 ft <sup>2</sup> , LEED NC
Sacred Heart Preparatory Theater	Atherton, CA, 21,000 ft <sup>2</sup>
Stanford Cantor Art Museum	Stanford, CA, 120,000 ft <sup>2</sup>
State Central Plant	Sacramento, CA, 35,000 ft <sup>2</sup> , LEED EB
The Towers on Capitol Mall	Sacramento, CA, 1,700,000 ft <sup>2</sup>
UC Davis Chilled Water System	Chilled water piping and capacity study
UC Merced Classroom/Office Building	Merced, CA, 95,000 ft <sup>2</sup> , LEED NC Gold
UCM Dining Center Expansion	Merced, CA, 11,000 ft <sup>2</sup> , pending LEED certification
UCM Recreation & Wellness Center	Merced, CA, 35,000 ft <sup>2</sup> , pending LEED certification
UCM Social Sciences/Management Bldg.	Merced, CA, 100,000 ft <sup>2</sup> , pending LEED certification
UC Riverside Student Services Bldg.	Riverside, CA, 58,000 ft <sup>2</sup>
UC Santa Cruz Humanities Bldg.	Santa Cruz, CA, 84,000 ft <sup>2</sup>
US Census Bureau HQ EMCS	Suitland, MD, 1,500,000 ft <sup>2</sup>
US Treasury FMS	Emeryville, CA, 80,000 ft <sup>2</sup>
Vista (Berkeley Community) College	Berkeley, CA, 160,000 ft <sup>2</sup> , LEED NC Silver