# *James D. Cain*

455 Wolverine Way
Monument, Colorado 80132

(719) 492-4739
jcain@coloradocollege.edu

## OBJECTIVE

To secure an opportunity that will take advantage of my extensive knowledge in facilities management, operations and maintenance. This includes a vast amount of knowledge and skill in project management, mechanical systems and energy management, along with serving in the following rolls; Technical Services Manager, Facilities Engineer, Project Manager and Project Engineer.

- Sustainability / Energy
- HVAC, Plumbing & Electrical Systems
- Operation and Maintenance
- Writing Technical Standards
- Energy Management
- Mechanical Estimating/Cost Proposals
- BMS Computer Skills
- Project Management /Engineering
- Preventive Maintenance Operations
- Environmental Controls

## EXPERIENCE

**COLORADO COLLEGE**, Colorado Springs, Colorado **Oct 2000 - March 2014**

Technical Services Manager

Reported to the Director of Facilities Services, and was directly responsible for engineering and technical support managing projects and campus energy while supervising daily operations and compliance of the Central Plant, HVAC, Plumbing and Electrical Departments. As the Technical Services Manager, provided technical support including analysis and design, budgets and contracts for building and utility systems; which included steam, high temperature hot water, natural gas, domestic water, sanitary and storm, and electrical distribution. Since 2007 thru 2011, introduced, budgeted and implemented several energy projects resulting in a huge reduction of campus energy use by 25%. The following are a few examples of projects that lead to this success that included writing of contracts and purchase orders: Initiated the concept and managed a project that saved 10% of the campus natural gas use utilizing a direct contact flue gas economizer. Implemented and led the installation of a new primary/secondary chilled water plant comprising of 2-840 ton HFC chillers, pumps, VFDs, waterside economizer (free cooling), and 3-cell 2,400 ton induced draft Marley cooling tower equipment system. This project allowed the College to fulfill its' CFC phase out plan commitment dating back to the mid-1990s. Managed the upgrade of the campus heating plant equipment to more energy efficient HTHW heating equipment. Re-structured Technical Services support staff organization to deliver higher quality service that exceeded customer expectations. Conducted investigations and research of ultrasonic thermal energy metering technologies resulting in a 3 year phased project that added industrial grade building energy meters campus wide. Initiated a phased upgrade project approach to improve the integration of the campus 'web based' building energy management automated controls. Evaluated and implemented a computerized billing energy management program called 'Energy Cap' to provide proper accounting of campus historical energy use. Served as the College's owner's representative during the budgeting, design and construction of many major building projects including project scheduling such as Russell T. Tutt Science Center, Cornerstone Arts Center, Worner Student Center and El Pomar Sports Center building renovations. Also served as the commissioning authority and commissioned the mechanical systems at Cornerstone Arts Center.

**MLI** "A Brown & Root Company" Schriever, Air Force Base CO. **1996 – 2000**

Mechanical Engineer (Held Top Secret Clearance)
Performed mechanical engineering functions including re-design of Plumbing, Heating, Ventilating and Air Conditioning systems at Space Command Headquarters for the United States Air Force. Established design criteria creating ACAD drawings for small projects including project schedules, cost estimates and proposal documentation supporting Space Operations. Provided technical support to operations and maintenance program activities while supporting critical missions for space exploration operations.

**APPLE COMPUTER, INC.** Fountain, CO. **1994-1996**

Facilities Engineer
Interfaced with both in-house and corporate facilities staff personnel supporting ongoing operations and production needs at the Apple Computer Plant. Work included providing technical design assistance while supporting plant operations and construction projects. Recommended mechanical design solutions that enhanced building equipment system efficiencies in support of plant operations. Conducted a feasibility study involving constructing an on-site nitrogen gas production plant intended to save $150,000 per year avoiding costs of transported gas supplied by 3rd party resources. Provided technical assistance to facility maintenance team by implementing a computerized preventive maintenance program intended to minimize avoidable production down time while creating a more efficient and effective day to day maintenance operation. Managed the construction of a new printed circuit board line to Apple's production plant on time and under budget. Designed and lead the construction of an emergency thermal environmental test chamber to accommodate thermal testing of printed circuit boards that minimized production delays.

**HUGHES AIRCRAFT COMPANY** 'Electronics Division', Torrance, CA. **1987 - 1994**

Senior Facilities Engineer (Held Top Secret Clearance)
Developed new procedures and managed Hughes regulatory air and wastewater permit compliance program at a time during an influx of new environmental regulations were placed upon the cleaning and plating industry in California. Responsible for all aspects of operations and maintenance and special projects including: Central plant operations, clean rooms, fume scrubbers, cleaning and plating, open and closed water treatment systems, compliance audits, temperature controls, industrial waste pre-treatment, permitting, energy management and industrial production processes. Designed and implemented an industrial waste water recycling project which saved 10,000 gallons of domestic water per day. Managed the installation of building equipment and mechanical systems throughout the plant. Projects consistently met time deadlines and budgets. As plant environmental compliance liaison, ensured all air and water pollution equipment systems remained in compliance with State and Local agencies. Regularly received positive audit ratings by agencies having jurisdiction.

**NATKIN AND COMPANY** Mechanical Contractors, Orange, CA. **1981 – 1987**

Project Manager / Project Engineer

Planned, budgeted, organized and managed large mechanical HVAC & Plumbing construction projects including outside utilities, temperature controls, air and water balance contracts. Budgeted and managed hi-rise commercial office building projects ranging from $125K to $21M which were brought in on time, in accordance with contractual requirements at or under budget. Performed cost estimates and initiated change order requests which resulted in bids being accepted and new business received. Hired and supervised project staff and monitored productivity to ensure quality standards and deadlines were met. Negotiated contract agreements with customers and tracked material, labor and equipment costs to maintain positive cash flow.

## PROFESSIONAL ORGANIZATIONS

(ASHRAE) American Society of Heating, Refrigerating, Air Conditioning Engineers
Active member since 1997
ASHRAE Chapter President and Treasurer 1998-2000
ASHRAE Regional Vice Chair for Research Promotion (13) Mid-Western States
Student Activities Chair 2001-2003
Active Member of APPA (Institute for Facilities Management)

## EDUCATION

Bachelor of Science Degree; Engineering Technology; Air Conditioning & Refrigeration
California Polytechnic State University; San Luis Obispo, CA.

Engineman School Graduate; United States Coast Guard;
Veteran; Yorktown, VA

Certificate in Environmental Engineering from Purdue University:
Program sponsored by General Motors; West Lafayette, IN.

Completed “Operation and Treatment of Metal Waste Streams”
California State University, Sacramento, CA.

APPA - Certificate of Graduation:
‘The Institute for Facilities Management’

University of Wisconsin – College of Engineering
Fundamentals of ‘Energy Auditing’ and ‘Chilled Water Central Plants’

Other Special Certificates/Licenses/Affiliations & References --- available upon request