TETRA TECH

complex world | CLEAR SOLUTIONS™

WATER | ENVIRONMENT | ENERGY | INFRASTRUCTURE | NATURAL RESOURCES

Building Systems—Mechanical, Electrical, and Piping

Building system design is one of Tetra Tech's core engineering disciplines. Our knowledge of industrial systems spans all the key areas of the discipline and has been applied to create a wide variety of client solutions for many different industries.

Tetra Tech offers a variety of building system services to help create a safe, comfortable, and environmentally sound building environment for homes, offices, and government buildings. We provide high-quality engineering and technical services to our clients, with a focus on constructability and operations for the end user.

We work with our clients to provide sustainable buildings that are energy and resource efficient and promote a healthy environment for building occupants. We specialize in designing innovative building systems for the world's signature buildings, and we have helped our clients to achieve Platinum, Gold, and Silver LEED certification in hundreds of buildings around the world.

We can execute projects as part of a multi-discipline project team or on our own for single-discipline projects.

Mechanical (Building Systems)

- Heating, ventilating, and air-conditioning (HVAC)
- Building automation systems and controls
- Central plant systems design
- Radiant heating and cooling
- Under-floor air distribution
- Natural and displacement ventilation
- Thermal storage
- Geothermal heat exchange systems
- Smoke control/exhaust
- Computational fluid dynamics modeling
- Building information modeling (BIM)
- Process engineering
- Automation

Electrical

- Utility service and power distribution systems
- Emergency/standby power generation
- On-site cogeneration systems
- Distributed power generation
- Critical power systems (UPS, PDUs, static transfer switches)
- Electrical power monitoring systems/SCADA
- Lighting controls
- Grounding/lightning protection
- Fire alarm and security systems
- Short circuit and coordination studies
- Reliability and redundancy studies
- Single-point-of-failure analysis

Structural

- 3D structural modeling
- STAAD modeling
- Foundation design
- Calculation packages
- Steel observation and testing

Piping

- Fire suppression systems
- Fire pumps and standpipe systems
- Domestic and pure water systems
- Sanitary systems
- Storm drainage
- Water conservation and gray water systems
- Black water systems
- Gas systems, including medical and laboratory

Tetra Tech is a leading provider of consulting, engineering, program management, construction management, and technical services. The Company supports government and commercial clients by providing innovative solutions to complex problems focused on water, environment, energy, infrastructure, and resource management. With 13,000 employees worldwide, Tetra Tech's capabilities span the entire project life cycle.

McArthur River Mine Expansion, dewatering facilities and electrical load flow study, Cameco, Saskatchewan

Building Systems

Tetra Tech provides engineering services for the design and optimization of:

- **Boilers**—New heating water boilers; low-, medium-, and high-pressure steam boiler system designs; boiler evaluation, upgrade, and replacement
- **Compressed air systems**—Including high-capacity manufacturing facility loop systems using both oil-free and oil-immersed compression; laboratory-grade air systems with requirements for high cleanliness and low dew point
- **Air dryers**—Wide variety of systems providing specialty air that meets low dew point requirements; using desiccant dryers or refrigerated air dryers
- **Cooling towers**—All types of cooling towers for HVAC applications, process cooling, and air compressor cooling systems, including multi-speed, variable-speed, and bypass systems
- **Control systems**—Familiar with most types of control systems, from older electro-pneumatic, single-loop systems to the modern direct digital control systems and full-building automation systems

Electrical	Piping	Mechanical	Structural
• AutoCAD 2010 • AutoCAD MEP(3D) • AutoCAD Electrical • WinIGS ground grid analysis	• AutoCAD 2010 • CADworx Plant 2010 • Navisworks Review • Caesar II	• AutoCAD 2010 • AFT Fathom • Pipeflo • Beltstat	• STAAD Pro (with Advanced Analysis & US Design Codes) • ProSteel Professional • AutoCAD 2010

2,000+

Discipline engineers:

Civil	700+
Mechanical	450+
Electrical	350+
Industrial	200+
Structural	150+

100+

Industry clients, including real estate, infrastructure development, highways and roads, pipelines, transmission lines, wind power, aviation, industrial and manufacturing, commercial construction, mining, and government agencies

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Canada	Vancouver, British Columbia
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Chile	Santiago, Santiago Provinc
UK	Swindon, Wiltshire
US	Golden, Colorado