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<b>Position:</b>	Building Automation System (BAS) Analyst, II	<b>FLSA:</b>	Non-Exempt
<b>Department/Site:</b>	Facilities/Plant Operations	<b>Salary Grade:</b>	37
<b>Reports to/Evaluated by:</b>	Energy Management Coordinator	<b>Salary Schedule:</b>	Classified

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**SUMMARY**

Plans, manages and maintains all components of the District’s Building Automation System (BAS). The BAS is a computerized, intelligent network of electronic devices designed to monitor and control the mechanical (heating, air conditioning and handling), electronics and interior and exterior lighting systems. Operates and programs the Building Automation System to optimize energy efficiency and effectiveness while providing scheduled services to District facilities. Plans, coordinates, and conducts the district’s commissioning efforts in new construction and modernization projects.

**NATURE AND SCOPE**

This position serves in a specialized and professional capacity to design, implement and maintain a complex Building Automation System. The position is expected to apply a fundamental knowledge of the basic programming languages, data and telecommunications network systems and equipment, as well as analyze, design, program (code) and modify the District’s Building Automation System. The position may be required to apply skills to either software systems or applications programming depending on need. The position is expected to work independently and from broadly defined objectives and instructions. The position exercises considerable latitude in technical problem solving, including decisions on detailed network operations, and organization of features such as security and data structures. Work requires continual interface with staff of all levels and departments. Work is usually performed in an office environment with occasional requirement to work in awkward positions around electronic equipment.

**DISTINGUISHING CAREER FEATURES**

The Building Automation System (BAS) Analyst, Senior is a senior technical position that combines programming and system operation with knowledge of electronic controls for heating, air conditioning and handling, and lighting. This position plays an important role in overseeing the commissioning of multiple modernization projects, providing adequate project oversight and representing the owner (District) at construction meetings. This position is also responsible for ensuring that the district’s commissioning process is performed in compliance with the Collaborative for High Performance Schools (CHPS) criteria in accordance with CUSD Board Policy 5107. Communications are broad in scope, extending to outside experts and agencies, and may be highly technical in nature. Assignment to this position is based on need and can come from electrical/electronic trades and software applications/programming.

**ESSENTIAL DUTIES AND RESPONSIBILITIES**

- Operates, controls, and programs computer-aided Building Automation System (BAS). Receives information for facility and classroom use and develops coded instruction that regulates energy consumption.
- Coordinates installation, calibration, operation, corrective, preventive and predictive maintenance and/or repairs of Building Automation System. Maintains program documentation and wiring and

installation diagrams.

- Oversees and writes program utility blocks in global control modules to control application-specific devices.
- Participates in Building Automation System software, hardware, and equipment upgrades.
- Requires the ability to independently maintain a dedicated server; to know routers and switches, and to know TCP/IP addressing.
- Coordinates (and is the secondary point of contact for) the maintenance of building climate and insures proper space utilization consistent with energy conservation goals. Oversees, monitors, updates, and maintains evening, weekend, holiday, and shutdown programs and checklists for energy management.
- Monitors active energy consumption and conservation efforts using computer aided software that enables remote observation of energy usage. Looks for trends and unusual variations. Suggests modifications in energy consumption and/or schedule to optimize energy conservation.
- Prepares periodic performance reports that record indoor environment comfort levels, alarms, etc. Analyzes and interprets building climate trends and energy consumption trends compared to the nature/time of facility use. Advises administrators and maintenance staff on conservation methods.
- Oversees and reviews load factor calculations done by others to ensure adequate cooling and heating of occupied space, including air distribution system plenums, economizers, electrical loads, and exhaust fans.
- Coordinates repairs to electronic measuring and reading instruments, relays, switches, and other components relating to energy management. Confers with heating and air conditioning staff on repairs, upgrades, and conservation.
- Provides support to capital projects related to Building Automation System and the purchase of products affecting energy consumption.
- Develops and maintains contact with federal and state agencies and monitor state and national energy policy trends. Serves as a District representative at management level meetings, seminars, and conferences relating to energy use and conservation.
- Works closely with design professionals, installation contractors, and manufacturer representatives. Provides input on technical considerations from design through installation in order to facilitate sound operation and maintenance of the buildings. Assists in the developing of commissioning specifications for bid documents.
- Develops and writes commissioning plans for newly installed systems. Performs and monitors diagnostic tests that include functional performance tests, contractor start-up tests, acoustical measurements, air and water balancing on installed building equipment. Submits reports to district representatives, design professionals, and state agencies.
- Maintains commissioning documentation which would facilitate the writing of a final evaluation report of the building systems' capabilities to meet design intent and district needs. Insures the installation of commissioned systems is in compliance with design intent, specifications, and

workmanship.

- Develops and writes system concepts and operations manuals that detail the most important operation parameters and equipment instructions. Trains school site staff on proper use of equipment.
- Oversee BAS Analyst, junior.
- Performs other duties as assigned that support the overall objective of the position.

## **QUALIFICATIONS**

**Knowledge and Skills:** The position requires in-depth knowledge of energy management concepts that includes optimizing usage for facility characteristics and alternative resources. Requires working knowledge of electronics, microprocessors, and digital and pneumatic controls. Requires a working knowledge of construction, carpentry, electrical, and plumbing concepts, practices, and techniques. Requires a working knowledge of the principles, practices, methods, techniques, materials, tools, equipment, layouts and set-ups used in HVAC systems and boiler operation. Requires knowledge of pertinent Federal, State, and local programs, grants, laws, codes and regulations in the area of energy management. Must be familiar with ANSI S12.60 Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools. Requires working knowledge of program management principles including goals, accountability, and timeline performance. Requires project leadership skills sufficient to lead a team on a project basis. Requires sufficient math skills to record and compute detailed algebraic calculations and measurements. Requires well-developed English language and writing skills to prepare correspondence suitable for external distribution, reports, instructions, and technical documentation. Requires well-developed human relations skills to deliver formal presentations, consult with administrators and contractors, resolve problems, and train service-level staff to maintain systems.

**Abilities:** Requires the ability to perform all of the essential functions with minimal supervision. Requires the ability to establish, apply, and analyze the effectiveness of programs designed to conserve or optimize energy and resources. Requires the ability to plan, schedule and direct activities of an integrated program and the work of others who maintain systems. Requires the ability and initiative to independently develop methods and techniques in the interest of best practice.

**Physical Abilities:** Incumbent must be able to maintain cardiopulmonary fitness, function indoors in a shop environment and/or outdoors in the field engaged in work of primarily an active nature. Requires sufficient ambulatory ability to walk and carry tools and apparatus for 100 yards. Sufficient strength and agility to lift, load, and move heavy weight materials up to 25 pounds on a frequent basis. Requires the ability to bend, stoop, and work in awkward positions. Requires visual acuity to read and observe diagrams, manuals, work conditions, and recognize color-coded wires and connections. Requires auditory ability to carry on conversations in person, extend voice to large audiences. Requires physical ability to access construction sites as needed to supervise or inspect construction operations.

**Education and Experience:** A Bachelor's Degree from an accredited college or university, with major course work in engineering, architecture, industrial technology or a related field, is required. Minimum of five (5) years of broad and extensive experience in project management, energy management, Industrial Technology (IT), or related field.

**Licenses and Certificates:** Requires a valid California Driver's License. Niagara R2 and AX Certifications are highly desired

**Working Conditions:** Normally works in an office setting, with minimal exposure to safety or health hazards (75%). Periodically works outside with exposure to inclement weather (25%).

