

# REPORT



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Contractors & Engineers  
650 Oppen Street  
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## Promotions Produce Positive Impacts for Bergelectric Clients

Thirteen offices, national contracts and larger, more complex projects have created exciting opportunities for advancement at Bergelectric. Recent promotions of veteran staff to national positions are aimed at improving client services, enhancing productivity and enriching coast-to-coast communications. VP of National Operations, Carl Zirkus oversees regional operations to ensure that projects are staffed and managed utilizing the best fit of resources. Jeff Mikeska's role as Director of National Sales includes coordination with regional managers and estimators to better serve clients operating nationwide. National Field Operations Manager Scott Humphries

guarantees that regional offices have the staffing, materials management and standardized installation methods necessary for success. Regional Purchasing Manager Frank Hilton's expanded role involves negotiating bulk purchasing and maximizing national programs/contracts to benefit Berg clients.

In San Diego, Ron Wood was promoted to Vice President of Special Projects, Robert Liles was promoted to Major Projects Division Manager, Steve Stroder was elevated to SPD Commercial Division Manager and Scott Ashton was promoted to Industrial Projects Division Manager.

## Steve Buhr Elected to Board of Directors



### Vice President of Finance

Over 25 years ago, Steve Buhr's love of technology brought him to Berg as a computer programmer. From writing proprietary cost-estimating software programs and overseeing implementation of other innovative in-house technologies, Buhr has never lost his passion for ensuring that Berg remains on the industry's cutting edge. This dedication was recognized in Buhr's recent election to Bergelectric's Board of Directors.

Based in LA, Buhr's talents led to increasingly-responsible positions as accounting manager and controller. In his current role as VP of Finance, he directs accounting functions and provides executive oversight of IT. Under his leadership, major advancements in imaging and automation of workflow have been achieved, including "paperless" purchasing and accounts payable. "My progression here epitomizes the world of opportunities and potential at Bergelectric," stated Buhr.



# The **B**Bergelectric *Report* N A T I O N A L

## The Economics of Building Lean: 10% Labor Savings Materials Management

Second in a series of productivity-enhancing articles about how Berg is reducing costs and improving project delivery.



*Bergelectric's progressive approach to improving customer service is spotlighting the use of advanced technology that provides a well-articulated design and quantifiable value. "We are focused on preplanning and proactive design that will naturally eradicate less-efficient approaches from our company culture," stated Bergelectric Executive Vice President Tom Anderson.*

### Measurable Productivity and Value: **BIM**

Bergelectric is taking Building Information Modeling (BIM) to its next level of productivity-enhancing capabilities by precisely managing materials ordering, inventorying and delivery. Through the creation of detailed materials takeoffs during the preconstruction phase, which identify exact components required at pre-designated areas for "just-in-time" delivery as materials are needed in the field, Berg has proven that this system:



1. Eliminates redundant handling
2. Enhances bulk-purchase savings
3. Locks in pricing for specified periods
4. Increases productivity & saves labor
5. Minimizes onsite storage
6. Dramatically reduces deliveries
7. Fosters a safer, less-congested project site
8. Provides streamlined installation
9. Enables timely, accurate billing
10. Eliminates purchasing overages



### Preplanning the Future: **Pilot Projects Make History**

Two history-making medical facilities are the testing ground for Bergelectric's cutting-edge materials-management system, which is expected to reap a 10% productivity gain in labor installation costs.

#### Palomar Medical Center (PMC) West: **Beta Testing Innovation**

For the \$880-million Palomar Medical Center (PMC) West in Escondido, CA, Berg designed specialized carts—dubbed "worm carts"—which were used as a materials-handling prototype, then redesigned/refined with improvements aimed at making them even lighter and more manageable in the field. "Using precise BIM materials takeoffs generated by Berg's Detailing Department, our bulk-buy provider loads and ships the carts from an offsite warehouse with packages that feature a bar-coded label identifying the precise floor to which it is to be delivered, the location and the designated activity," explained Bergelectric Superintendent Dan Chancellor.

**The result:** a drastic reduction in materials stockpiled on the construction site.



#### Las Vegas VA Medical Campus: **Tracking Savings**

At the 790,000-s.f. Veterans Administration (VA) Hospital in Las Vegas, enhanced "just-in-time" materials-handling capabilities enable foremen to look ahead weeks in advance to the tasks that will be accomplished in designated areas on each floor and arrange to have materials arriving at each location as the work is about to commence. "We created a special code to track materials-handling labor, which enables us to precisely capture the savings," noted Superintendent Dave Franke.

**The result:** quantifying exactly how much labor is reduced.

#### Efficient Materials Handling: **Providing "Green Value"**

Green building transcends the use of energy-efficient materials to encompass the construction process itself. Effective materials management not only diminishes the numbers of delivery trips to the construction site, it also significantly reduces fuel consumption required to support the constant forklift trips to retrieve materials from a large onsite storage yard. Even refuse disposal is streamlined as trash generated from materials packaging is shipped off site in the same carts on which they arrived.

**The result:** a safer, less-congested project site with a decreased carbon footprint.

*"We are focused on preplanning and proactive design that will naturally eradicate less-efficient approaches from our company culture."*

~ Tom Anderson, Executive Vice President, Bergelectric Corp.

### Global Goal: **Taking it Companywide**

Staying ahead of the curve and the competition requires Berg's dedication to field-testing innovations, proving their merit, quantifying benefits and systematically implementing them companywide. "By the end of 2010, we expect to be using this cutting-edge technology at a very practical level to enhance value for our customers," Anderson added. **What's next:** creating a standardized CAD-format cart design that could be constructed anywhere in the country and working collaboratively with distributors to expand this innovative materials-management system.

## INSIDE CONNECTIONS

### National

Innovative materials-management program enhances productivity and provides measurable value.

### San Diego

Seamless integration of new buildings with an existing park creates a novel civic facility for the City of Vista.

### Los Angeles

Veteran team drives success of Presbyterian Intercommunity Hospital central-plant expansion.

### Ventura

Military proficiency helps deliver new Satellite Control Facility at Vandenberg AFB.

### Orange County

Berg locks in value serving as prime contractor on new police headquarters.

### Sacramento

Berg in design-assist role at new Travis AFB Command and Operations Facility.

### Colorado

Design-build team completes second phase of West Campus Housing project at UNC.

### Austin

Resources offer big advantages on one million square feet of military housing with Sundt.

### Las Vegas

Berg sustains success in a dicey economy under leadership of new Regional Manager Justin Knippel.

### Orlando

Fort Benning barracks project on target for Spring completion.

### Arizona

Berg energizes hospitality and entertainment scene in Phoenix.

### Raleigh-Durham

Integrated technologies keep Naval corrections facility on track.

### Portland

Hoffman Construction and Berg to deliver nation's largest molecular engineering facility.



# NO. 6

Among electrical contractors nationwide



# BRINGING THE OUTDOORS IN

## Seamless Integration Creates Novel Civic Facility for Vista



For years the **City of Vista** has had to “make do” with a 1950s-vintage building they quickly outgrew, requiring a village of temporary structures. Mounting maintenance and operations costs and diminishing productivity led the City to pursue its vision for a new **Civic Center**.

Taking advantage of the hillside park building site for the 103,000-sf complex—a unique design which obscures the delineation between the great outdoors and interior space—is the brainchild of architect **carrier johnson + CULTURE**. True to its mission, **carrier johnson + CULTURE** developed a design for the \$51-million **Vista Civic Center** that connects to its surroundings while delivering enduring civic and social value. San Diego-based general contractor **Highland Partnership, Inc.**, is bringing the serpentine design to life by seamlessly linking the **civic center** to the adjoining park on several different levels through bridges, courtyards, openings in the building and connecting pathways.

### Complex Sitework Sets Project Pace

Dave Cecil, project manager for **Highland Partnership**, noted that before any construction activities could begin, the entire site had to be modified. Berg re-located the existing street utilities around the site—performing all of the work at night to avoid interfering with daily traffic. Once the utilities were moved, **Highland** had to excavate and re-compact soil materials up to 20 feet deep across the entire site, a challenge further complicated by the removal of over one million gallons of groundwater.

*“Berg never lets us down—we value their resources, buying power and all-encompassing capabilities that range from high-voltage to fire-alarm, security, tel/data and A/V systems.”*

Dave Cecil, Senior Project Manager, Highland Partnership, Inc.

### Maximizing Total Station GPS

“With few right angles in the more than 100,000 square feet of curved buildings, the layout had to be exact,” noted Berg Project Manager Don Kuhn. Utilizing its Total Station GPS System allowed Berg to precisely pinpoint locations for electrical layout,

which were based on detailing experts’ 3D CAD coordination drawings. Building Information Modeling (BIM) further enhanced Berg’s coordination with other trades, facilitated conflict resolution in advance of entering the field and synchronized efforts on site for the installation of power, lighting, site lighting, tel/data, design-build fire alarm, security system and emergency generator.

### Containing Cost Escalation

Although Bergelectric prepared the initial bid based on design-build documents and drawings that were 80% complete, its professional estimators needed to ensure that the pricing provided was for a complete electrical system. Berg’s solid vendor relationships allowed for pre-purchase agreements for all materials in order to contain cost escalations. “It was my job to evaluate the schedule and work flow so that orders could be planned in advance to ensure materials were delivered directly to areas where work was ongoing,” said Berg Foreman Tom Cvek.

### Detailed Value Analyses

Faced with integrated construction of two separate buildings—a three-story structure to house the mayor, council members and chambers, as well as city operations; and a two-story facility in the dual role of Community Room/ Emergency Operations Center—Berg performed detailed value analyses at the outset to identify potential savings that honored the original design intent and resulted in:

- Converting the incoming service conductors from copper to aluminum;
- Reducing the number of lighting fixtures and recommending alternates;
- Delivering green alternatives that include LED exterior accent lighting, high-efficiency transformers, as well as energy-saving ballasts and lamps; and
- Using electrical assemblies provided by Berg’s Prefabrication Department.

Once the complex is completed in 2011, the citizens of **Vista** will enjoy a long-awaited, fully-integrated municipal building that not only combines community and civic uses, but is also a sought-after destination all its own.



*Berg performed detailed value analyses to identify potential cost savings on the new 103,000-sf Vista Civic Center.*

Renderings courtesy of carrier johnson + CULTURE

# Sustaining Success in Dicey Economy

## New Regional Manager Justin Knippel Leads Las Vegas Office



Justin Knippel  
Bergelectric Las Vegas  
Regional Manager

*Construction, development and spending are the drivers of Nevada’s economy and a major decline in all three areas has delivered a hard hit to the construction market. Moody’s Ratings notes Nevada’s recession as the worst of any state with the highest deficits, foreclosure rates and the greatest fall in personal income.*

With characteristic drive and determination, under the leadership of new Las Vegas Regional Manager Justin Knippel, Bergelectric has charted a steady course and sustained success in this economically-challenged locale. In fact, according to Knippel who oversees more than 120 employees in the Las Vegas Region, Berg has maintained a steady backlog and recently added to its field forces.

### Diverse Achievements Culminate in Knippel Promotion

Knippel has held various positions of increasing responsibility in Berg’s San Diego office, culminating in his promotion to Las Vegas Regional Manager. Accomplished in both preconstruction and project management, his credits include multi-million dollar contracts on major hotel/casinos in California—Pechanga, San Manuel and Agua Caliente—as well as a 690,000-sf Walgreens distribution-center prototype and a \$44-million expansion for laser-technology giant, Cymer.

Knippel has been with Berg for his entire 15-year career and served as Las Vegas Operations Manager before being named Regional Manager in 2009. “I couldn’t imagine doing this anywhere else—there are remarkable opportunities at Bergelectric,” he said.

With his new position and busy schedule, Justin cherishes home life with wife Lynnanne—who threw her full-fledged support behind the family’s move from San Diego to Las Vegas—and sons Tyler and Ryan. Together they enjoy family time, movies and games, but when the Knippels have a sitter, you can find them taking in the local scene with a concert or show.

### VA Medical Campus

The \$365-million Veterans Administration medical center, with Clark Construction Group/Hunt Construction Group, is a model project for Berg’s innovative materials-management program.

### SkyView MultiGenerational Center

An \$11.3-million recreational center with Martin-Harris Construction, which will offer amenities and classes to Las Vegas-area residents—from kids to seniors.

### Creech AFB Flight Simulator Facility

This 18,000-sf design-build facility, with Jaynes Corporation, will house flight simulators used in pilot training for unmanned aircraft.

### Fort Irwin Company Operations Facility

A two-building Company Operations Facility (COF) at Fort Irwin, CA, with the joint-venture of RQ Construction-Richard Brady & Associates.

### Walgreens

A 14,490-sf Walgreens store on a five-acre retail development site with general contractor Breslin Builders.

### UNLV Shadow Lane Biomedical Facility

Completed with McCarthy, this 33,000-sf new biomedical building is a cutting-edge teaching facility for UNLV’s nursing program.



# Knowledge is POWER

## Experience Drives Seamless Delivery of Central-Plant Expansion

*Established in 1959, throughout its 50-year history Presbyterian Intercommunity Hospital (PIH) has made continuous improvements at its Whittier, CA campus to better respond to the healthcare needs of the more than 1.5 million area residents it serves.*

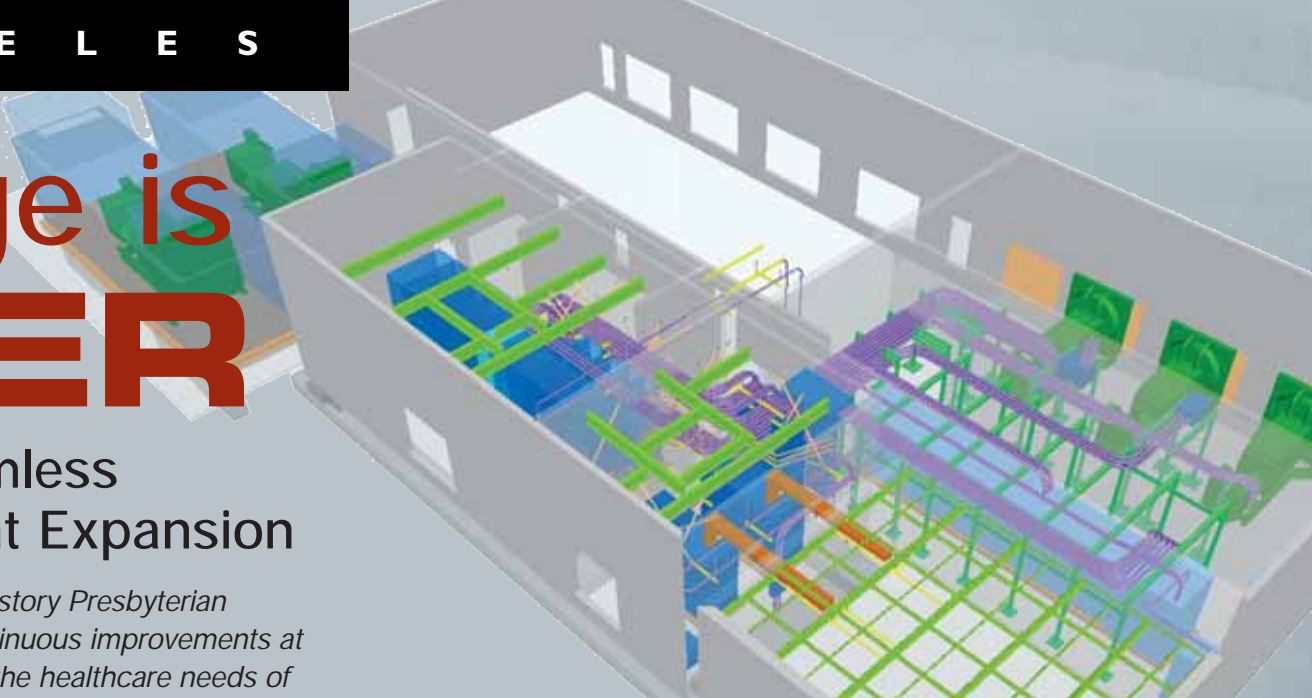
Over the past 16 years, general contractor **Millie and Severson** and Bergelectric have completed numerous projects at **PIH**, including the 140,000-sf Perry Pavilion and the Ed Shannon Tower for Advanced Medicine. In anticipation of providing power for a future six-story Plaza Tower that will bring new operating rooms and critical-care beds on line—this team with an invaluable understanding of existing facilities and a proven track record of performance came together to expand **PIH's central plant** and improve its emergency and normal power capabilities.

“One of the driving forces behind our success at **PIH** is Bergelectric General Foreman Don Rittmiller, who has been working on projects at the hospital's campus for eight consecutive years,” noted Doug Crumby, a Berg vice president who has overseen much of the **PIH** preconstruction efforts. “Don has an unparalleled working knowledge of the **PIH** facilities that provides us with important insight,” Crumby added.

### Uniting the Effort: Tying Together Past, Present & Future

Bergelectric's experience at the **PIH** campus has been instrumental in the success of its current endeavor. One of the biggest challenges facing the central-plant expansion was to seamlessly tie together the hospital's existing stand-alone emergency-power systems. The new central plant combines three existing generators

*“Bergelectric's unparalleled working knowledge of Presbyterian Intercommunity Hospital provided important insight on the central-plant expansion project. ”*



*Working on a central-plant expansion project at **Presbyterian Intercommunity Hospital**, Berg tapped into its 3D Modeling expertise to create a unique structural design for conduit racks that utilized floor and wall-mounted seismic supports.*

that supply power to different areas of the campus, with two new 2,500kw generators that will power future expansion—all connected via a sophisticated 10,000 amp Generator Control Switchboard that enables synchronization of the five generators.

### Power by Design: A Meticulous Plan for Electrical Shutdown

Armed with the knowledge that comes from decades of healthcare construction, Berg preconstruction professionals devised a plan to provide critical emergency power to existing hospital facilities during the transition. Berg developed a design utilizing four temporary generators, as well as temporary control and annunciation wiring for automatic-transfer switches. Detailed procedures for installation and commissioning prepared by Berg allowed for a meticulously-planned and scheduled shutdown of the existing central plant—seamlessly maintaining the electrical power that is critical to a hospital environment.

### Model Solutions: Using BIM to Resolve Structural Challenges

Recognizing that the existing central-plant roof structure could not sustain the weight of overhead conduit racks required for the new installation, Bergelectric set out to develop a solution with the help of its detailing department. “Tapping into our 3D Modeling expertise, we created a unique structural design for conduit racks that utilizes floor and wall-mounted seismic supports,” noted Berg Detailer Oscar Rivas. With the technology, expertise and insight into the inner workings of **PIH**, Bergelectric is continuing to assist this institution in achieving its goal of providing high-quality healthcare.

# ➤ LAUNCHING A NEW ERA IN SPACE



## Berg's Military Proficiency Helps Deliver Satellite Control Facility

*Securely situated in Santa Barbara County California, **Vandenberg Air Force Base** remains the only U.S. military installation that launches unmanned satellites into polar orbit. The 14th Air Force located at **Vandenberg** operates a worldwide network of satellite tracking stations.*

Due to changes resulting from the Base Realignment and Closure (BRAC) program, **Vandenberg** is also scheduled to become the home of the 21st **Space Operation Squadron's** new **Satellite Control Facility (SCF)**. As a perfect match to **Vandenberg's** command and control (C2) mission, when the \$42-million **SCF** facility becomes fully operational, it will house C2 instruments as well as satellite operators in support of space forces for such far-reaching operations as missile-warning systems, meteorological data, intelligence-related projects and NASA launching/re-entry missions.

The 38,000-sf building was constructed under the direction of the **U.S. Army Corps of Engineers** by Carlsbad-based **RQ Construction, Inc.** and Bergelectric. With a contract that exceeded \$17 million, Berg played a key role in providing all the power distribution for the facility, including a new remote high-voltage substation. “Because the new substation was tied to the existing base power loop, it required extensive planning and coordination to schedule the tie-in during “non-work” periods on base so we didn't interrupt critical missions,” stated Berg Project Manager Marc Flanders.

### All Systems “Go”: Extra Measures Ensure Continuous Operations

Of particular importance to the new **SCF** is continuous power supply—redundant power sources, uninterruptible power supply (UPS) systems and emergency generators—which ensure that base operations can continue during a primary power outage. The low-voltage systems that Berg crews installed (fire alarm, mass notification, security and tel/data) serve as the backbone of this well-protected facility. In addition to high-, medium-, and low-voltage power systems, Berg crews provided lightning protection and security lighting and controls.

“Berg's Tel/Data Division installed the fiber and copper systems and connected them to the campus network without base operations missing a beat,” noted Bergelectric Superintendent Ron Crane. “We were very responsive to security requirements and missile launches on base at **Vandenberg** that required us to make schedule changes, accelerate delivery and installation of materials and equipment, and adjust crew size,” added Berg General Foreman John Creighton. With as many as 500 operations taking place every day at **Vandenberg**, the new **SCF** will be soon be at the forefront of the Air Force's ability to intricately link networks and satellites around the globe that are essential to national security.



*The new **Satellite Control Facility** will house instruments and operators in support of space forces for such operations as missile-warning systems, meteorological data, intelligence-related projects and NASA launching/re-entry missions.*



# Locking in Value

## Berg is Prime Contractor on New Police Headquarters

*Experiencing a 345% growth rate over the past fifty years is bound to stretch the resources of any community. Despite construction of a dedicated police facility in 1968 to meet Westminster, CA's already skyrocketing population, the city long ago outgrew the space that was originally designed to accommodate only 65 employees. As part of **Westminster's Infrastructure Revitalization Plan (IRP)**, the nearly 200 full- and part-time staff, as well as a myriad of volunteers that now work for this municipal police department, will soon have a modern 92,000-sf facility to call home.*

Under the guidance of program manager **Griffin Structures, Inc.** and construction manager, **McCarthy**, Bergelectric is serving as a prime contractor for all power including, electrical, emergency and uninterruptible power supply (UPS). "Critical to maintaining a secure facility is a communications system that the City can count on in any emergency," noted Berg Project Manager Bob Marsh.

### Security with Peace of Mind

At the heart of the facility are an upgraded **911 call center** and an **Emergency Operations Center** that are capable of handling regional law-enforcement communications. In addition to tel/data, intercom, access control and CCTV security systems being installed by Bergelectric they will also be responsible for providing audio/visual as well as exterior and interior lighting for the \$54-million facility.



*As part of **Westminster's Infrastructure Revitalization Plan**, the nearly 200 full- and part-time staff, as well as a myriad of volunteers that now work for this **municipal police department**, will soon have a modern 92,000-sf facility to call home.*



*In addition to tel/data, intercom, access control and CCTV security systems, Berg is also responsible for providing audio/visual as well as exterior and interior lighting for the \$54-million new **Westminster Police Department** facility.*

Designed by Los Angeles-based **AECOM Design**, which is providing both architecture and electrical engineering expertise, the **Westminster Police Department** facility also features a new forensic lab and a Type I jail for the temporary holding of individuals in custody. According to Bergelectric Superintendent Robert Van Son "Berg and **AECOM** designers are working in close coordination on all electrical and low-voltage systems to ensure that installation meets both stringent security standards and design intent."

### Going "Undercover" Reduces Overhead Issues

"Although our goal is to minimize overhead work, our Detailing Department is utilizing Building Information Modeling (BIM) for pinpoint-accurate coordination among trades for any ceiling installation that does need to be performed, as well as for placement of underground conduit," added Bergelectric Foreman Fred Szilagyi. Due to soil conditions, the three-story police facility required over 300 concrete support piles, which further complicated underground installation.

For the more than 30,000 feet of slab-on-grade conduits and boxes that Bergelectric is installing, crews will be provided with details on deck inserts for conduit and cable-tray racks that will help avoid overhead drilling and further contribute to a secure facility. Once it is fully operational in 2011, the new police department will be a cornerstone of the Westminster Civic Center revitalization and is expected to serve the needs of this Orange County community for decades to come.

# Mobility Takes Flight

## Berg in Design-Assist Role at Travis Air Force Base Command Facility



*When **Travis Air Force Base** was first established in 1942 on a remote tract of land east of Fairfield, CA, the U.S. was just one year into a global conflict that required the mobilization of over 100 million military personnel, making it the most widespread war in history. Since WW II, this once isolated airstrip has made a name for itself as the largest Air Mobility organization in the country.*

Operating out of the 6,583-acre base is the 615th **Contingency Operations Support Group (COSG)**, which was established in 2007 for expeditionary operations worldwide. With as little as 12 hours notice, the 573rd **Global Support Squadron (GSS)** is able to deploy command and control, communications, aerial port and aircraft-maintenance capabilities to remote locations across the globe where airfield support is often non-existent.

### Sacramento Detailers Contribute BIM Expertise to NAVFAC Facility

Bergelectric is working directly with the **Naval Facilities Engineering Command (NAVFAC) Southwest Division** in a design-assist effort that will deliver a new 23,393-sf **Global Support Squadron Command and Operations Facility** for the 573rd. In addition to providing site power distribution, Berg is responsible for all site lighting and branch conduits for the \$10-million facility. "Our local in-house detailers, including Dan Bauer, are utilizing Building Information Modeling (BIM) to improve efficiency and provide upfront coordination with other trades, which makes for an economical installation," stated Berg Project Manager Geoff Haeger.



*Bergelectric is working directly with the **NAVFAC Southwest Division** in a design-assist role to deliver a new 23,393-sf **Global Support Squadron Command and Operations Facility**. In addition to providing site power distribution, Berg is responsible for all site lighting and branch conduits for the \$10-million facility.*

**T.B. Penick & Sons, Inc.** is a San Diego-based contractor responsible for construction of the facility under whose direction Berg will also provide design-build fire-alarm and tel/data systems, as well as rough-in for the security system. Because of **Travis AFB's** role as a global shipping point for supplies and personnel around the world, security is of particular importance during construction. "Due to heightened Homeland Security requirements, we had to address additional logistical challenges in getting materials and crews on the base," added Bergelectric Superintendent Chris Nelson. Upon completion of the two-story **Command and Operations Facility**, the **Air Mobility Command's** ability to deploy people and equipment will be extended literally to the ends of the earth.



# Breathing New Life into Campus Housing

## Design-Build Team Completes New Complex at University of Northern Colorado

Located less than 50 miles northeast of Denver, the **University of Northern Colorado (UNC)** in Greeley is creating new meaning for its mission “Bringing Education to Life” with the completion of the second phase of the **West Campus Housing** project. Replacing 1960s-era dormitories, the 721-bed complex offers the lifestyle and modern amenities that better reflect what **UNC** has to offer.

**M.A. Mortensen Company**, **Davis Partnership Architects** in association with **Centerbrook Architects** and Bergelectric were primary players in this \$58-million design-build endeavor on **UNC’s West Campus**. After completing the five-story Phase I building, Berg’s newest challenge was to deliver Phase II—electrical power, lighting, fire alarm, tel/data pathways and CATV wiring for the six-story **North House**—in time for the Fall 2009 semester.

### Foresight Facilitates a Timely Transition

Preplanning the phased approach early in the design stage and efficiently utilizing Building Information Modeling (BIM), Berg worked with **M.A. Mortenson** and other team members to produce full models of each building—which not only avoided potential conflicts in the field, but was instrumental in achieving a smooth transition to occupancy. Thinking ahead so that maximum economies could be achieved, medium-voltage conductors for the Phase I building were fed through the future Phase II site.

“We devised a plan that enabled us to provide power upon completion of the first building, so the initial wave of students could move in while the next structure was still under construction,” said Berg Superintendent Denny Bosko. With an intricately-timed strategy that was spearheaded by General Foreman Paul Beery, crews made a temporary tap into the campus’ power grid at the adjacent Dining Hall. Once the second building was completed, a “seamless outage” was scheduled during regular maintenance that permanently connected both housing buildings to the university power grid.

*M.A. Mortensen Company’s Denver Regional Office recently honored Bergelectric with its 2009 “Outstanding Overall Subcontractor” award.*



Early in the design phase, Berg worked with **M.A. Mortenson** and other team members to develop full models of the buildings that comprise **UNC’s new West Campus Housing**.

Photo courtesy of M.A. Mortenson Company



### The Greening of Greeley

Bergelectric, working in conjunction with electrical engineer **BCER**, developed a number of energy-conservation strategies, including compact fluorescent lamps, occupancy sensors and an after-hours sweep of the common-area lighting using an innovative energy-management system. During the day soaring windows naturally light the Octagonal Stair Tower, the centerpiece of the **North House**, while energy-efficient metal-halide spotlights and special LED wall grazers light the tower at night. Overall, the building lighting systems consume 40% less electricity than is required by the International Energy Conservation Code (IECC).

### M.A. Mortenson Names Bergelectric “2009 Outstanding Overall Subcontractor”

“We’re proud of our contributions that helped make the **West Campus Housing** project a sustainable facility that will meet the needs of the **University** well into the future,” noted Berg Project Manager Jeff Fischer. Recognizing Berg’s efforts to deliver the seamless and on-time delivery of a complex project that included green building, expert use of technology, cost-effective management of a volatile materials market, intensive field-tracking measures and quality control, the Denver Regional Office of **M.A. Mortensen Company** recently honored Bergelectric with its 2009 “Outstanding Overall Subcontractor” award.

# Berg’s Arsenal of Resources Provides Advantage on Massive Military Project

## Delivering Over One Million Square Feet of Housing with Sundt

When the “Grow the Army” and other Army transformation initiatives were set into motion, calling for increasing the size of this U.S. military force, they launched a phenomenal period of growth at **Fort Bliss**. From a mere 9,300 soldiers in 2005, this El Paso, TX-area base that trains, mobilizes and deploys combat forces is expected to house over 37,000 soldiers by 2012.

**Fort Bliss** is in the throes of an unprecedented expansion that includes 24 two-story buildings for **Unaccompanied Enlisted Personnel Housing** totaling over one million square feet of space, which is being delivered by the design-build team headed by **Sundt Construction**. In close coordination with architect **Michael Baker Jr. Incorporated** and electrical engineers at the **RMH Group**, Berg professionals provided design-assist services for all electrical and lighting, including motion sensors, branch wiring, electrical distribution and 500 kVA primary transformers.

### National Resources and Prefabrication Key to Streamlining

Booming construction in the El Paso area translates to limited local resources—but Bergelectric was able to call on its nationwide cadre of talent to meet the aggressive October 2010 schedule. In addition, Berg’s Phoenix prefabrication department contributed to the effort by preparing more than 32,000 devices and connectors and prefabricating the 1,440-unit electrical panels in advance of installation. “With the extra assistance from Berg’s Fire/Life Safety Division in Orlando which is responsible for the fire-alarm system, and our Portland Tel/Data Division taking on data cabling,



Bergelectric called on its nationwide cadre of talent to meet the aggressive October 2010 schedule for completion of 24 two-story buildings—totaling over one million square feet of space—for **Unaccompanied Enlisted Personnel Housing at Fort Bliss**.

the completion date established by the **US Army Corps of Engineers** is very achievable,” stated Bergelectric Project Manager Matt Ellison.

### Creative Approach Boosts Progress and Productivity

From materials deliveries to daily flow of more than 150 Berg electricians through the **Fort Bliss** entrance gate, security is of utmost importance at this military installation. Recognizing that personal vehicles are not allowed on site, and avoiding back-ups at the only security gate through which over 1,000 employees must enter, Bergelectric bused crews onto the base and staggered start times to improve efficiency on this \$172-million project. “In partnership with **Sundt** during the design phase, we also developed an innovative construction approach that formed specialized “swat team crews” scheduled to move swiftly through each of the 24 buildings to assure seamless progress and productivity,” added Bergelectric General Foreman Andres Giner.

*“After nearly 40 years in the construction industry, I consider Bergelectric to be one of the best electrical firms I’ve worked with—their professionalism, safety consciousness and quality are exceptional. ”*

Mike Mahoney, General Superintendent, Sundt



## ON TARGET

## Berg Has Ft. Benning Barracks Completion in Its Sights



This new \$50-million four-barracks project at **Fort Benning** is part of an **Army Corps of Engineers Multiple Award Task Order Contract** on which Berg is teamed with general contractor **Clark/Caddell Joint Venture**.

*Straddling the border between Georgia and Alabama, **Ft. Benning** is one of the Army's busiest installations—supporting more than 130,000 military personnel and civilian employees living, training or working there on a daily basis. As part of Base Realignment and Closure initiatives, the post is undergoing massive expansions and renovations. Estimated at \$3.5 billion over a four-year period, it is one of the largest and most aggressive construction programs in the southeastern United States.*

As home to the U.S. Army Infantry School and the Army's airborne school, as well as being the primary training installation for all Army infantry enlistees, preparing for additional recruits is a priority of the expansion. Bergelectric is helping to keep construction on target—installing electrical systems for four new barracks projects which are slated for a March 2010 completion. The buildings, totaling 225,000 square feet, will accommodate four platoons per barrack for advanced infantry

training (AIT) and basic training (BT) with sleeping quarters, washroom facilities, classrooms, multi-purpose room, arms vault, offices and a covered area for physical-training activities.

### Berg's Proven Capabilities Provide Multiple Advantages on MATOC

The new barracks project is part of an **Army Corps of Engineers Multiple Award Task Order Contract (MATOC)** on which Berg is teamed with general contractor **Clark/Caddell Joint Venture**.

Site logistics—complicated by the location of this **MATOC** in relation to the other large-scale construction projects taking place on the base—combined with an aggressive 11-month schedule posed significant challenges. “We were able to mobilize quickly with electrical crews that had existing knowledge of **Ft. Benning** and proven capabilities on similar barracks projects completed under another contract,” said Marcell

Beasley, Berg's project manager. Berg's experienced staff that included General Foreman Kelly Moose and Superintendent Greg Rothwell, was fundamental to keeping pace with **Clark/Caddell's** timeline and critical-path tasks.

Bergelectric relied on its Orlando detailing department to provide Building Information Modeling (BIM) input and maximize prefabrication opportunities on this \$50-million barracks project. Due to the repetitive nature of the barracks rooms, Berg was able to assemble many of the installations in advance for direct shipment to the building site. “By closely coordinating with our vendors and subcontractors, we have been able to provide cost savings—precisely quantifying and delivering materials that are ready for installation,” said Berg Project Engineer Robert Deaton.

In addition, Berg's Orlando Fire-Alarm Division contributed its expertise to the installation of fire-alarm and public-address systems that met the stringent standards of **Ft. Benning's** Fire Marshall and the **Army Corps of Engineers**. “We utilized the countless resources available to Bergelectric to provide a first-class product that meets the needs of today's soldiers,” added Deaton.

## A R I Z O N A

## Berg Energizes Hospitality and Entertainment Scene in Phoenix

Hyatt Regency Downtown Remodel is Latest in a String of Projects

*Hospitality in “America's Sunniest Metropolis” is alive and well—and Bergelectric has been at the forefront of helping to make Phoenix a mecca of entertainment and hospitality for its 13-15 million annual visitors and locals alike.*

From the 413,000-sf Wild Horse Pass Hotel & Casino, which began offering exciting accommodations, gaming and shows when it was completed last fall, to European-style pampering at the ultra-luxurious five-star InterContinental Montelucia Resort & Spa—Berg has helped deliver some of the brightest names in hospitality.

Sports arena-inspired entertainment venues and a world-class shopping experience can be found at Westgate City Center, one of the greater Phoenix area's most appealing venues to which Bergelectric contributed its expertise under the guidance of Perini Building Company. With general contractor Whiting Turner, Berg completed Phase I of the 936,700-sf Scottsdale Quarter—a venue that offers a sophisticated urban shopping and entertainment experience in a quaint suburban setting.

### Hospitality Icon Gets a Facelift

At the heart of the Valley of the Sun's capacity to welcome visitors, entertain guests, host sports superstars and house convention-goers is the **Hyatt Regency Downtown**. Because this 34-year-old icon is critical to the region being able to

support large-scale conferences and shows at the adjacent Phoenix Convention Center, it was essential that the recent \$2.5-million renovation not impact business during the hotel's peak season.

### Preplanning Keeps Berg Ahead of the Curve

Leading the charge was El Segundo-based general contractor **Excel & Associates**, which boasts such names as Sheraton, Ritz Carlton, Marriott, Radisson, Hilton and Hyatt in its star-studded list of clients. “Although the **Hyatt Regency Downtown's** renovations essentially took place during a tightly-orchestrated action-packed week over the Thanksgiving holiday, Berg's preconstruction preparations were essential to being able to meet the schedule,” stated Bergelectric Project Manager Kurt Linsenmayer.

The nearly 700-room hotel underwent a complete revamping of the 14,000-sf lobby area and fitness center, for which Bergelectric provided all electrical and lighting. Working two shifts throughout the entire seven-day period, as well as accomplishing much of the work in advance—including prefabrication of light fixtures and performing the front-desk electrical installation at the site of the millwork manufacturer—were critical to adhering to the drop-dead deadline.

“Lots of preplanning enabled us to take care of long-lead items in advance so our crews could focus on on-site tasks like installing new chandeliers, a dimming-control system and floor boxes,” added Bergelectric Superintendent Mike Faust.



Hyatt Regency Downtown Phoenix



Montelucia Resort & Spa



Scottsdale Quarter



Westgate City Center



Wild Horse Pass Hotel & Casino



# Integrated Technologies

## KEEP NAVAL FACILITY ON TRACK

The mission of **Naval Support Activity (NSA), Norfolk, Northwest Annex** is to “coordinate the provision of shore activity support”, which includes confinement housing. As a **Base Realignment and Closure (BRAC)**-sponsored project, construction of the 197,645-sf. **Joint Regional Correctional Facility** complex in Chesapeake, VA, is being driven by very stringent schedule requirements. With **Balfour Beatty Construction** at the helm of this \$61.6-million undertaking for the **Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic Division**, the project is moving full steam ahead.

Designed by **Moseley Architects** as a Level II, medium-security prison, the 400-person facility is on board to meet American Corrections Association (ACA) standards. Relying on Bergelectric’s depth of correctional facilities experience, Berg professionals are working closely with electrical engineers **Hankins & Anderson** in a design-build effort involving the 35kV power supply, tel/data and fire-alarm services, as well as the raceway for all low-voltage systems. “Our ability to provide detailing for the precast-panel layout and prefabrication of the wiring systems is a major contributor to staying on schedule,” stated Bergelectric Project Manager Rob Ford.

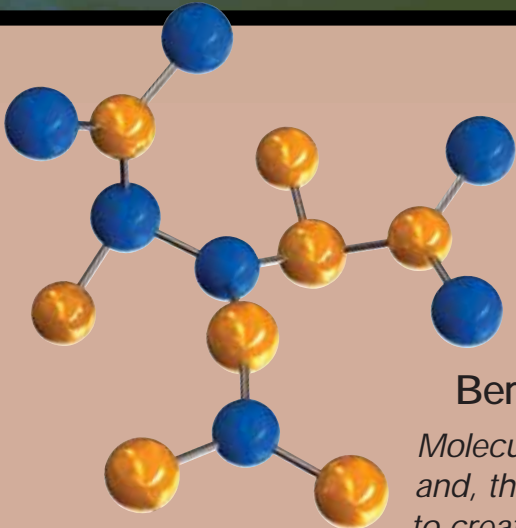
### Navigating Between Drawing Board and the Field

Even though the tight schedule required that construction set sail before final design was available, Berg’s powerhouse of technologies allowed the team to proceed with confidence. In addition to utilizing Building Information Modeling (BIM) throughout the design phase to facilitate trade coordination in the field, Berg’s other value-added arsenal of weapons are cadLive™ and Accubid, which provide integrated cost-impact reports as design progresses. “On the **Joint Regional Correctional Facility** complex, which includes five two-story pre-cast housing pods and an administration building, even the smallest change can be realized instantly through this bi-directional, real-time link between our CAD drawing and Accubid estimate,” noted Bergelectric Lead Estimator Zach Frye.

The result: complete data synchronization and Berg’s ability to provide more accurate project breakouts to the management team. With Berg’s value-added services and expertise in correctional-facility construction available to the project team, all systems are “go” for the May 2011 completion.



A tight schedule required that construction of the Level II, medium-security **Joint Regional Correctional Facility** commence before the final design was completed. Berg’s depth of correctional facility experience and powerhouse of technologies allowed the team to proceed with confidence.



# Tiny Beginnings Lead to Big Breakthroughs

## Berg Assisting in Delivery of Nation’s Largest Molecular Engineering Facility

*Molecular Engineering (MoE) is rooted in one of the smallest possible building blocks of construction and, thanks in large part to breakthroughs in nanotechnology, is revolutionizing the ability of scientists to create systems that can actually sense their surroundings and operate in a changing environment.*

*Imagine being able to precisely identify the location of disease on the cellular level and then send in safe biologic agents to treat the defined area with pinpoint accuracy. This is just one example of innovations in the areas of healthcare, energy and the environment, which the interdisciplinary research team of engineers, chemists, biologists, medical scientists and computation/modeling experts will be pursuing at the new **University of Washington (UW) Molecular Engineering Building**.*

### Significant “Firsts” in Seattle

Upon occupancy in 2012, the 90,000-sf **UW Molecular Engineering Building** will not only be the nation’s largest molecular-engineering facility, it will also be the first facility to be solely dedicated to this cutting-edge science. After years of successful collaboration with **Hoffman Construction Company** throughout the Northwest, this project marks Bergelectric’s first construction endeavor with **Hoffman** in the Seattle area, having most recently teamed on a \$32-million biomanufacturing facility in Idaho.

Berg is coordinating with **ZGF Architects** and electrical engineers **AEI** on the **UW** facility’s Extremely Low Frequency (ELF) magnetic shielding that will reduce electromagnetic interference from the electrical-room areas. Bergelectric is contributing its expertise to this highly-specialized area, which is essential to the extremely sensitive scientific measurements that will take place in the subterranean research laboratories. “Our ability to provide 3D Modeling and precise detailing coordination with both mechanical and electrical trades on wall penetrations for conduit is critical to achieving shielding goals for electromagnetic interference,” explained Berg’s Lead Detailer Gordy Petterson.

### A Big Vision for the Future

“In order to accommodate long-term expansion plans, which include a second building for teaching and office space connected to the facility currently under construction, our professionals are diligently working to coordinate conduit placement—both slab and overhead—as well as assessing future needs for electrical feeder lines,” added Berg Project Manager Bob Brown.

Berg’s role in the university’s pursuit of a Leadership in Energy and Environmental Design (LEED) Silver Certification, which includes features such as natural ventilation and a “green” roof, will be focused primarily on providing natural and energy-efficient lighting that will cut future utility costs in the \$36-million facility. With the newly-formed Institute of **Molecular Engineering & Sciences’** energy challenge—“design efficient and cheap organic solar cells” to be offered to every home—costly conventional silicon photovoltaic devices may soon be a thing of the past.



Berg’s ability to provide 3D Modeling and precise detailing coordination on the **UW Molecular Engineering Building** is critical to achieving shielding goals for electromagnetic interference.

Rendering courtesy of ZGF Architects, LLP