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Neon Green

by Ron Harwood and Kelly Stechsulte
September 22, 2010

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Journalist and author Chuck Palahniuk once said, "Las Vegas looks the way you'd imagine heaven must look at night." There is, perhaps, nowhere else on earth where the electric kaleidoscope that lights up the night sky does so with as much in-your-face enthusiasm and unabashed radiance as the iconic Las Vegas Strip.

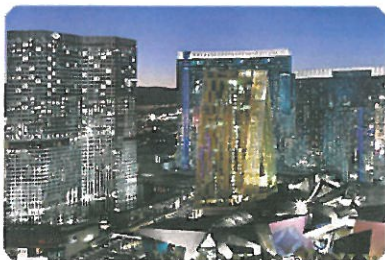
For some perspective on the extraordinary energy appetites created by this brilliantly lit urban oasis in the desert, consider the astonishing fact that even if all of the power generated by the nearby Hoover Dam was channeled exclusively to Las Vegas, the massive facility would be able to deliver only about 5 percent of the city's power needs.

In the context of a place that has garnered a reputation for eye-popping visuals, breathtaking neon and digital lightscapes, and a general atmosphere of glorious and decadent excess, the achievements of the newest addition to the Vegas skyline are all the more impressive.

MGM's CityCenter, an \$8.7 billion mixed-use development in the heart of the Strip, has managed to not only stand out amid a crowded field of attention-grabbing competitors but also do so while meeting the U.S. Green Building Council's Gold rating for LEED energy-efficiency standards on every eligible component of the project – the highest LEED achievement by any hotel, retail district or residential development in Las Vegas. As a result, this new Vegas landmark is one of the world's largest sustainable developments.

How one of the world's largest, most-ambitious private projects has managed to go green, and to do so while maintaining a high-end design aesthetic that meets and exceeds Vegas standards for luxurious opulence, is an impressive — and instructive — lesson in coordination, innovation, collaboration and inspired lighting design and engineering.

The Dream Team



CityCenter's LEED Gold credentials are a tribute to a strategic approach that combined both inspired management and cutting-edge lighting design. Copyright 2009 CityCenter Land LLC

The largest privately funded real estate project in American history, the 20-million-square-foot CityCenter is the result of a collective vision that emerged over half a decade of design and development. Executive architect Gensler led an international team of eight world-class architectural firms who worked to refine a master plan originally developed by New York's Ehrenkrantz, Eckstut and Kuhn Architects. The result is something unique to Las Vegas: a vertical, high-density mixed-use urban community where architectural and experiential elements come together with energy, artistry and grace. From gaming and live entertainment to world-class dining, residential and hospitality components, CityCenter's sleek and sophisticated architectural design set the stage for a diverse blend of appealing lifestyle features and engaging public spaces. The project includes the 4,004-room ARIA Resort & Casino; Mandarin Oriental, Las Vegas; Crystals retail and entertainment district; Vdara Hotel & Spa; The Harmon Hotel; and Veer Towers.

The task of delivering a lighting design that satisfied the grandly ambitious CityCenter vision, while still meeting what would be (for a project of this size and complexity) unprecedented standards for energy

conservation and sustainability, fell to Farmington Hills, Mich.-based lighting design firm Illuminating Concepts. And while technology, creativity and premier engineering and lighting design all played a part in executing that vision, CityCenter's impressive LEED credentials are a tribute to a strategic approach that combined both inspired management and cutting-edge lighting design.

A Visual Pizzazz

In the same way that Gensler was tasked with harnessing the talents of several architectural teams, Illuminating Concepts was asked to do something that had never been done before for a project of this size or scope: serve as executive lighting consultant. The firm oversaw and coordinated the work of 17 different lighting designers, taking on the challenge of serving as executive lighting consultant while simultaneously overseeing procurement, integration, implementation and documentation in many cases.

To ensure that the overall design met all codes, standards and specifications and was delivered on time, Illuminating Concepts brought the entire spectrum in-house. A collaborative structure between design and procurement teams brought a critical degree of cooperative engagement to the process, and a constant onsite presence ensured

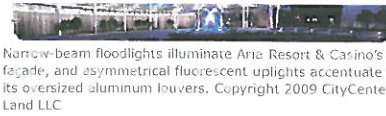


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smooth integration and implementation. By working in concert with the project's other contractors and coordinating energy-consumption logistics with the project engineers, the firm was able to strike a productive balance between creativity and engineering requirements.



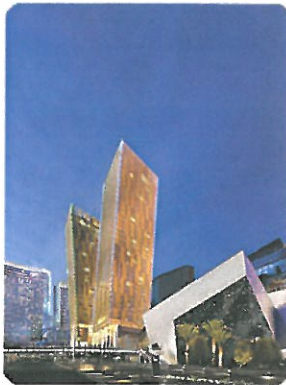
Narrow-beam floodlights illuminate Aria Resort & Casino's façade, and asymmetrical fluorescent uplights accentuate its oversized aluminum louvers. Copyright 2009 CityCenter Land LLC

In a nod to the size and complexity of the CityCenter development, Illuminating Concepts actually developed a white paper that not only outlined compliance codes and regulations methodology but also included documents standards as well as local code and LEED compliance translation.

Ultimately, Illuminating Concepts and the team of CityCenter lighting design firms implemented a projectwide lighting package that spans all 20 million square feet.

Perhaps even more importantly, the finished product shines. CityCenter glows with the radiance and visual pizzazz you might expect from a Strip headliner, but it does so without the extra wattage. "There are fewer lights per person at CityCenter than most projects in Las Vegas, but you would never know that to look at it," says Ron Harwood, president and founder of Illuminating Concepts. "It's one of the most spectacular and brilliant jewels in the Las Vegas crown, but it remains so by applying standards for energy consumption that are relevant to LEED certification."

Taking the LEED, Lighting the Way



Illuminated by small LED spotlights, the corners of the Veer Towers define the edges of two buildings that "veer" away from each other. Copyright 2009 CityCenter Land LLC

This low-energy, high-impact result was less the result of groundbreaking new technological breakthroughs as much as the thoughtful application of insight and experience and an illumination strategy that emphasized the unique qualities of each structure. While the structural nuances and unique architecture presented challenges with respect to design, documentation, specification, field review and final fit-out, the structural and experiential diversity also enabled lighting designers to take full advantage of distinctive architectural elements.

Whenever possible and appropriate, subtle touches were used to great effect. Small LED spotlights outside the 500-foot-tall Veer Towers were designed to fit onto the perforated fins that wrap each floor around the multistory building. The result is that the corners of the building change color very slowly and help to define the edges of two buildings that "veer" away from each other, similar to the Leaning Tower of Pisa. Narrow-beam floodlights atop Aria's podium illuminate the hotel's façade, while warmer light sources illuminate entry corridors and interior spaces. Uplights along the base of buildings define perimeter contours and enhance the pedestrian experience.

Illuminative accents are evident both inside and out, and designers took full advantage of reflective surfaces to heighten the visual impact and articulate the distinctive planes, curves and edges of CityCenter's buildings. The Pelli Clarke Pelli-designed Aria Resort & Casino deploys asymmetrical fluorescent uplights to accentuate eye-catching oversized exterior aluminum louvers, and the Rafael Viñoly Architects-designed Vdara Hotel uses targeted floodlights to highlight bands of glazed white glass that define the building's exterior.

Extraordinary, memorable and sustainable, MGM's CityCenter's is convincing evidence that creative lighting design and engineering can meet LEED Gold standards while still standing out amidst the theatrical splendor of the most-visually dynamic city in the world.

Ron Harwood and Kelly Stechschulte

Ron Harwood is president of Farmington Hills, Mich.-based Illuminating Concepts. Kelly Stechschulte serves as the company's project director. Founded in 1981, Illuminating Concepts is a full-service design and implementation firm providing award-winning lighting, multimedia and entertainment systems for architectural, retail, environmental, public and theatrical environments worldwide. For more information, visit www.illuminatingconcepts.com.



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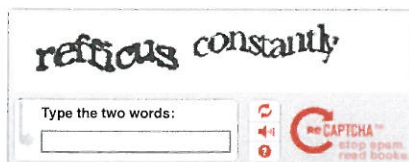
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