

HOUSING



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STRUCTURAL
ENGINEERS



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save lives, impact economies

Miyamoto International is a global earthquake + structural engineering and project management company providing critical services that sustain industries and safeguard communities around the world.

We are experts in high-performance engineering that reduces lifecycle costs and produces a positive net impact on a structure's operation. We assess the performance of structures to identify specific vulnerabilities, and prioritize solutions that limit business interruption and reduce property damage.

Built on decades of earthquake and structural engineering experience in the field, our expertise supports how clients address the economic, political, social, sustainability and resiliency challenges in earthquake risk reduction and post-disaster recovery and reconstruction.

Miyamoto offices are strategically located worldwide in earthquake-hazard regions to positively impact economies and save lives.

Sacramento
San Francisco
San Jose
Los Angeles
Orange County
San Diego
Reno
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Mexico
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Nepal
Japan
New Zealand

make the world a better, safer place.



The Mint at 6th and Lucas is an existing 45,000-SF, eight-story concrete building with a basement. Previously used as an outpatient medical center, the building was converted into a 42-unit residential apartment building. This historic structure, representing the city's 1920s Chicago and Beaux-Arts styles, was seismically upgraded to the current requirements of the 2010 California Building Code and 2011 Los Angeles Building Code. The seismic retrofit components of the project required introducing new concrete

shear walls and coupling beams, a new foundation and strengthening of the existing diaphragm by adding new collector elements. A material testing program following the comprehensive data collection requirements of ASCE 41 was used to evaluate the existing structural material properties. A challenging aspect of this project involved shoring existing columns to eliminate the need for sequencing the foundation work and contributing to an expedited construction schedule.

6th and Lucas, The Mint, Seismic Retrofit and Adaptive Reuse

LOCATION:
Los Angeles, CA

YEAR:
2015

CLIENT:
Holland Construction

CONSTRUCTION COST:
\$10 Million

SCALE:
45,000 SF



An eight-story, mixed-use development consisting of seven stories of affordable housing and one story commercial retail space and a medical clinic. The apartments include studio and one-bedroom units, with 75 of the 150 will be set aside as Permanent Housing Support for the displaced. Units are built over two-way P.T. concrete slabs and include a community plaza/terrace and roof gardens. The lateral force resisting system consists of just 2 “T-shaped” interior shear walls for the entire building. The concrete structure of the

building is exposed to the interior to take advantage of the thermal storage capacity of the concrete, which will stabilize the building temperature. Exposing “thermal mass” on the ceilings, columns and some walls allows enormous energy savings over the life of the building. Sustainable design elements include the use of photovoltaic and solar energy sources, greywater and rainwater harvesting, thermal mass, daylighting, access to public transit, high efficiency fixtures, green roof and low irrigation landscaping.

Mercy Housing, 7th and H Streets

LOCATION:
Sacramento, CA

YEAR:
2012

CLIENT:
Mogavero Notestine Associates,
Mercy Housing California

CONSTRUCTION COST:
\$30 Million

SCALE:
118,000 SF

AWARDS:
2014 AMERICAN PLANNING ASSOCIATION,
SACRAMENTO VALLEY SECTION, URBAN DESIGN
AWARD

SEAOCC 2013 EXCELLENCE IN STRUCTURAL
ENGINEERING AWARD

MFE 2013 PROJECT OF THE YEAR AWARD

2013 GOLD NUGGET AWARD

2012 ARCHITECTURAL PROJECT OF THE YEAR,
AMERICAN SOCIETY OF CIVIL ENGINEERS



The seismic deficiencies of this 1960s-era, eight-story residential tower, formerly known as “Marina View Towers,” were numerous and severe. When coupled with the region’s high seismicity and bay mud soils, it was considered to be a dangerous building at high risk of collapse during a significant earthquake. Given these facts, Carmel Partners retained Miyamoto to design a seismic upgrade to mitigate this risk and make the building a safer place for residents, while preserving occupant views of

the bay. The existing structure was built with what is commonly termed “lift-slab” construction, consisting of large sections of post-tensioned concrete slabs that are cast on the ground-floor slab around built-up steel box columns, hoisted (or “lifted”) up and nominally secured into place, and then interconnected with closure strips. Finally, the building’s lateral force-resisting system, consisting of double-angle braces in each direction, was welded to steel sections embedded into the lift slabs.

Panomar

LOCATION:
Alameda, CA

YEAR:
2013-2015

CLIENT:
Carmel Partners

CONSTRUCTION COST:
Estimated \$8 Million

SCALE:
125,000 SF



The design for the Lombardi, a new 98,000-SF residential and retail over 54,000-SF of parking, seven-story mixed-use building for M Capital Partners, incorporates six levels of residential apartments (89 units), one level of retail space, three levels of underground parking garages, 98 dedicated bike parking spaces and a roof sky deck. The ground floor includes a courtyard, clubhouse and fitness facility. REVIT is being used from project design and coordination to construction. Unique aspects of construction for this building at 1717 N. Bronson in Los Angeles is that it is primarily a wood-framed (Type III)

building on top of a concrete structure (Type I) with two-way conventional reinforced concrete podium slab. The lateral system consists of special reinforced concrete shear walls at concrete levels and wood framing sheathed with structural panels for shear resistance. Dampers are introduced around the corners of the building to reduce the torsional response of the concrete structure as voluntary seismic enhancement. The building will sit just two block from the Hollywood Walk of Fame with great views of the Hollywood Hills and the iconic Hollywood sign.

The Lombardi

TRACKING USRC SILVER STATUS

LOCATION:
Los Angeles, CA

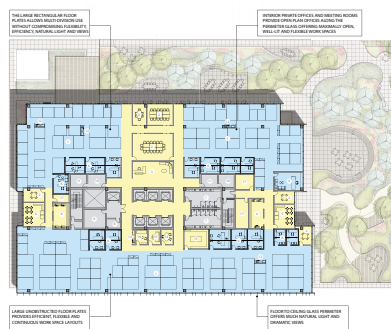
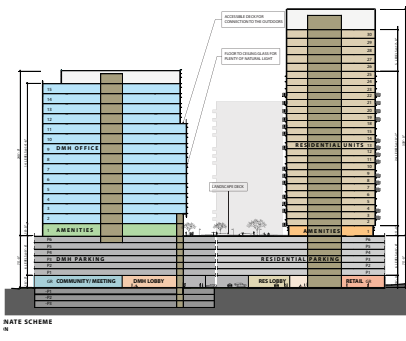
YEAR:
2018

CLIENT:
M Capital Partners

ARCHITECT:
Steinberg Architects

CONSTRUCTION COST:
\$35 Million

SCALE:
152,000 SF



Vermont Corridor

LOCATION:
Los Angeles, CA

YEAR:
2017 (anticipated)

CLIENT:
Lincoln Properties (developer)
Johnson Fain (architect)
Clark Construction (contractor)

CONSTRUCTION COST:
Est. \$400 Million

SCALE:
23-Story office tower over 8 level of parking (483,000 SF of parking, 472,000 SF of office)

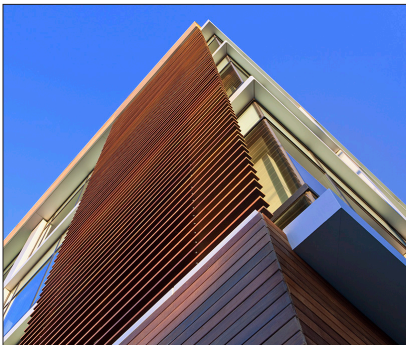
28-Story residential tower (300,000 SF residential and 229,000 SF parking, 10,000 SF retail).

Total project 1.5M GSF

Renovation of the existing eight-story parking structure

The County of Los Angeles has invited private developers to a Public-Private-Partnership competition to relocate Department of Mental Health employees to a new, high-quality, architecturally prominent, cost-effective headquarters facility, consolidate other departments in the Vermont Corridor and provide the highest economic benefit to the County through sale or ground lease of the properties. The project area is located on Southern Vermont Avenue between Fourth and Sixth Streets. Miyamoto International was the Structural Engineer on a Design-Build team lead by Lincoln Properties, Johnson Fain Architect

and Clark Construction. Our team is collaborating with the design-build team to develop the design, including one office tower and two residential towers with retail on the ground floor. The office tower is a steel structure braced by Buckling Restrained Braced Frames (BRBF). The two residential towers are concrete structures braced by central core shear walls. The great synergy among the members of the design-build team has produced an aesthetically interesting architectural design with an economical and efficient structural system that meets a very aggressive construction schedule.



2600 Capitol Office Building, also known as the Green Office Building, is a clean, modern facility that captures the essence of Midtown Sacramento. It is designed to meet sustainability standards with energy saving and water conservation features. The building consists of office space in the upper floors and retail space on the

ground floor. The building received an energy-efficient Gold rating for core and shell from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED). The owner reports that their operating costs are less, helping them attract the best, forward-thinking tenants to the project.

Loftworks at 2600 Capitol

LEED Gold®

LOCATION:
Sacramento, CA

YEAR:
2008

CLIENT:
Loftworks (Owner), Fulcrum
(Developer), Lionakis (Architect)

CONSTRUCTION COST:
\$6.5 Million

SCALE:
55,000 SF

AWARDS:

2008 SACRAMENTO BUSINESS JOURNAL JUDGE'S CHOICE

2009 UNITED STATES GREEN BUILDING COUNCIL (USGBC) LEED GOLD CERTIFICATION



CADA has awarded Miyamoto International with an annual On-Call contract for the last seven (7) consecutive years. Under this umbrella, responsibilities have encompassed structural engineering and project management services as needed to manage CADA's portfolio of both new and existing buildings. This effort has encompassed on-site investigations to document existing conditions and assess project requirements. We have also prepared structural drawings, specifications, schedules, calculations and reports needed for agency approvals and construction. Some of the task orders have included:

- 1001 Q Street Damage Investigation, Sacramento
- 1108R Street/1801 11th Street, Investigation, Sacramento
- 1220 P Street Balcony Repair, Sacramento
- 1326 P Street Portal, Sacramento
- 1510 15th Porch, Sacramento
- 1520 16th Street Deck Repairs, Sacramento
- 1616 N Street HVAC Upgrade, Sacramento
- 1625 O Street, Sacramento
- 13th & P Streets, Structural Plan Review, Sacramento
- Mercury Cleaners Structural Investigation & Sign Relocation, Sacramento
- Office Building Noise Investigation, Sacramento

Capitol Area Development Agency (CADA), On-Call Services Contract

LOCATION:
Sacramento, CA

YEAR:
2009 to 2016

CLIENT:
Capitol Area Development Agency





This 80-year-old historical concrete structure, the Elliott Building, formerly housed a car dealership. The rehabilitated building is now home to 18 premier lofts and creative office spaces, as well as several restaurants on the ground level. Using high-performance engineering, Miyamoto design utilized friction dampers to dissipate the dynamic energy of an

earthquake, and fiber reinforced polymer composites to increase the floor capacity—an exemplary example of how innovative design facilitates adaptive reuse of historical buildings in today's urban landscapes. The project has won numerous design awards from industry associations.

Elliott Building, Historic and Seismic Rehabilitation

LOCATION:
Sacramento, CA

YEAR:
2003

CLIENT:
Loftworks

CONSTRUCTION COST:
\$7.1 Million

SCALE:
52,800 SF

AWARDS:

2004 BEST MIXED-USE FACILITY AWARD OF MERIT, GOLD NUGGET AWARDS

2004 BEST RENOVATED, RESTORED SINGLE HOUSE OR PROJECT GRAND AWARD GOLD NUGGET AWARDS

2004 BEST NEW USE OF TECHNOLOGY IN RETROFIT/ALTERATION AWARD, SEAOC

2003 BUILDING PROJECT OF THE YEAR, AMERICAN SOCIETY OF CIVIL ENGINEERS

2003 BEST IN COMMERCIAL REAL ESTATE DESIGN, SACRAMENTO BUSINESS JOURNAL



Cabrillo Towers

STORIES:

23

LOCATION:

Santa Ana, CA

Concrete core and post-tensioned concrete with a two-way slab system. This site was underlain with soft soils at a deep strata to mitigate the financial impacts to the project.

Miyamoto sought out an auger cast, pressure grouted foundation system that saved millions of dollars over a more conventional drilled deep foundation system.



The Ramona

LOCATION:
Portland, OR

YEAR:
2010

CLIENT:
Ankrom Moisan Associated Architects

CONSTRUCTION COST:
\$35 Million

SCALE:
138-Units

Pearl Family Housing is a six-story, wood-framed, full city-block building consisting of 138 units. The tenant's family income may not exceed 60% of the Median Family Income (MFI) in the Portland area. A sustainable practice of advanced framing was used, minimizing the amount of lumber needed and resulting in 33% less dry

shrinkage in the building, creating a more durable exterior wall. The project boasts a green roof, rooftop solar array, and five stories of brick veneer supported by the wood frame and jointed for earthquake and wind movements. The new HVAC systems increased efficiency and improve air quality and circulation.



Miyamoto is engineering a 23-story, mixed-use, high-rise with three levels of underground parking, ground-level retail space and five levels of offices. The remaining levels will be condominiums. This concrete structure is being designed with cutting-edge, performance-based design that incorporates seismic dampers at the upper levels. A special feature of this project is that the high-rise will have mechanical services provided to it by an independent central utility plant that will eventually service more than 30 surrounding buildings. The plant

will be housed in the basement of the adjacent parking structure, which is closely tied to the tower. Access between the tower and parking garage is provided at the lower levels, while pedestrian access is allowed for the remaining nine levels of the parking structure above ground. The intent of this design is to provide a structure that not only meets the code's goal of life safety, but will enable the structure to be fully operational without the added cost of retrofit after a major seismic event.

Reno Mixed-Use High Rise

LOCATION:

Reno, NV

YEAR:

2019

CLIENT:

Secundo Vita Duo, LLC
Cathexes Architecture

CONSTRUCTION COST:

\$65 Million

SCALE:

301,000 SF Building
205,000 SF Garage



The University of California, Davis West Village is the largest planned net zero energy community in the United States. Miyamoto provided structural design services for the new student housing portion of this 220-acre, 1,860 bed new mixed-use district integrating student, faculty, staff housing and educational facilities, all centered on a civic village square. West Village housing was planned to be the largest zero-net energy community in the United States. As a net zero energy development, UC Davis West Village is

designed to generate as much energy as it consumes. With a high efficiency 4-megawatt solar power system, on sunny days, the solar panels generate more electricity than is needed for the site and send some back to the power grid. Elements of sustainable design are integrated into the site plan and sustainable elements were used during construction. This enables those living in West Village to limit energy consumption and enjoy the benefits of the local climate in a healthy environment.

University of California, Davis, West Village Student Housing

LEED Gold® Net Zero Energy

LOCATION:
Davis, CA

YEAR:
2013

CLIENT:
MVE Institutional Inc.

CONSTRUCTION COST:
\$48 Million

SCALE:
220 Acres



Miyamoto provided structural engineering design services for the University of California, Riverside Lothian Residence Hall. This seismic strengthening package consists of bringing three buildings and over 200,000-SF of existing structure into compliance with the University of California's Seismic Safety Policy. Miyamoto proposed and implemented structural solutions that could be quickly constructed during the summer

break and phased the execution of the projects over three summers in order to minimize interruption and maximize the University's business continuity. The seismically deficient building types included a four-story concrete lift-slab residence hall with architectural precast skin, a four-story light framed shear wall dormitory, and a one-story restaurant with pre-cast concrete double-tee roof framing and concrete shear walls.

University of California, Riverside, Lothian Residence Hall, Seismic Upgrades

LOCATION:
Riverside, CA

YEAR:
2013-2016

CLIENT:
UC Riverside Capital Programs
Architects & Engineers

CONSTRUCTION COST:
\$ 8 Million

SCALE:
West Lothian: Approx. 70,000 SF
East Lothian: Approx. 120,000 SF
Restaurant: Approx. 21,000 SF



West Gateway Place, a mixed-use, transit-oriented project in West Sacramento's Bridge District, was the only affordable housing project in the four-county region to win a cap-and-trade grant for 2015. Formerly known as Delta Lane, the project includes two multi-family, wood-framed buildings over steel framed retail and parking areas. The buildings include 175 affordable apartments for families and seniors. Miyamoto engineers were able to complete the design and

drawings on an accelerated schedule and received great compliments from the City of West Sacramento on the completeness of the drawings and design. West Gateway Place is one of 28 projects across the state that officials recommended for an affordable housing grant. The project was funded in part because of its close proximity to public transportation and the fact that the project was ready for immediate construction.

West Gateway Place

LEED Silver®

LOCATION:
West Sacramento, CA

YEAR:
2016

CLIENT:
Mogavero Notestine Associates

CONSTRUCTION COST:
\$19 Million

SCALE:
37,000 SF

AWARDS:

2017 NATIONAL ASSOCIATION OF HOME BUILDERS (NAHB) BEST IN AMERICAN LIVING, AFFORDABLE MULTI-FAMILY



Located within minutes from the university, the Upper Eastside Lofts fulfills the campus' need to provide additional housing for its students. Designed in an urban loft style with modern and upscale decor, this

four-story, 135-unit student residence project has the capacity to house 440 students. The structural design utilized a highly efficient wood-framed shear wall system made possible by the stacked unit design.

California State University, Sacramento, Upper Eastside Lofts

LOCATION:
Sacramento, CA

YEAR:
2006

CLIENT:
Fletcher Farr & Ayotte

CONSTRUCTION COST:
\$20 Million

AWARDS:

2010 TRUSTEES AWARD FOR EXCELLENCE IN HISTORIC PRESERVATION

2010 PRESERVATION TECHNOLOGY CATEGORY, CALIFORNIA PRESERVATION FOUNDATION

2010 STRUCTURAL ENGINEERS ASSOCIATION OF CALIFORNIA, AWARD OF EXCELLENCE RETROFIT



The rehabilitated four-story, Ping Yuen Center offers 81 studio and one-bedroom apartment homes nestled around the main Chinese garden-style courtyard. The ground floor features a resident community meeting room, a private laundry facility, management offices and the building maintenance operations office. The addition and

renovation of the existing building is made of concrete and masonry walls, precast plank floor and roof construction. The addition consists of steel frame with precast floor and roof planks. The first floor is partially below surrounding grade with retaining walls at North and East elevations.

Ping Yuen Senior Housing

LOCATION:
Sacramento, CA

YEAR:
2004

CLIENT:
YHLA Architects

CONSTRUCTION COST:
\$10.2 Million

SCALE:
78,900 SF



The 3-story, 90-bed assisted living community features 70 patient rooms, memory care units, kitchen, dining and

activity rooms, and a 2-story entrance. The structure consists of wood light-framed construction.

Torrance Nursing Facility

LOCATION:
Torrance, CA

YEAR:
2015

CLIENT:
Rengel & Co. Architects

CONSTRUCTION COST:
\$20.4 Million

SCALE:
3-story
51,600 SF



The evaluated building is 44 floors total (39 floors above the ground, 5 underground) designed as 180m-high, multi-story reinforced concrete structure. The lateral resisting system consists of reinforced concrete shear walls and moment frames. The client hired Miyamoto to evaluate the building's performance for post-earthquake sustainability and confirmation for business continuity. The most serious post-earthquake

problems experienced in high-rise buildings can be summarized as facade damages restricting the building usage, shutdown of vertical transportation resulting in direct business interruption and plumbing damages preventing the water supply. The evaluation was carried out per the USRC* (United States Resiliency Council) Rating System's Safety, Damage and Recovery criteria.

High-rise Building in Istanbul

USRC Rated Evaluation

LOCATION:
Istanbul, Turkey

YEAR:
2017

CLIENT:
Mapfre Insurance

CONSTRUCTION COST:
\$48.5 Million

SCALE:
45,500 m²

**Miyamoto International is one of the founding members of USRC.*



This project consists of two phases. The first phase is a 7-story mixed-use development, including 274 residential and live-work units with five stories of Type III wood-framed construction over a two-level parking structure plus basement of Type I podium level concrete construction with an additional story of below grade parking.

The total building area is approximately 490,755 SF, with 162,641 SF of parking providing 484 parking spaces, 57,094 SF of office space and 74,701 SF of ground floor commercial space. The second phase is a 12-story hotel with an estimated construction of \$30 million. The design is estimated to start in the first quarter of 2018.

6041 Variel Avenue

LOCATION:
Woodland Hills, CA

YEAR:
2019

CLIENT:
6041 Variel, LLC

OWNER:
BCEGI (Beijing Construction Investment USA)

CONSTRUCTION COST:
\$105 Million

SCALE:
785,191 SF



Olive Plaza Apartments

LOCATION:
Eugene, OR

YEAR:
2015

CLIENT:
Robertson Sherwood Architects

CONSTRUCTION COST:
\$2,132,690

SCALE:
108,000 SF

The Olive Plaza Building was originally constructed in the 1980s. Miyamoto completed a seismic rehabilitation of this existing 12-story, 108,000-SF, concrete lift-slab building to meet requirements set forth by the Department of Housing and Urban Development (HUD). The Phase 1 structural investigation showed that the existing reinforced concrete shear walls were deficient for seismic loading based on HUD requirements.

The understrength of the walls was solved by implementing super thin Fiber Reinforced Polymer (FRP) strips to strengthen the concrete. In some locations, concrete pilasters were added, but were limited in both size and number to minimize the impact on tenants. This also reduced cost because the amount of finishes that had to be removed and replaced was significantly smaller than an all-concrete solution.

HOUSING EXPERIENCE

Apartments and Condominiums

O1 Lofts

Sacramento, CA

1201 and 1223 Q Street

Sacramento, CA

Acacia Glen Apartments

Woodland, CA

Apartment Building 1955

Santa Monica, CA

Bahia Vista Condominiums

Catalina Island, CA

Buddhist Apartments

Los Angeles, CA

Bodream Housing, 176 Unit Villas

Mugla, Turkey

Bundang Hanyang Apartments

Seoul, Korea

CADA East End Gateway Sites 2 and 3

Sacramento, CA

Captain's Landing

Novato, CA

Chambers Landing Condominiums

Lake Tahoe, CA

Cliff House (Shaheen Residence)

Sacramento, CA

Colonia San Martin

Sacramento, CA

Creekside Village Apartments

Sacramento, CA

Elliot Building (East End Lofts)

Sacramento, CA

Empire Center Condominiums

Oakland, CA

F65

Sacramento, CA

Fibalife Housing Project, 6 Apartment Blocks

Istanbul, Turkey

Fresno Housing Authority Droge

Development

Fresno, CA

The Grove

Sacramento, CA

Heather Downs

Sacramento, CA

Hidden Oaks Apartments

Carmichael, CA

Lakeshore Townhomes

Redwood City, CA

Mahal Plaza Apartments

Yuba City, CA

Marks Residence (River House)

Sacramento, CA

Monterey Park Condominiums

Monterey Park, CA

Oakland Condominiums

Oakland, CA

Park Bentley Condominiums

Los Angeles, CA

Pepperdine University Graduate Apartments, Phase I and II

Malibu, CA

Peppertree Creek Condominiums

Castro Valley, CA

Q Street Lofts

Sacramento, CA

Regency Townhouse

Temple City, CA

River Landing Condominiums

Sacramento, CA

Riverview Condominiums

Sacramento, CA

Riverview Townhomes

Truckee, CA

Sabah Apartments

Kuwait

Stonebridge

Sacramento, CA

Sycamore Pointe Apartments

Vacaville, CA

Tarmigan Terrance Apartments

Sacramento, CA

Tuscany Village

Chico, CA

Upper Eastside Lofts, California State University, Sacramento

Sacramento, CA

Olive Plaza Apartments

Eugene, OR



Elliot Building (East End Lofts)
Sacramento, CA



Ping Yuen Senior Housing
Sacramento, CA

Assisted Living Housing

Eskaton, 84-Units, Assisted Living
Gold River, CA

Eskaton, Assisted Living Facility
Roseville, CA

Eskaton, Assisted Living Facility
Placerville, CA

Ping Yuen Senior Housing
Sacramento, CA

Wellbrook Assisted Living and
Memory Care Building
Riverside, CA

Wellbrook Assisted Living and
Memory Care Building
Santa Monica, CA

Wellbrook Assisted Living and
Memory Care Buildings 1 and 2
Torrance, CA

Mixed-Use Housing

CADA East End Gateway, Sites 2 and
3 Legado de Ravel
Sacramento, CA

Centre Street Lofts
San Pedro, CA

Citizen Hotel Historic and Seismic
Rehabilitation
Sacramento, CA

Criterion Redevelopment, Adaptive
Reuse
Santa Monica, CA

Elliott Building, Historic and Seismic
Rehabilitation
Sacramento, CA

Globe Mills, Historic and Seismic
Rehabilitation
Sacramento, CA

Hotel Woodland
Woodland, CA

Izmir High-End Mixed-Use Project
Izmir, Turkey

Mercy Housing, 7th and H Streets
Sacramento, CA

Reno Mixed-Use High Rise
Reno, NV

The Stockton, Historic and Seismic
Retrofit
Stockton, CA

Vermont Corridor
Los Angeles, CA



CADA East End Gateway, Sites 2 and 3
Legado de Ravel
Sacramento, CA



Mercy Housing, 7th and H Streets
Sacramento, CA



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