

**BRYAN ALLRED, S.E.**  
**Vice President**  
Seneca Structural Engineering, Inc.  
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**Bryan Allred's** professional interest and experience are in the area of seismic analysis and design of post-tensioned and reinforced concrete structures. He has participated in the design and is the engineer of record of many diverse projects from parking structures, hotels, slabs on ground, to external post-tensioned retrofit, as well as the seismic evaluation and analysis of existing concrete and steel buildings. Mr. Allred has been a lecturer in the graduate program at Cal Poly Pomona and the undergraduate program at U.C. Irvine. In addition to having authored and co-authored numerous technical papers which have been published in conference proceedings and professional magazines throughout the United States, Mr. Allred has also taught at numerous seminars/webinars primarily focusing on the design of seismic reinforced concrete elements and post-tensioned structures. Mr. Allred is also the co-author of the book "Post-Tensioned Concrete Principles and Practice" which covers the design of post-tensioned concrete structures from fundamentals to specific construction detailing. Mr. Allred is a licensed civil and structural engineer in the state of California.

**BORN**  
May 30, 1971 in Anaheim, California

**EDUCATION**  
University of California at Irvine  
Bachelor of Science in Civil Engineering – 1993  
Masters of Science in Civil Engineering – 1995  
Thesis: *Ultimate Restraint Characteristics of Base Isolated Structures*

**EXPERIENCE**

**1995 – 1996**  
Structural Designer  
**John Coil and Associates**  
Tustin, California  
Structural and forensic engineering working on residential timber structures and participating in site observations detailing the existing condition of buildings involved in construction defect law suits.

**1996 – 1998**  
Structural Designer and Project Engineer  
**Robert Englekirk Inc.**  
Costa Mesa, California  
Designed and oversaw construction of reinforced concrete structures, steel structures and performed analysis on existing steel and concrete buildings.

**1998 – Present**  
Project Engineer and Vice President  
**Seneca Structural Engineering, Inc.**  
Laguna Hills, California  
Providing structural engineering design and consulting services, primarily in the area of post-tensioned concrete structures, including parking structures, hotels, office buildings, residential structures, slab on ground post-tensioned foundations and retrofitting existing building using external post-tensioning (see the below list).

Mr. Allred has participated in the design of diverse projects throughout United States, including:

**Parking Structures**  
Howard Hughes Entertainment Center 5, 6A, 6B & 7, Los Angeles  
Univision Parking Structure, Los Angeles  
Opus Sierra Point, Brisbane

Classic Chevrolet, Anaheim  
Hawthorne Chevrolet, Hawthorne  
Royal Laundry, Pasadena  
Regal Cinemas, San Diego  
County Wide Jeep, Garden Grove  
St. Agnes Parking Structure, Fresno  
Treasure Island, Laguna Beach  
Southwestern College Parking Structure, National City  
12<sup>th</sup> and Crocker, Los Angeles  
Maple and Pico, Los Angeles  
777 12<sup>th</sup> Street, Los Angeles  
8507 Melrose Ave., Hollywood  
Pinnacle at Orange, Orange  
Main and Jamboree, Irvine  
Warner Center Parking Structures A and B, Thousand Oaks  
Vantis, Aliso Viejo  
8006 Melrose Ave., – Los Angeles  
Maple Pico – Los Angeles  
Melrose La Jolla Ave. – Hollywood  
NorthPointe A and B – San Bernardino  
West Hills Parking Structure – West Hills  
Corporate Pointe Parking Structure – Canoga Park  
Empire Towers – Ontario  
Commerce Place Parking Structure – Commerce  
8152 Melrose Ave., Los Angeles  
Olen Pointe IV, Brea  
Block 600, Newport Beach  
Raincross Parking Structure – Riverside  
Calypso Parking Structure, Irvine  
Canyon Hills Community Church, Carlsbad  
Mariners Church Parking Structure, Irvine  
Archstone Gateway A, Anaheim  
Archstone Gateway B, Fullerton  
Culver Studios, Culver City  
Sony Studios, Culver City  
Avalon Canoga Park Apartments, Canoga Park  
Avalon Jamboree Village Apartments, Irvine  
The Vue Parking Structure, San Pedro  
Rusnak BMW, Thousand Oaks  
Mt. St. Mary's College, Los Angeles  
Monrovia Block 700, Monrovia  
Mercury Insurance Parking Structure, Brea  
West Hawaii Civic Center, Maui, HI  
MTA Bauchet Blvd. Parking Structure, Los Angeles  
Midtown Crossing, Los Angeles  
Mission Gorge, San Diego, CA  
Main and Abel – Milpitas, CA  
Beach Walk – Huntington Beach, CA  
Avalon Jamboree Village Apartments II, Irvine  
Orangewood Apartments, Anaheim, CA  
Shea Village Park "A", San Jose, CA  
Shea Village Park "B", San Jose, CA  
Kaiser North Site, Santa Clarita, CA  
Warner Center Apartments, Los Angeles, CA  
Uptown Orange Apartments, Orange, CA  
South Vermont Apartments Parking Structure, Torrance, CA

Broadstone San Diego, San Diego, CA  
Anderson Munger Family YMCA Parking Structure, Los Angeles, CA  
Carmel Glendale A – Glendale, CA  
Carmel Glendale B – Glendale, CA  
Carmel Northridge Parthenia – Northridge, CA  
Roem Charlotte Drive Apartments – San Jose, CA  
Roem Luxury Apartments – San Jose, CA  
Roem The Lexington – San Jose, CA  
Avalon Jamboree Village Apartments III – Irvine, CA  
UDR Kelvin – Irvine, CA  
Lennar Malden Station – Fullerton, CA  
IAC Gateway Village – Anaheim, CA  
Wolf Platinum Gateway – Anaheim, CA  
Watermarke Main Street A – Corona, CA  
Watermarke Main Street B – Corona, CA  
Watermarke Main Street C – Corona, CA  
Prometheus Gallery North, Santa Clara, CA  
Prometheus Gallery South, Santa Clara, CA  
Prometheus 45 Buckingham, San Jose, CA  
Wood Partners South Vermont Apartments - Torrance, CA  
Lennar A-Town, Anaheim, CA  
Picerne Group Aria – Cerritos, CA  
Alliance Broadstone Kearny Mesa, Kearny Mesa, CA  
Alliance Gateway – Laguna Hills, CA  
Shea Alhambra - Alhambra, CA  
Mill Creek Residential Tropic Apartments – Glendale, CA  
The Dinerstein Company Playa Del Vista – Playa del Rey, CA  
Hines La Floresta – Brea, CA  
Monogram HB Lofts – Huntington Beach, CA  
Alton Parkway Apartments – Irvine, CA  
Lyon Orangewood Apartments, Anaheim, CA  
Amil Residential Uptown Apartments – Orange, CA  
RWC Harbor Communities Pete’s Harbor – Redwood City, CA  
PHR Village Apartments A - San Diego CA  
PHR Village Apartments B - San Diego CA  
PHR Village Apartments E - San Diego CA  
PHR Village Apartments F - San Diego CA  
Fairfield – The Gateway at Irvine – Irvine, CA  
Heritage Village A - Santa Ana, CA  
Heritage Village B - Santa Ana, CA  
Heritage Village C - Santa Ana, CA  
Fairfield – Great Oaks A – San Jose, CA  
Fairfield – Great Oaks B – San Jose, CA  
Union South Bay A – Torrance, CA  
Union South Bay B – Torrance, CA  
Irvine Oaks – Irvine, CA  
5<sup>th</sup> and Huntington – Monrovia, CA  
MODA – Monrovia, CA  
Wagon Wheel PA-18, Oxnard, CA  
North Beach Apartments – Oceanside, CA  
Baker Street Apartments – Costa Mesa, CA  
The Sage Cerritos, CA  
JPI A – Anaheim, CA  
JPI B – Anaheim, CA

Central Park Village - Brea, CA  
1003 Fourth Place Office Building – Los Angeles, CA 730  
Anton Parking Structure – Milpitas, CA  
750 Anton Parking Structure – Milpitas, CA  
Fairfield Warm Springs – Fremont, CA 2545  
Main Street – Irvine, CA  
Clarendon Apartments Parking Structure – Woodland Hills, CA  
Ampifi Garage 1 – Fullerton, CA  
Amplifi Garage 2 – Fullerton, CA  
Otay Ranch PA-12, Chula Vista, CA  
AMD Place Block 1 Parking Structure – Sunnyvale, CA  
AMD Place Block 2 Parking Structure – Sunnyvale, CA  
AMD Place Block 3 Parking Structure – Sunnyvale, CA  
AMD Place Block 4 Parking Structure – Sunnyvale, CA  
Los Olivos 6 – Irvine, CA  
Los Olivos 7 – Irvine, CA  
Los Olivos 8 – Irvine, CA  
Del Amo Financial Center Parking Structure – Torrance, CA  
Post Point Drive Garage A– San Diego, CA  
Post Point Drive Garage B – San Diego, CA  
Ophelia Parking Structure – Orange, CA  
Fairfield Town and Country A – Orange, CA  
Fairfield Town and Country B – Orange, CA  
Avalon Brea Place A – Brea, CA  
Avalon Brea Place B – Brea, CA  
JPI Garfield Apartments Garage - South Gate, CA  
The Herald – Placentia, CA  
The District at Milpitas, Lot 4 – Milpitas, CA  
The District at Milpitas, Lot 3 – Milpitas, CA  
Avalon Bay Monrovia Parking Structure – Monrovia, CA  
16300 Roscoe Blvd., Los Angeles, CA  
Fairfield Kittridge – Van Nuys, CA  
Oakwood PSA – Oxnard, CA  
Oakwood PSB – Oxnard, CA  
Residences at Duarte Station – Duarte, CA  
Park Lane – Reno, NV  
Monarch Scripps - San Diego, CA  
Baldwin A – Chula Vista, CA  
2055 Main Street – Irvine, CA  
Fairfield Glassell – Los Angeles, CA  
Fore Arroyo Station – Monrovia, CA  
Picerne Forbes Road – Laguna Niguel, CA  
Manchester Jamboree Housing – Anaheim, CA  
Monrovia Avalon Bay – Monrovia, CA  
Alexan NoHo West – North Hollywood, CA  
Starboard Newport Crossing – Newport Beach, CA  
MBK at Durate Station – Duarte, CA  
Lyon Gramercy – Las Vegas, NV  
16300 Roscoe MGA Garage - Van Nuys, CA

**Structural Slabs Supporting Additional Structures (Podium Projects)**

L'veneto, Palm Desert  
Pinnacle at Fullerton Apartments, Fullerton  
City Pointe Apartments, Orange  
Western Carlton Apartments, Los Angeles  
Osage Senior Villas, Los Angeles  
Wiberg Office Complex, Manhattan Beach

Madison Apartments, Pasadena  
Mayfield Junior School, Pasadena  
Candlewood Suites, Anaheim  
MacArthur Medical Office Building, Costa Mesa  
Almaden Apartments, San Jose  
Pinnacle at Sierra Madre, Pasadena  
Ocean Village Apartments, Oceanside  
Adams Residence, Laguna Beach  
NTC Office Building, El Cajon  
Sartini Residence, Laguna Beach  
Orgon Residence, Laguna Beach  
The Burbank Apartments, Santa Rosa  
Pinnacle at Sierra Madre, Pasadena  
Stadium Park Apartments, Anaheim  
Delacey and Green Street, Pasadena  
Broadway Village Apartments, Anaheim  
Archstone Gateway C, Anaheim  
Burbank Marriott, Burbank  
Flamingo Town Center, Henderson Nevada  
South El Monte Senior Apartments, El Monte  
Abott Kinney Mixed Use, Marina Del Rey  
Moran Asian Apartments, Westminster  
Brack Residence, Corona Del Mar  
Longs Drug Store, La Jolla  
Chinatown Gateway, Los Angeles  
Anaheim Crossing Apartments, Anaheim  
St. Thomas Apostle School, Los Angeles, CA  
Pacific Station Apartments, Encinitas  
University Housing CSUF, Fullerton  
Lincoln Apartments, Anaheim, CA  
El Pedregal Apartments, San Ysidro, CA  
Mission Viejo Country Club, Mission Viejo, CA Lorena  
Apartments – Building A, Los Angeles, CA Lorena  
Apartments – Building B, Los Angeles, CA  
Redstar Senior Living, Oakland, CA  
Luxe @ 375, Los Angeles, CA  
Urbana Apartments – San Diego, CA  
Andalucia Apartments – Mission Viejo, CA  
Picerne Laguna Niguel – Laguna Niguel, CA  
21 Soledad – Salinas, CA  
Temple Lofts – Los Angeles, CA  
4900 Hollywood La Terra– Los Angeles, CA  
4850 Hollywood La Terra – Los Angeles, CA

#### **Seismic Evaluation and Retrofit Strengthening**

202 N. Nash St., El Segundo  
Ponderosa Pines, San Diego  
Westlake Village, Westlake  
Rye Canyon, Valencia  
Bank of America, Redondo Beach  
Arrowhead Village Parking Structure, Lake Arrowhead  
80 South Lake, Pasadena

#### **External Post-Tensioned Retrofit**

3250 Wilshire, Los Angeles  
Arrowhead Village Parking Structure, Lake Arrowhead  
2727 Imperial, Brea  
Holiday Inn at Fisherman's Wharf, San Francisco

Hotel Zozo, Palm Springs CA  
Coronado Apartments, Newport Beach CA

### **Hotels / Apartments / Office**

Meadow Stone Lodge, Kirkwood  
Monterey Hotel, Monterey  
Oxnard Hilton Gardens, Oxnard  
Fair Oaks Assisted Living, Pasadena  
Rolling Oaks, Thousand Oaks  
Fair Oaks Assisted Living Phase II, Pasadena  
Rusnak BMW, Thousand Oaks  
Los Angeles Fashion Center, Los Angeles  
Embassy Suites Palmdale, Palmdale  
Embassy Suites Ontario, Ontario  
Citrus Office Building, Riverside, CA  
1003 Fourth Place Office Building – Los Angeles, CA  
StorQuest Hawthorne – Hawthorne, CA  
StorQuest Eagle Rock – Eagle Rock, CA  
StorQuest Van Nuys – Van Nuys, CA

### **Post Tensioned Slabs on Grade**

Homes and Apartments designed for Shea Homes  
Homes and Apartments designed for Greystone Homes  
Homes and Apartments designed for Woodbridge Homes  
David Potell Sports Facility (Roller Hockey Rink), North Hollywood  
Ladera Ranch Fire Station, Ladera Ranch  
KinderCare Learning Facility, San Clemente  
Vista Verde Child Care, Monterey  
San Clement Technology Park at Talega, San Clemente (Tilt Up Structures)  
Lemoore Naval Air Station, Lemoore CA  
Adams Avenue II – Retail and Residential  
Tapo Haven Street Residential and Retail  
Del Rey Apartments, Playa del Rey, CA

### **PROFFESIONAL ENGINEERING LICENSES**

California                      Civil (1997) and Structural (2001)

### **PROFFESIONAL ASSOCIATIONS**

American Concrete Institute (ACI) – Member  
Post-Tensioning Institute – Fellow

### **TECHNICAL COMMITTEES**

Post-Tensioning Institute  
    Slab on Ground Structural Committee – 2012 to 2017  
    Education Committee – 2003 to Present  
    Building Design Committee – 2007 to Present

### **PROFFESIONAL SEMINARS**

1. Reinforced Concrete Ductile Moment Frame Design - SEAOC 2001
2. Reinforced Concrete Shear and Coupled Wall Design – SEAOC 2002
3. Fundamentals of Post-Tensioning – Post Tensioning Institute 2003, seminars given in Houston, Chicago, Minneapolis, Washington D.C., New York, Denver and Salt Lake City.
4. Fundamentals of Post-Tensioning – Post Tensioning Institute 2004, seminars given in San Diego, Portland, Seattle, Kansas City, Dallas, Tampa, Atlanta, Boston and Oakland.
5. EduCode 2005 - Fundamentals of Post-Tensioning
6. Fundamentals of Post-Tensioning – Post Tensioning Institute 2005, seminars given in Los Angeles, Albuquerque, Las Vegas and Phoenix.

7. Fundamentals of Post-Tensioning – Post Tensioning Institute 2006, seminars given in Denver and Reno
8. Reinforced Concrete Design Tips – SEAOC 2006
9. Fundamentals of Post-Tensioning – Post Tensioning Institute 2007, seminars given in Spokane, San Diego, San Francisco, Chicago and Salt Lake City
10. Fundamentals of Post-Tensioning – Post Tensioning Institute 2008, seminars given in Minneapolis and Denver
11. Fundamentals of Post-Tensioning - Post Tensioning Institute 2009, seminars given in Washington DC and Las Vegas
12. Fundamentals of Post-Tensioned Slab on Ground Design and Construction – Army Corp of Engineers, Dallas, 2011
13. Webinars for Restraint Cracking in Post-Tensioned Structures and Design of Post-Tensioned Slab on Ground for NCSEA, 2011.
14. Design and Construction of External Post-Tensioning – ICRI, Phoenix 2011
15. Design of Post-Tensioned Systems – PTI, Hawaii 2014
16. Design of Two Way Post-Tensioned Slabs, Structural Engineers of Arizona Conference, June 2015
17. Design of Two-Way Post-Tensioned Slabs, Webinar, S.K. Ghosh Associates, 2016
18. Construction and Observations Issues in Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, 2016 and 2017
19. Design of Post-Tensioned Podium Structures, Webinar, S.K. Ghosh Associates, 2016
20. Design of Post-Tensioned One-Way Slabs and Beams, 2017
21. Design of Two-Way Post-Tensioned Slabs, Webinar, S.K. Ghosh Associates, March 2017
22. Design of Post-Tensioned Slabs on Ground, Webinar, S.K. Ghosh Associates, April 2017
23. Design and Construction Issues in Post-Tensioned Concrete – Structural Engineers Association of Minnesota Conference, May 2017
24. Design of Post-Tensioned Podium Structures, Webinar, S.K. Ghosh Associates, June 2017
25. Basics of Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, September 2017
26. Construction and Observations Issues in Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, January and June 2018
27. Design of Post-Tensioned One-Way Slabs and Beams, February and October 2018
28. Design of Two-Way Post-Tensioned Slabs, Webinar, S.K. Ghosh Associates, March and December 2018
29. Design of Post-Tensioned Slabs on Ground, Webinar, S.K. Ghosh Associates, April 2018
30. Principles of Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, June 2018
31. Design of Post-Tensioned Podium Structures, Webinar, S.K. Ghosh Associates, August 2018 and April 2019
32. Design of Post-Tensioned Diaphragms, Webinar, S.K. Ghosh Associates, July 2019
33. Construction and Observations Issues in Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, June 2019
34. Restraint to Shortening in Post-Tensioned Structures, Webinar, S.K. Ghosh Associates, September 2019
35. Design of Post-Tensioned One-Way Slabs and Beams, January 2020
36. Design of Two-Way Post-Tensioned Slabs, Webinar, S.K. Ghosh Associates, February 2020
37. Fundamentals of Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, June 2020
38. Design of Post-Tensioned Podium Structures, Webinar, S.K. Ghosh Associates, August 2020
39. Construction and Observations Issues in Post-Tensioned Concrete, Webinar, S.K. Ghosh Associates, October 2020

## PUBLICATIONS

Bondy, K. Dirk and Allred, Bryan “Post-Tensioned Concrete - Principles and Practice 4th Edition”, 2018, 459 p.

Allred, B.A., “Shear Design of Post-Tensioned Concrete Diaphragms – Comparison of Two Different Approaches” – PTI Journal, August 2020

Allred, B.A., “General Considerations for Post-Tensioned Slabs on Ground, Part IV – “Design for Existing Foundations”, Structure Magazine, September 2010

Allred, B.A., “General Consideration for Post-Tensioned Slabs on Ground, Part III – “Detailing and Quality Control”, Structure Magazine, July 2010

Allred, B.A., “General Consideration for Post-Tensioned Slabs on Ground, Part II – “Specific Design

Considerations”, Structure Magazine, April 2010

Allred, B.A., “General Consideration for Post-Tensioned Slabs on Ground, Part I”, Structure Magazine, Jan 2010

Allred, B.A., “Post-Tensioned Slab on Ground Foundations”, Residential Concrete, September 2006

Allred, B.A.”Issues in Post-Tensioned Construction”, Concrete Construction, January 2006

Allred, B.A.”Common Post-Tensioning Design and Construction Issues”, Structure Magazine, July 2005

Allred, B.A.”Post-Tensioned Slab on Grade Design”, The Journal of Light Construction, March 2004

Bondy, K.D., Allred, B.A., “Lake Arrowhead Village External Post-Tensioned Retrofit”, 2003 Post Tensioning Institute Conference, May 2003, Huntington Beach, California.

Bondy, K.D., Allred, B.A., “Lake Arrowhead Village External Post-Tensioned Retrofit”, 2002 SEAOC Conference, September 2002, Santa Barbara, California.

Allred, B.A., Shepherd, R.”Lateral Load Resistance of Narrow Plywood Panels”, Sixth U.S. National Conference on Earthquake Engineering, May 1998, Seattle, Washington.

Allred, B.A., Billings, L.J., & Shepherd, R. “Ultimate Response Characteristics of Base Isolated Structures”, 11<sup>th</sup> World Conference on Earthquake Engineering, June 1996, Acapulco, Mexico.

Bondy, K.D., Allred, B.A., “Determining Realistic Inelastic Moment Demands of Seismic Moment Frame Columns”, 1996 Los Angeles Tall Building Conference, May 1996, Los Angeles, California.

Allred, B.A., “Ultimate Restraint Impact Response Characteristics of Base Isolated Structures”, M.S. Thesis, University of California at Irvine, March 1995.

Billings, L.J., Allred, B.A. & Shepherd, R. “Impact Response of Base Isolated Structures”, MARC Users Conference, October 1994, Ann-Arbor, Michigan.

Allred, B.A., Billings, L.J. & Shepherd, R. “Ultimate Restraint Control of Seismic Base Isolated Structures”, 1<sup>st</sup> World Conference on Structural Control, August 1994, Pasadena, California.

Allred, B.A., Billings, L.J. & Shepherd, R. “Ultimate Restraint Considerations in Base Isolated Structures”, 5<sup>th</sup> USNCEE, July 1994, Chicago, Illinois.

Allred, B.A., Billings, L.J. & Shepherd, R., “Ultimate Restraint Considerations in Base-Isolated Bridges”, 3<sup>rd</sup> U.S.-Japan Workshop on Earthquake Protective Systems for Bridges, March 1994, Berkeley California.

Allred, B.A., Shepherd, R.”Racking Resistance of Narrow Plywood Shear Panels”, 62<sup>nd</sup> SEAOC Convention, September 1993, Scottsdale, Arizona.

### **Agency/Department Technical Reports**

Shepherd, R., Allred, B.A. “Cyclic Testing of Narrow Plywood Shear Walls”, Applied Technology Council, ATC R-1, Oct. 1995.