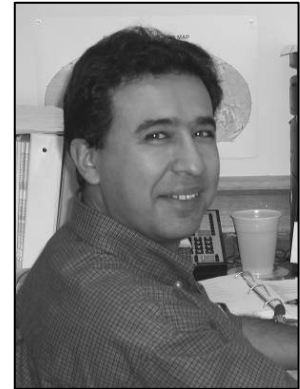


With over twenty years of experience in professional practice and academia, Dr. Rubiano has developed specialized technical expertise in a wide range of structural engineering applications, including prestressed, precast, and reinforced concrete design, specialty analysis, materials engineering, earthquake engineering, and quality assurance/quality control for design and construction. His work on world class civil engineering projects in South America, his research experience, and his extensive academic training prepared him for his current role as P.E. Structural's most senior manager under the Principal Engineers. Dr. Rubiano plays a major role in quality control, office management, and supervision and training of junior engineering staff. In addition, he is responsible for directing and performing engineering work for both bridge and building design projects.



LICENSURE Texas P.E. No. 94294

EDUCATION Ph.D. Civil Engineering, University of Texas at Austin, 1998
 M.S. Structural Engineering, University of Texas at Austin, 1995
 Diploma in Earthquake Engineering, Building Research Institute, Tsukuba, Japan, 1991
 Magister en Ingeniería Civil, University of the Andes, Bogotá, Colombia, 1989
 Ingeniero Civil, University of the Andes, Bogotá, Colombia, 1988

CAREER **Senior Engineer / Project Manager**, P.E. Structural Consultants, Inc.
 Austin, TX, Oct 2002 to present
 Associate Engineer, Ingetec S.A., Bogotá D.C., Colombia
 Aug 1998 to Oct 2002
 Lecturer, University of the Andes, Department of Civil Engineering
 Bogotá D.C., Colombia, Aug 1998 to Oct 2002, Jan 1992 to May 1992
 Teaching Assistant, Department of Civil Engineering, University of Texas at Austin
 Austin, TX, Jan 1995 to Aug 1998
 Research Assistant, Ferguson Structural Engineering Laboratory, Univ. of TX at Austin
 Austin, TX, May 1994 to Dec 1994
 Engineering Intern, P.E. Structural Consultants
 Austin, TX, May 1997 to Sep 1997
 Research Scientist, Offshore Technology Research Center, University of Texas at Austin
 Austin, TX, May 1996 to Sep 1996
 Structural Engineer, Industrias y Construcciones S.A.
 Bogotá D.C., Colombia, Apr 1992 to Dec 1993
 Structural Engineer, Proyectos y Diseños Ltda
 Bogotá D.C., Colombia, Feb 1989 to Apr 1990
 Structural Engineer, Union Tec Ltda
 Bogotá D.C., Colombia, Jul 1988 to Jan 1989

EXPERIENCE - BRIDGES

Americas Interchange (IH-10/Loop 375)

El Paso, Texas

Three direct connectors of the ultimate four-level, fully directional interchange are being constructed in this \$146M Design-Build effort. PESC designed the western and northern approaches to the IH-10 EB to LP 375 NB connector, including prestressed concrete superstructures, and aesthetically treated concrete hammerhead and straddle bents with column heights up to 75ft. Dr. Rubiano serves as Project Manager of the PESC team for production of bridge layouts, structural design, and coordination with client and contractor

IH-45 – US59 to Cullen

Houston, Texas

PS&E are currently at 30% for the construction of an urban freeway facility consisting of approximately 9400 feet of bridge direct connectors, entrance and exit ramps. Dr. Rubiano serves as Project Manager of the PESC team to prepare bridge layouts and provide structural details along with the bridge quantities for the following bridges: Cullen Blvd (EB) Entrance Ramp and Widening, US 59 Direct Connector, US 59 Northbound Connector, US 59 Southbound Connector.

CR 132 Overpass at IH-35 (Phase I)

Hays County, Texas

Project Manager to prepare bridge construction documents for 198' long, 49' wide bridge using prestressed box beams. 100% plans produced in 7 weeks from notice to proceed. Design accommodates ultimate layout of the intersection including Phase 2 Mainlane bridges and future turnarounds.

US290E Manor Expressway

Travis County, Texas

Providing technical guidance in developing project-wide substructure design methodology and standardized bent details. Dr. Rubiano is also serving as QA/QC lead for PESC's design effort of five bridges in Segment 3, including 3 Mainlane and 2 ramp bridges.

Austin Urban Light Rail – Evaluation of Existing Structures

Austin, Texas

Project Manager of the PESC team for the structural evaluation and preliminary retrofit study of existing Congress Ave. Bridge and First Street Bridge over Lady Bird Lake in downtown Austin. Structures were evaluated to determine their feasibility for retrofit to carry vehicular, proposed light rail and pedestrian loads.

NTTA Southwest Parkway Interchange

Fort Worth, Texas

Dr. Rubiano was P.E. Structural's Project Manager for structural design of 12 overpass and ramp bridges within the 27-bridge interchange.

US183/SH71 Interchange

Austin, Texas

Dr. Rubiano served as PESC's Deputy Project Manager for this major 4-level interchange, overseeing design of 70ft wide, 800ft long mainlane bridges with skewed bents, flared slabs and aesthetic substructure, as well as a 2-lane, 5000ft long DC. \$400M Construction. Design on hold at 80%.

Llano River Bridges

Llano and Mason Counties, Texas

Dr. Rubiano led the LRFD design for replacements of two major off-system bridges carrying RM1871 and RM2768 over the Llano River. Long (1050', 840') bridges used prestressed concrete beams on curving alignments with superelevation transitions and involved special design for forces from high-velocity flow in the main channel and phased construction.

IH-37 Evacuation Route Bridge Widening

San Antonio, Texas

Dr. Rubiano provided QA/QC services for widening design of four 1960's era highway bridges under an extremely tight schedule to meet funding constraints; two multiple-span creek crossings using prestressed concrete I beams, and two multiple span overpass structures using wide flange steel beams.



RESUME
Néstor R. Rubiano, PhD, P.E.
Senior Engineer / Project Manager

EXPERIENCE – BRIDGES con't

183A Toll Road Project

Austin, Texas

Dr. Rubiano played a major role in the Hill Country Constructors (HCC) Structures Design Team as a co-leader for the group of 16 engineers and CAD staff developing designs for 21 bridges as part of this 11 mile Design-Build toll road project

SH161/SH183 Interchange, Connection D

Dallas District, Texas

Dr. Rubiano provided substructure and foundation design for Direct Connector D, of this interchange in NW Dallas. The 1,677' long, 15-span structure has a 28' overall width, and consists of prestressed concrete beam units and a curved continuous steel plate girder unit supported by single-column hammerhead bents on drilled shaft foundations.

SH130 Toll Road

Austin, Texas

Dr. Rubiano played an important role as a senior member of Lone Star Infrastructure Structure's Design Team, especially as related to internal quality control efforts. Early in the design phase, he helped to develop design protocols for prestressed beam unit superstructures and developed spreadsheets to design the bridge deck and precast panels under HS25 loading. He validated nearly all of the spreadsheet design tools developed for use in producing standardized and systematic design calculations for the 118 bridge structures in this 90-mile design build toll road project. He personally designed 6 structures, and provided independent design and quality control checking for 23 bridges.

Austin Bergstrom International Airport

Austin, Texas

As a P.E. Structural engineer, Mr. Rubiano played a key role in this landmark bridge project in the design of long span post-tensioned inverted-tee bents and foundation design. He performed a vibration analysis of the structure at the request of the owner.

EXPERIENCE – BUILDINGS

New Austin City Hall

Austin, Texas

New 118,000sf building for civic gathering with unconventional geometry, large cantilevered areas, projecting elements, and roof-supported planters. Four-level structure is primarily reinforced concrete frame and slab. LEED Gold Rating, with several points stemming from structural innovations. Dr. Rubiano provided independent QA/QC of final calculations and drawings, and construction admin.

Austin Resource Center for the Homeless

Austin, Texas

Award-winning three-story, 25,400sf facility houses resources for Austin's homeless population. The structure uses a unique tilt-up concrete frame system, hollow-core plank floors and a steel framed roof over the third level dormitory. The tilt-up frames were stack-cast (several frames cast on top of one another), which required minimal casting slab and reduced formwork, resulting in very little construction waste. Special attention was paid to structural detailing, as most of the structure is exposed. LEED Silver. Provided construction administration.

SH 130 Toll Facilities

Austin, Texas

Toll Plazas, including 4 Main Lane and 15 Ramp Plaza pairs. Operation's Buildings with basements and connecting tunnels, canopies over toll booths, steel truss gantries over express lanes to support data collection equipment and signs. Provided QA/QC of final calculations and drawings.

Numerous Concrete Multi-Story Building Projects

Colombia

EXPERIENCE – DAMS

Miel I Hydroelectric Project

Caldas, Colombia

As Senior Engineer with Ingetec, S.A., Mr. Rubiano played a key role in the design and construction of the world's tallest roller compacted concrete dam. He conducted a research program on materials and mixes of conventional and roller-compacted concrete and supervised cement, aggregate and concrete tests in the supervisor's on-site materials laboratory and in the Furnas concrete laboratory in Goiania, Brazil. Mr. Rubiano developed and conducted a QA/QC program for the construction of the 188-m high RCC dam, and he also supervised the production of research and construction technical reports.

Note: The abbreviated list above is representative of Dr. Rubiano's projects. More detailed information regarding any of these projects or additional projects are available.

PUBLICATIONS

- Marulanda, A., Castro, A. and Rubiano, N. R. (2002) "Construction Issues of Miel I Dam – The World's Tallest RCC Dam", 22nd USSD Annual Meeting and Conference, San Diego, CA..
- Marulanda, A., Castro, A. and Rubiano, N. R. (2002) "RCC Quality Control for Miel I Dam Construction", 22nd USSD Annual Meeting and Conference, San Diego, CA..
- Rubiano, N. R. (2002) "Estructuras Metálicas: Conceptos Básicos", Class notes for Steel Structural Design class (in Spanish). Approved for publication by the University of the Andes press.
- Rubiano, N. R. and Kreger, M. E., (2002) "Inelastic Seismic Evaluation of Concrete Frames including Shear Deformations and Anchorage Slip", 7th North American Conference on Earthquake Engineering, EERI.
- Rubiano, N. R. and Roesset, J. M., (2001) "A Comparison of Nonlinear Models for Reinforced Concrete Frames", Earthquake Resistant Engineering Structures ERES 2001, Wessex Institute of Technology (UK) and Calpe Institute of Technology (Spain), September 4 to 6, 2001, Málaga, Spain
- Rubiano, N. R., (1996) "Yield Sequence Analysis of a Low-Rise Reinforced Concrete Building," Student Research Conference, College of Engineering, The University of Texas at Austin (Best Graduate Student Paper Award).
- Klingner, R. E., Rubiano, N. R., Bashandy, T. R., and Sweeney, S. C., (1996) "Evaluation and Analytical Verification of Infilled Frame Test data, Part 1: In-Plane Behavior," and "Evaluation and Analytical Verification of Infilled Frame Test Data, Part 2: Out-of-Plane Behavior," Proc., 7th North American Masonry Conference, Univ. of Notre Dame, June 2-5, 1996 (Honorable Mention for one of best papers.)
- Bashandy, T., N. R. Rubiano, R. E. Klingner, (1995). "Evaluation and Analytical Verification of Infilled Frame Test Data," Phil M. Ferguson Structural Engineering Laboratory Report No.95-1, The University of Texas at Austin, March 1995.
- Kabeyasawa, T., Shen, F., Kuramoto, H. y Rubiano, N. R., (1991) "Experimental Study on Behavior of Ultra-High Strength Reinforced Concrete Columns under Triaxial Forces," Transactions of Japan Concrete Institute, V. 13, 1991, pp. 279-286.