

KARLA CAMARATA, PE

5801 N. Banana River Blvd., Cape Canaveral, FL 32920
Home (321) 406-1928 Cell (973) 464-6711 E-mail karla@pinnaclesearch.net

OBJECTIVE Obtaining a project engineer position utilizing experience in Civil/Structural Engineering. A design position is preferred. A Project Manager position is a goal.

EDUCATION University of Illinois – Urbana
B. S. Civil Engineering – 1982

REGISTRATION Structural Engineer – Illinois
Professional Engineer – Illinois

STRUCTURAL DESIGN EXPERIENCE

- Designs involved preliminary and final plan preparation. This project involved schematics, computations, checking computations, providing drawings, supervising engineers and technicians, specification writing, and providing all the required contract documents.
- Design Methods – Allowable Stress Design, Load Factor Design, and Load and Resistance Factor Design.

TRANSPORTATION STRUCTURES

HIGHWAY BRIDGES

- **SUPERSTRUCTURE** - Designs involved continuous composite steel beams and girders, continuous composite precast prestressed concrete girders, continuous concrete box girders, continuous post tensioned concrete beams, along with simple and continuous concrete slabs. Deck replacement designs were provided and included the replacement of bearings and expansion joints. Designs included completely new bridge designs, staging designs, widenings, and rehabilitations. **Computer Programs Used**—MDX, BRDGLAB, PPC Beam, RISA3D, LARZA, and DCALC. **Governing Design Codes**—AASHTO, Chicago Building Code **Experience**—3.5 years
- **SUBSTRUCTURE** - Open and closed reinforced concrete abutment designs were provided and battered steel piles provided fixity at base of abutments. Integral abutment designs were provided. Pier designs involved single row steel piles encased in concrete, rigid frame concrete piers, hammerhead piers and integral piers subjected to earthquake. Bascule Bridge required steel bent designs. **Computer Programs Used**—RCPier, PPC Column, Lateral Loads on Piles. **Governing Design Codes**—AASHTO, Chicago Building Code **Experience**—2.0 years

RAILROAD BRIDGES

- **SUPERSTRUCTURE**—Designs included steel thru plate girders, deck girders with concrete slabs, and beam sets supporting ballasted decks. Truss and girder rehabilitation designs were provided. **Computer Programs Used**—Cframe **Governing Design Codes**—AREMA **Experience** –2.0 years
- **SUBSTRUCTURE**- Designs involved unique substructure replacements without interrupting traffic. Drilled shafts, augured cast-in-place piles, and steel piles with reinforced concrete caps were designed. Closed concrete abutments and rigid frame piers with spread footings on rock were designed. Complete steel substructure designs provided. **Computer Programs Used** –STRESS, PPCColumn. **Governing Design Codes**—AREMA. **Experience**-2.5 years

PEDESTRIAN BRIDGES

Designs included curved girders, precast prestressed beams, drilled shaft column rigid frame piers, abutments supported by steel sheet pile, and concrete piles with pier cap. **Computer Programs Used**—MDX, PPCBeam **Governing Design Codes**—AASHTO Specifications for Pedestrian Bridges. **Experience**—1.5 years

CULVERTS

Many multi cell rigid frame concrete culverts were designed including culvert extensions and replacements. Elliptical steel culverts were also designed. Designs included concrete headwalls and wingwalls. Sewer structural design provided. Tunnel lining designed. **Governing Design Codes** –AASHTO and AREMA . **Experience**—2.5 years.

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RETAINING WALLS

Cantilevered concrete walls were designed using spread footings and footings supported by steel piles and drilled shafts. Cantilevered steel sheet pile walls and tied back sheet pile walls were designed. Cofferdam designs were provided. Temporary tied back walls with deadmans were provided for temporary retention. **Governing Design Codes** – AASHTO and AREMA **Experience**—2.0 years.

BUILDINGS

Complete railroad station designed. Railroad yard underground concrete building required finite element analysis. Complete toll plaza designed. **Governing Design Codes** - AASHTO and AREMA **Experience**— .5 years

INDUSTRIAL STRUCTURES

Coal burning power plant additions, petroleum tank farm, and rock crushers required foundation designs involving metal shell concrete piles, augured cast-in-place piles, drilled shafts and mat foundations. Fixed head designs were provided for the shafts and piles subjected to lateral loads. Grade beams connected individual footings. Steel frames were designed for seismic influence. New mat foundations were provided for new or relocated machinery. **Computer Programs Used**—SAFE, PPCColumn, Mathcad **Governing Design Codes**—IBC, ASCE-7, AISC Ninth Edition, ACI-318, BOCA. **Experience**—2.5 years

PUBLIC STRUCTURES

Large library design involved steel column design, base plate design, and composite beams. Several school additions required connection designs and stairway designs. Several towers required foundation designs. Dams required anchorage designs. Water treatment plant design check provided. **Computer Programs Used**—RAMSBeam **Governing Design Codes**—AISC Ninth Edition, ACI-318, IBC. **Experience**—1 year

COMMERCIAL STRUCTURES

Wood Bus Storage building was designed. Complete lumberyard foundations were designed using concrete and masonry. Individual concrete footings included rectangular footings, pedestals, and base plates. All structural materials were used. **Governing Design Codes**—AISC-Ninth Edition, BOCA, ACI-318, and NDS . **Experience**—1.5 years

RESIDENTIAL STRUCTURES

Large residential building required reinforced masonry design, shear wall design, reinforced concrete foundation, precast concrete beams, and temporary sheet pile wall with bracing. Several wood decks and additions were provided. **Governing Design Codes**—Chicago Building Code, UBC, ACI-318, AISC-Ninth Edition, and NDS .**Experience**— .5 years

RATING EXPERIENCE

A two haunched girder system was rated due to staged construction and new loads applied to the existing structure. Complete report was provided including recommendations. Entire existing concrete railroad bridge was rated for usage in a railroad runaround. A wood mezzanine was rated. **Computer Programs Used**—MDX and RISA 3D **Governing Design Codes**—AASHTO, AREA, and NDS. **Experience**—1.0 years

INSPECTION EXPERIENCE

Many highway top of deck inspections were provided including reports and recommendations. Overall highway bridges were inspected along with reports and recommendations. Resident Engineering provided for substructure replacements and rehabilitations. Underwater Inspections provided. **Experience—2.0 years**

SHOP DRAWING REVIEW EXPERIENCE

Shop drawing review was provided for steel structures and concrete steel reinforcement. **Experience—2.0 years**

ALIGNMENT AND PROFILE DESIGN EXPERIENCE

Railroad runaround required alignment and profile design. Retaining wall for final track alignment required alignment design also. **Computer Programs Used—COGO Experience --.3 years**

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SPECIFIC COMPANY EXPERIENCE

CAMARATA ASSOCIATES, P. C., Cape Canaveral, FL

2007 – 2008

Project Engineer

- ◆ Provided complete substructure and superstructure design for a six span pedestrian bridge.
- ◆ Cantilevered sheet pile wall design was required.
- ◆ Superstructure design included curved girders.
- ◆ Substructure design included concrete rigid frame piers using drilled shafts and sheet pile wall supported abutments.
- ◆ AASHTO Specifications for Pedestrian Bridges governed the design.
- ◆ Provided a complete rating and staging recommendation report for a two haunched girder system and beams bridge deck replacement totaling 1400 feet.
- ◆ The bridge was subjected to a special tank loading. Construction Sequences and Demolition Plans were provided for precast prestressed deck beam and concrete deck replacements.
- ◆ Culvert replacements required tied back sheet pile wall designs for staged construction.
- ◆ Considerable experience increase in drilled shaft and steel pile designs subjected to lateral loads.
- ◆ MDX and RISA3D were among the computer programs used. Concrete deck, bearing, and joint replacement designs were provided. Many building designs were provided involving wood, masonry, steel and concrete.
- ◆ Two schools required complete steel connection reviews.
- ◆ Building designs were governed by IBC, AISC-Ninth Edition, ACI-318, NDS, and ASCE-7.

CAMARATA ASSOCIATES, Cape Canaveral, FL

2006 – 2007

Project Engineer

- ◆ Provided foundation design for new petroleum tank farm. Metal shell concrete piles support the continuous concrete cap for the four tank arrangement.
- ◆ Anchorage design was provided for the tanks. ACI 318 and BOCA were the governing codes.
- ◆ Bus storage garage involved original wood design. The design consisted of continuous frames comprised of wood trusses connected to wood columns.
- ◆ NDS and BOCA were the governing codes.
- ◆ Reviewed steel connections for a school addition and renovation.

CAMARATA HOLDING, LLC, Cape Canaveral, FL

2004 – 2005

Project Engineer

- ◆ Provided large steel frame foundation designs for additions to a coal burning power plant. Existing foundation was checked for the purpose of determining adequacy for new machinery loading. The new foundations were constructed with consideration for not compromising the adequacy of the existing foundation. The new foundations involved auger cast piles and caissons supporting caps connected by grade beams.
- ◆ SAFE, PPC Column, and MathCAD were among the programs used.
- ◆ IBC and ACI-318 were the governing codes.

KMC AND ASSOCIATES, Cape Canaveral, FL

2002 – 2004

Project Engineer

- ♦ Many building designs were provided for commercial and industrial buildings.
- ♦ Large storage facility required designs for concrete spread footings, pedestals, and base plates.
- ♦ Service load design was used for the concrete.
- ♦ Rock Crusher design was governed by earthquake and corresponding torsion applied to the steel frame.
- ♦ Steel columns, base plates, anchorage, and concrete mat foundations were designed for the crusher. BOCA and ACI-318 were the governing codes.
- ♦ Original steel frame designs were required for new industrial production.
- ♦ New concrete mats were installed to support new machinery.
- ♦ Temporary sheet pile wall design was required.
- ♦ Temporary falsework design involved bracing between two closed abutments due to new concrete slab staging.
- ♦ Existing timber flooring was rated due to proposed new loading. AISC Ninth Edition, ACI-318, UBC, and NDS were the governing codes.

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ABC, INC., Cocoa Beach, FL

2001 – 2002

Chief Engineer

- ♦ Provided top of deck bridge inspections for 66 bridges in Chicago and wrote the reports.
- ♦ Provided design and plan preparation for a five story reinforced masonry residential building.
- ♦ Hollow core prestressed deck beams constituted the floor design.
- ♦ Foundation construction required temporary sheet piling and bracing due to limited property width. The concrete foundation involved a two way concrete slab design.
- ♦ Shear wall design was needed for resisting lateral loads. Chicago Building Code, CI-318, and UBC were the governing codes.

WYZ, INC., Chicago, IL

2000 - 2001

Project Engineer

- ♦ Provided superstructure and substructure design review for a four span curved steel beam bridge. A large skewed headwall design was provided and involved original concrete design. Roadway design was also provided.

KC ENGINEERING, INC., Cocoa Beach, FL

1999 - 2000

Project Engineer

- ♦ Railroad Yard project required structures to support a gas line involving connections to existing bridge beams and routing through walls.
- ♦ A large concrete storage building subjected to earth pressure required finite element analysis and design for reinforced concrete slabs and walls.
- ♦ Post tensioned concrete beam and slab design was required for Wacker Drive using LARSA and a post tensioned concrete beam design program.
- ♦ Provided bridge inspections and bridge condition reports for IDOT.
- ♦ Project management and report writing skills improved significantly.
- ♦ Preliminary design required bridge layouts for long span continuous curved steel girders.

CMCAMARATA ENGINEERS, INC., Cape Canaveral, FL

1998 - 1999

Project Engineer

- ♦ Provided superstructure design and plan development for a two span continuous steel beam IDOT bridge.
- ♦ Provided steel girder analysis and design for a ten span continuous steel girder bridge in Washington, DC.
- ♦ A five story library design involved steel composite beams and steel columns.
- ♦ RAMS Beam was used for the composite beam design.
- ♦ The column and base plate designs were in accordance with AISC Ninth Edition.

AMERICAN ENGINEERS, Cape Canaveral, FL

1998 – 1998

Project Engineer

- ◆ Three widened bridges over I-55 required superstructure replacements and substructure rehabilitation.
- ◆ Design inspections were performed for determining the extent of the repair for the three four span bridges.
- ◆ MDX was used for the continuous steel beam bridge and the Precast Prestressed Concrete Beam program was used for the other two continuous superstructures.

K.C. ENGINEERING, INC., Cape Canaveral, FL

1997 -

1998

Project Engineer

- ◆ Served as project engineer on the rehabilitation of a bascule bridge.
- ◆ This rehabilitation involved the east and west fixed segments.
- ◆ Chicago Building Code governed the specifications for the design.
- ◆ Steel splice designs were required for the steel anchor bents.
- ◆ The steel superstructures were replaced.
- ◆ Similar design was provided for the new replacements using built up welded columns, welded girders and wide flange beams.
- ◆ Considerable concrete and steel repair was required.
- ◆ DCALC Program was used for the new sidewalk frames and deck elevations.
- ◆ Reviewed final bridge plans. Prepared and checked shop drawings.

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CAMARATA HOLDINGS, INC. Cape Canaveral, FL

1994 - 1997

Project Engineer

- ◆ Provided design computations and sketches for a two span concrete box girder with a three column integral pier subjected to earthquake.
- ◆ Provided design computations for a one column and two column integral pier involving two span concrete bridges subjected to earthquake.
- ◆ Provided superstructure design for a three span plate girder bridge involving four girders.
- ◆ Small building designs involved timber design, steel and concrete design, and masonry design.

CAMARATA ENGINEERING, INC., Cape Canaveral, FL

1992

1993

Engineer III

- ◆ Reinforced concrete design used extensively for various structures including sewer pipe, drop shaft structures, bridges that included all bridge elements, and water treatment plants.
- ◆ Various anchorage designs utilized for rehabilitation of existing structures.
- ◆ Reinforced concrete wall designs were performed and checked based on Harza Design Guide Methods.
- ◆ Cost estimates for different schemes of structural improvement were provided. Shop drawing reviews were performed for many structures.
- ◆ Architectural drafting used extensively.
- ◆ Specific guidelines for most designs were required by Harza.
- ◆ Computer programs used for concrete design. BRDGLAB program used for concrete superstructures involving haunched ends for continuous slab designs.
- ◆ Stadd 3 program utilized for frame analysis.
- ◆ Nomographs used for finite element analysis of concrete buildings with slabs, walls, and beams.

CAMARATA ENGINEERS, INC., Cape Canaveral, FL

1991 - 1992

Project Engineer

- ◆ CTA station rehabilitation required analysis and design for platforms, canopy, stairway, elevator shaft and foundation, and building rehabilitation.
- ◆ Permanent and runaround railroad bridge design was required.
- ◆ Assistance was provided in the underwater inspection of 17 bridges.

- ♦ Reports, including recommendations, were written for these inspections.
- ♦ C Frame computer program was used extensively for the different frames involved for both bridge and station designs.

CMC HOLDINGS, INC., Cape Canaveral, FL

1988 – 1991

Project Engineer

- ♦ Considerable experience obtained and utilized for railroad bridge and highway bridge rehabilitation and new design.
- ♦ The railroad bridge types included thru plate girders, deck girders, and trusses.
- ♦ Original design ideas and applications used for staged engineering.
- ♦ Toll plaza design performed. Resident engineering, inspection, report writing including recommendations, estimating, specification writing, and project manager duties were involved with this experience.
- ♦ Space Frame analysis and RCPIER programs used for frame analysis and pier design.
- ♦ Functions were diversified.
- ♦ Considerably responsible for the overall production of projects with construction costs over 1 million dollars.
- ♦ The full requirements from preliminary to final were provided for many projects.
- ♦ Considerable emphasis on substructure replacements, while traffic continued over the bridge.

CMC HOLDINGS, INC., Cape Canaveral, FL

1987 – 1988

Structural Engineer

- ♦ Provided diversified duties using technical and management skills.
- ♦ Existing steel truss highway bridge rehabilitation involved surveying, inspection, report writing, estimating, and consistent communication with manufacturers and liaison engineers.
- ♦ Checked shop drawings for bridges and culverts.
- ♦ Complete sketches were provided.
- ♦ Well acquainted with Connecticut DOT plan preparation and specifications.
- ♦ Exodermic deck was designed for the superstructure of the bridge utilizing a program especially oriented to an exodermic deck.
- ♦ The superstructure involved continuous composite steel beam and steel girder design.

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ABC ENGINEERS, INC., Cape Canaveral, FL

1985 – 1987

Structural Engineer

- ♦ Responsible for the design of many railroad bridge elements and highway structures.
- ♦ These designs required considerable knowledge of structural analysis, steel design, reinforced concrete design, soil mechanics, and their overall application to economic design.
- ♦ Computer programs used included Lateral Loads on Piles, Reinforced Concrete Column, and COGO.
- ♦ Prepared cost analysis comparisons for bridge alternatives.
- ♦ Prepared detailed sketches and wrote specifications along with checking other engineers' designs.
- ♦ Supervised drafters in the production of preliminary and final plans. COGO program was used extensively for the layout of runaround tracks and retaining walls for a new highway project.
- ♦ Existing out of function concrete bridge was rated because of its usage for the runaround tracks. Very familiar with AASHTO and AREMA specifications.

BREVARD COUNTY HIGHWAY DEPARTMENT, Cocoa Beach, FL

1982 – 1985

Highway Engineer

- ♦ Developed and produced plans requiring original planning and design for transportation structures.
- ♦ Considerable experience in C.I.P. concrete culverts and headwalls.
- ♦ Truss design and precast prestressed beam designs were provided.
- ♦ Precast Prestressed Beam program used.
- ♦ Checked drawings produced by drafters and engineers to assure adherence to quality control standards.
- ♦ Performed project manager duties on smaller projects.

- ◆ Considerable personal drafting performed for Cook County Highway Department.

UNIVERSITY OF UCF, Orlando, FL

1981 – 1982

Research Assistant

- ◆ Prepared graphs by revising and utilizing FORTRAN program for a tunnel lining research project.
- ◆ Performed tests and recorded data to evaluate the usage of different aggregates for concrete.

SKILLS

MS Word, Excel, PowerPoint, Outlook, PPC Column, Lateral Loads on Piles, COGO, Stadd 3, RCPIER, C Frame, DCALC, MDX, RISA 3D, BRDGSLAB, PPC Beam, RAMS BEAM, LARZA, DCALC, Fortran, Cframe, SAFE and MathCAD.

HOBBIES

Distance running, various sports activities, architecture, writing, and social concern activities.

REFERENCES

Available upon request