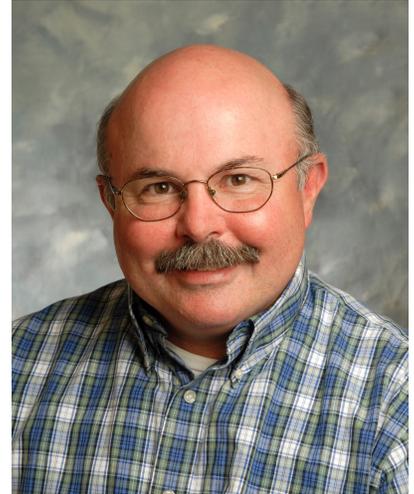


Résumé of Edwin S. Anthony, PE (Sam)

Registered Professional Engineer in New York, Maine, Florida, Massachusetts

Principal Associate, Erdman Anthony
2165 Brighton Henrietta Town Line Road
Rochester, NY 14623
585-427-8888 Ext. 455
Cell: 585-313-2810



Education

Bachelor of Science in Civil Engineering May 1978
Rensselaer Polytechnic Institute
Troy, NY

Graduate Study in Structural Engineering Sept. 1980 – April 1983
Lehigh University
Bethlehem, PA

Work Experience

Title: **Field Engineer**
Employer: John B. Pike and Son, Inc., General Contractors
Dates: 06/1978 – 08/1980

Description: Field engineer for prime contractor constructing the final link to the outer loop expressway around Rochester, NY. The project consisted of the erection of nine bridges, but the bulk of the work was in constructing twin 2000-ft post-tensioned, double-box girder bridges cast segmentally by the cantilevered construction method. Responsibilities included formwork design, computation of elevations for concrete pours, determination of quantities and ordering of concrete, coordination of subcontractors' work, submission of shop drawings, and scheduling work tasks.

Supervisor: Thomas Judson, Jr.
President
1 Circle Street
Rochester, NY 14607

Title: **Structural Engineer**
Employer: Steinman Boynton Gronquist & Birdsall (now Parsons)
Dates: 05/1983 – 06/1985

Description: Staff structural engineer on project to rehabilitate the suspension system of the Brooklyn Bridge. Assisted in developing three-dimensional finite element model of entire bridge in order to evaluate schemes for replacement and adjustment of the suspenders and stays. Model was analyzed with non-linear program ADINA. Determined live load field tests to verify and calibrate model and coordinated tests in field.

Supervisor: Cosema Crawford (now employed by NYC Transit)
Vice President and Deputy Chief Engineer
New York City Transit
2 Broadway, 7th Floor
New York, NY 10004

Title: **Project Structural Engineer**
Employer: Steinman Boynton Gronquist & Birdsall (now Parsons)
Dates: 06/1985 – 01/1986

Description: Developed project to measure dead load tensions in the Brooklyn Bridge suspenders. Coordinated the preparation of all drawings and specifications and scopes of work to be bid on by contactors and fabricators. Responsible at bridge site for seven staff engineers, a general contractor, a strain gage contractor, and surveyors. Determined all suspender tensions from field data and assisted in determining future suspender adjustments

based on these tensions.

Supervisor: Ken Serzan
PM (now Eastern US Bridge & Tunnel Lead)
Parsons
100 Broadway
New York, NY 10005

Title: **Structural Engineer**
Employer: Erdman Anthony
Dates: 02/1986 – 12/1989

Description: Designed rehabilitation of Main Street Bridge over the Genesee River in downtown Rochester, NY. The bridge, constructed in 1865, is a five-span, earth-filled stone arch. The structure required a new concrete roadway base to protect the dolomitic stones laid dry from seepage. A stone-faced concrete parapet was engineered to resist vehicular impact while satisfying aesthetic requirements for the City project. Detailed all repairs, reviewed drafting, and prepared specifications and estimate. Construction cost was \$724,000 (1986).

Designed rehabilitation and widening of two bridges (over Olympic Avenue and Conrail) of the Kensington Expressway (aka State Route 33) in Buffalo, NY. Replaced concrete decks on steel multigirder superstructures, designed additional steel stringers to accommodate widening and retrofit deteriorated areas of existing framing, designed new bearings, and modified existing abutments to accept widening and new bridge joints. Originated all structural calculations and construction estimates and checked all drafting for NYSDOT project. Construction cost was \$1.46 million (1987).

Designed two new 100-ft-long bridges carrying a realigned State Route 5 over Ridge Road and Tiftt Street in Buffalo, NY. New superstructures consisted of six-inch concrete slabs on adjacent prestressed concrete box beams. Designed new elastomeric bearings. At Ridge Road, checked design of new cantilevered concrete abutment supported by spread footings. Also designed a 950-ft-long mechanically stabilized earth wall to accommodate an adjacent expressway ramp. At Tiftt Street, checked pile-supported cantilever abutment design. Checked bridge construction estimates and drafting for NYSDOT project. Construction cost was \$2.03 million (1988).

Performed and checked structural bridge load ratings on 100 county-owned bridges in the Southern Tier of western New York. Ratings were performed to determine live load capacity based on field measurements, recognizing deterioration of structural members. Work performed for several county highway departments (1989).

Supervisor: Paul Treer (now deceased)
Structures Department Head
Erdman Anthony
2165 Brighton Henrietta Town Line Road
Rochester, NY 14623

Title: **Project Structural Engineer**
Employer: Erdman Anthony
Dates: 01/1990 – 04/1995

Description: Designed three-sided concrete box culvert standards for Wyoming County (NY) Highway Department. Designed and detailed precast culverts for waterway openings ranging from 4 ft high by 16 ft wide to 8 ft high by 24 ft wide and with overburdens ranging from 1 ft to 10 ft (i.e., 72 cases considered). Detailed all cases with similar reinforcing to facilitate fabrication and construction by County forces. Documented all on standard sheets (1990). These standard sheets are still being used today.

Supervised and reviewed the design, details, contract drawings, estimate, and specifications for the widening of the 186-ft-long, two-span concrete slab with steel multigirder bridge carrying Ridgeway Avenue over I-390 in Rochester, NY. Work performed for Pioneer Development Corporation. Construction cost was \$650,000 (1991).

Supervised and reviewed the rehabilitation design of five bridges in the Syracuse Division for the New York State Thruway Authority. Structurally, all deck slabs were replaced, steel framing was made continuous for live

load, bearings were replaced, concrete pier caps were replaced, abutment backwalls were replaced, and the balance of deteriorated substructure were repaired. Reviewed the design, details, contract drawings, specifications, and estimates of construction. Lead design engineer on one of the five bridges where I originated all geometric, structural, and construction estimate computations. Construction cost was \$3.8 million (1991-1993).

Supervised and reviewed the superstructure replacement design of the Hackett Mills Bridge over the Little Androscoggin River for Maine DOT. Performed preliminary design and analysis of a two-span continuous, curved concrete slab with curved steel plate girders supported on existing gravity abutments and widened wall pier. Each span was 61 ft. Oversaw the preparation of all final design calculations, construction drawings, and estimate of construction. Checked 3-D finite element analyses of curved girders. Construction cost was \$1.2 million (1993-1995).

Supervisor: Walter Windus
Structures Department Head
Erdman Anthony
2165 Brighton Henrietta Town Line Road
Rochester, NY 14623

Title: Project Manager
Employer: Erdman Anthony
Dates: 04/1995 – 09/2005

Description: Supervised and reviewed design of a bridge replacement carrying Route 1 in Waldoboro, Maine, for Maine DOT. New design was a concrete rigid frame spanning twin tracks of the Maine Coastal Railroad. Prepared Preliminary Design Report and checked frame analysis and design calculations and construction drawings. Construction cost was \$1.2 million (1995-1997).

Supervised and reviewed steel details vulnerability assessments for 437 bridges in Region 6 of NYSDOT. Performed quality control for each assessment and certified each with professional engineering stamp. An element of the assessment work included a comprehensive review and classification of fatigue-prone details on each bridge. Prone details were catalogued, and new trends were observed and documented. As a result of this work, focus of future NYSDOT biennial inspections were modified (1995-1998).

Supervised and reviewed rehabilitation design of six bridges carrying State Route 17 in Binghamton, NY, for NYSDOT. Made conceptual recommendations for rehabilitation on all six bridges (i.e., 50 spans). Oversaw preparation of design calculations and construction drawings. Estimated bridge rehabilitation construction cost was \$2.7 million (1997-2000).

Performed steel details vulnerability assessments for 252 New York State Thruway bridges. Reviewed and certified the assessment for each bridge (2000).

Supervised and reviewed bridge replacement design for the two-span continuous South Street Underpass (192 ft) and the Old Alfred Road Underpass (262 ft). These new bridges span the Maine Turnpike. Oversaw preparation of design calculations and construction drawings. Reviewed plans, specifications, and construction estimate. Construction cost was \$4.6 million (2001-2002).

Supervised and reviewed bridge rehabilitation and aesthetic enhancement design of four two-span steel multigirder bridges carrying city streets over I-490 in Rochester, NY, for NYSDOT. Concrete decks were replaced, steel framing was repaired, and substructures were rebuilt from the beam seat up. Fixed and expansion bearing layout was set to reduce seismic loads. Custom design of pedestrian fence mounted on Texas Aesthetic Barrier, concrete medallion street light supports, and bridge corner pylons. Oversaw preparation of design calculations and construction estimate. Construction cost was \$9.6 million (1999-2002).

Supervised and reviewed replacement design for the Frederick Douglass – Susan B. Anthony Memorial Bridge in Rochester, NY, for NYSDOT. Led design team to replace existing with a new Gateway Bridge carrying 100,000 cars a day in downtown Rochester over the Genesee River. The four continuous spans to the west of the river are 135 m long and are curved steel plate girder style with web haunches at the supports. The 132 m river span is a through arch structure containing three steel box ribs pinned at their thrust blocks. The ribs rise 27 m above springline. Vierendeel rib bracings are composed of six lines of dog-boned shape steel boxes. The roadway is supported from above with a redundant structural strand hanger system. The hangers support

roadway deck, steel stringers, and floorbeams. To the east of the river, three new spans, each averaging 78 m long, for each I-490 travel bound and a downtown off-ramp. Originated design of arch thrust blocks. Oversaw the preparation of all design calculations, construction drawings, and estimate. Provided construction submittal and shop drawing review. Construction cost was \$41 million (1999-2007).

Supervised and reviewed replacement design for the Old Town-Milford Bridge over the Penobscot River for Maine DOT. New bridge is two continuous spans and a steel multigirder that is 122 m long. Utilized hybrid high-strength flanges in the vicinity of the pier. The Maine DOT program considers this structure extraordinary in their bridge population owing to its length. Oversaw preparation of design calculations and construction drawings. Construction cost was \$8.4 million (2003-2005).

Supervisor: Walter Windus
NY Transportation Group Leader
Erdman Anthony
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Title: NY Structures Department Manager
Employer: Erdman Anthony
Dates: 10/2005 – present

Description: Project Structural Engineer for construction support services on the Boston Street Bridge Replacement over the Saugus River for Massachusetts Highway Department. Reviewed and approved shop drawings and re-detailed wingwall foundation to avoid watermain conflict. Construction cost was \$4 million (2007-2008).

Project Structural Engineer for the Reconstruction of Routes 17/81 in Binghamton, NY, for NYSDOT. Oversee preliminary design of three new single-span bridges and 3,695 m of new retaining wall. Project construction cost is estimated at \$200 million (2001-2008).

Project Structural Engineer to reconstruct Oil Well Bridge for the South Florida Water Management District. Reviewed structural design and provided professional engineering certification for a new precast superstructure on the four-span, 92-ft-long bridge (2007-2008).

Principal-in-Charge for 27 structure design projects. Provided appropriate staff resources to each project, consultation during design, and quality control of plans and reports. Projects range from dam inspection, to roof truss inspection, to bridge evaluation, to bridge design. Oversee staff of 10 engineers and technicians (2006-2009).

Supervisor: Richard Stees
VP – Transportation Core Business Leader
Erdman Anthony
100 Sterling Parkway, Suite 212
Mechanicsburg, PA 17050