

**STEPHEN E. GRINNELL
MWH AMERICAS, INC.
PRINCIPAL ENGINEER**

Specialization: Mr. Grinnell has 25 years of experience in the planning, design, construction and operation of a broad range of water resources and civil engineering works. He has extensive knowledge and experience in the field of flood and stormwater management, coastal structures, shoreline protection, and water supply. Mr. Grinnell has planned and designed numerous projects involving compliance with various state and federal regulatory and permitting requirements, including the federal Coast Zone Management Act, the U.S. Army Corps of Engineers Section 404, and various elements of Clean Water Act compliance.

Education: Bachelor of Science - University of Rhode Island, 1980
Major: Civil and Environmental Engineering
Post Graduate Course Work:
University of Nevada, Las Vegas - Business Admin.
University of California, Berkeley - Engineering

Professional Qualifications: Registered Professional Civil Engineer - California 1986
Registered Professional Engineer - Rhode Island 1987

**Year Joined
MWH Americas:** 2002

Birthdate: December 5, 1958

2002 to Present
**Principal Engineer
MWH Americas, Inc.
Sacramento, California**

Project management and principal engineering responsibility for water resource projects. Projects include reservoir operations modeling, analysis and control, water supply studies, groundwater investigations, water storage project planning, flood control studies, and reservoir/river temperature analysis. Experience with Sacramento and San Joaquin Valley water resource issues, including flood control and water supply.

1997 to 2002
**Principal Engineer
Bookman-Edmonston Engineering, Inc.
Sacramento, California**

Principal engineering responsibility for water resource projects. Projects include reservoir operations modeling, water supply studies, groundwater investigations, water storage project

planning, flood control studies, and reservoir/river temperature analysis. Expert witness in hydrology, flood control and water supply for litigation and State regulatory agency proceedings. Experience with Sacramento and San Joaquin Valley water resource issues, including flood control and water supply.

1996-1997

**Vice President of Engineering
I. L. Schwartz Associates, Inc.
Novato, CA**

Responsible for management of the consulting engineering department. Professional engineering activities include overall design guidance for the civil engineering team. Projects include land development, site design, hydrology, stormwater management, flood control, water distribution systems, and wastewater collection systems.

1993 to 1995

**Vice President, Operations, Principal Engineer
Peace Dale Precast Company/Fiore Industries Group
Peace Dale, RI**

Designed building and manufacturing layout for a 40,000 square-foot manufacturing building. Researched, configured and purchased all manufacturing equipment for production. Managed all phases of construction and, prior to start of construction, drafted financing prospectus obtaining State Revenue Bond financing and bank financing. Developed construction budget, negotiated building and equipment contracts, acted as liaison with financing.

1987 to 1993

**Principal Engineer/President
S. E. Grinnell Engineering, Inc.
North Kingstown, RI**

Established civil engineering firm specializing in structural, civil and coastal/marine engineering. Provided complete scope of civil engineering on industrial, commercial and municipal projects.

Civil projects include 70-acre industrial subdivision with active and passive stormwater management system, and 200-acre stormwater management system to support a rural agricultural area. Computational/analytical efforts include custom, multistage stormwater routing analysis computer models, hydrologic models, and hydraulics. Extensive work in groundwater protection, drinking water systems and surface water treatment strategies. Analytical efforts include wellhead delineation, hydrogeologic investigations, and mass balance-nitrate loading studies.

Coastal engineering of coastal structures, shoreline protection projects, recreational facilities, and marina design. Projects include 130, 100 and 85 boat marinas, pump-out stations, wood and steel bulkheads, riprap structures, dredging, coastal hazard analysis and wave/storm structural dynamics.

1986 to 1987

**Project Manager/Engineer
The Grinnell-Phillips Corporation
North Kingstown, RI**

Project Manager/Engineer on shoreline protection project. Responsible for total project control, including scheduling, owner interface, engineering of temporary structures, recording, site surveying, negotiation of alterations and additions to contract, management of subcontractors and general workforce. Coordination of multiple trades, equipment and material logistics.

1983 to 1986

**Senior Engineer
Lawrence Livermore National Laboratory
Livermore, CA**

Senior Engineer for the Underground Nuclear Weapons Testing Program. Develop and implement containment designs for the test program. Also responsible for shock mounting design and implementation for the Test Program. Extensive work in geotechnics, soil and structural dynamics, hydrodynamic modeling. Managed multi-million dollar research programs in materials development, analytical modeling of blast effects on structures, developed equipment and procedures for fielding specialized concretes, establish quality control and assurance plans for field operations and direct construction and engineering efforts in the field.

1981 to 1983

**Structural Engineer
Holmes and Narver Inc.
Las Vegas, NV**

Structural Engineer working in support of the Nuclear Test Program at the Nevada Test Site. Responsible for the analysis and design of mechanical apparatus, frames, facilities and hardware. Extensive use of computer based structural analysis systems. Majority of work required dynamic analysis including time history, response spectra, and modal analysis.