

Résumé for:
Ronald L. George, CPD, President
Plumb-Tech Design & Consulting Services, LLC

P.O. Box 47, Newport, MI 48166

Cell Ph: (734) 755-1908

Office: (734) 322-0225

Website: www.Plumb-TechLLC.com

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Profile:

Mr. George is president of a plumbing & mechanical consulting firm that specializes in plumbing, piping, fire protection and air conditioning system design. His firm also provides plumbing & mechanical code consulting services and plumbing & mechanical product standard consulting services. He has been working in the plumbing & mechanical field since 1978. He attended a plumbing and pipefitting apprentice school in the 1980s and he attended Plumbing & HVAC design classes at several universities. He has over 42 years of experience as a plumbing & mechanical system designer with several top-10 Architectural/Engineering/Construction firms. He has been a monthly columnist for *Plumbing Engineer Magazine* since 1994 and he has provided feature articles for dozens of plumbing & mechanical trade magazines. In the 1990s Mr. George began providing forensic investigation services because of his exposure in trade magazines related to design, installation and maintenance of plumbing & mechanical systems. Since then, he has been requested to participate in many code committees and product standard committees. He has also been asked to investigate many plumbing & mechanical systems failures associated with design, installation, code compliance, maintenance, and product issues. He has also provided investigations of system designs, system installations, and failure of products or equipment that resulted in injuries and losses. He is also well known as an expert related to plumbing & mechanical system failures related to Scalding, Legionnaires disease, carbon monoxide asphyxiations and fuel gas explosions. He has provided consulting services that included investigations, consultations, written reports, depositions, and trial testimony.

He has provided consulting services that included: Site investigations, review of design drawings and specifications, review of construction daily logs and correspondence related to construction disputes, reviewing photos of failed systems and components, physically examining failed parts, providing oral and written assessments and reports of mechanical and plumbing system failures and providing deposition and testimony based on his findings.

During Mr. George's career, he has worked for several major architectural/engineering firms and design/construct firms listed under his work experience where he has worked on all building types. Since 2003 he has operated his own consulting firm. His clients have included: Architectural firms, consulting engineering firms, construction contractors, hospitals, institutions, government agencies, property owners, insurance companies, attorneys and manufacturers of plumbing & mechanical products.

Scald Prevention Activities

Mr. George has been involved in plumbing & mechanical system design for over 42 years. He has participated with code and standard committees that deal with product standards and standards for equipment and system designs for boilers, water heaters, system and mechanical components and equipment, hot water temperature controls, and temperature limiting devices at fixtures.

He has been active with the following organizations: the American Society of Sanitary Engineering (ASSE), the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), The American Society of Plumbing Engineers, (ASPE) and the American Society of Mechanical Engineers (ASME). He has served on the ASSE Scald Awareness Committee which has written several white papers associated with scald prevention.

He also served on a hot water system design standard committee for the American Society of Plumbing Engineers (ASPE) and he has served on an Ad Hoc code committees with the International Code Council (ICC) that researched the Moritz & Henriques time vs temperature burn studies at Harvard Medical College in order to address code language that addresses the maximum safe hot water temperatures at various fixtures to prevent scalding. Mr. George has also participated in an Ad-Hoc Committee with the International Association of Plumbing & Mechanical Officials to investigate water temperature limits at fixtures to prevent scalding and water temperatures to control Legionella bacteria growth. In 2009, after years of investigating many scald injuries associated with poorly designed, poorly installed or poorly maintained domestic hot water systems, and seeing a need to educate the industry about the dangers associated with scalding, Mr George developed a website dedicated to educating the industry about how to prevent scald injuries. www.scaldprevention.org. Currently the Website is being updated with new code and updated temperature control product standard references and it is being converted to a new web hosting format.

Legionella Prevention Activities

Mr. George has been trained and certified as a Legionella Prevention Specialist by exam by a nationally recognized Legionella consulting and training company. Mr. George also serves on the ASHRAE 188 standard committee for the Standard titled: *ASHRAE 188 - Legionellosis: Risk management for Building Water Systems*. He also has served on the committee that writes the ASHRAE Guideline 12 titled: *ASHRAE Guideline 12-2020, Minimizing the Risk of Legionellosis Associated with Building Water Systems*. The committee just finished working on an update to Guideline 12. Mr. George is also a member of the American Society of Sanitary Engineering (ASSE) Series 4000 Professional Qualifications Standard Committee that is developing an Industry Standard for Legionella Management Professionals. Mr. George's designs of plumbing systems and domestic hot water systems over his long career he has advocated minimizing the risk of both scalding injuries and legionella bacteria growth by maintaining domestic hot water temperatures above of the ideal Legionella bacteria growth temperature range in storage and distribution system designs and using appropriate temperature controls to reduce temperatures at the fixtures to minimize the chance of scalding. Over the years, he has investigated many Legionnaires' disease outbreaks in hospitals, hotels nursing homes, adult foster care facilities, medical buildings and other building types. In 2009, Mr. George developed a website dedicated to educating the industry about how to minimize Legionella bacteria growth in building water systems by maintaining storage and distribution temperatures above Legionella bacteria growth temperature ranges and using appropriate temperature controls at the point-of-use to control the risk of scalding and providing water treatment chemical monitoring and secondary water treatment systems if needed to control the risk of Legionella bacteria growth. His website is: www.legionellaprevention.org.

Codes & Standards Activities: Mr. George is very familiar with, and participates in the development of the plumbing codes, mechanical codes, fuel gas codes, building codes and fire codes. He also participates in the development and maintenance of numerous plumbing and mechanical product standards. In the year 2000, he was selected by the International Code Council to serve on the *International Plumbing Code (IPC)* development committee and in 2004, he was selected to serve on the *International Residential Code, Plumbing & Mechanical (IRC-PM)* code committee where he served as Vice-Chairman for two years and as Chairman for four years. In 2015 Mr. George was selected to serve a 3-year term on the International Plumbing, Mechanical and Fuel Gas Code Interpretations Committee providing interpretations for code questions submitted to the International Code Council. He has also formerly served as a member of the BOCA National Mechanical Code Interpretations Committee. He sits on the *American Society of Mechanical Engineers (ASME) A112 Plumbing Materials and Equipment* main committee that oversees all plumbing related Standards for ASME and he is a member of numerous ASME A112 task groups that develop plumbing product & equipment standards. He is a member of the *American Society of Sanitary Engineering International (ASSE)* and has served on the main *ASSE Product Standard Committee (PSC)* and he has served as Vice Chairman on the *ASSE Seal Control Board (SCB)*. He is the chairman of the *ASSE Plumbing Dictionary Committee* and co-author of the *ASSE/ASPE Plumbing Dictionary*.

Mr George is a member of the ASSE Legionella Research Committee and the ASHRAE 188 standard committee that developed the standard titled, *Legionellosis: Risk Management for Building Water Systems*. He has also served on the ASHRAE Guideline 12 committee titled: *ASHRAE Guideline 12 – 2000 Minimizing the Risk of Legionellosis Associated with Building Water Systems*. He also serves on many ASSE plumbing product standard working groups including all hot water temperature control standards. (ASSE 1016, ASSE 1017, ASSE 1071, ASSE 1062, ASSE 1066 & ASSE 1069. He is currently serving on several ASSE water heater temperature control standard committees. He has attended the model code hearings for the *International Codes*, the *Uniform Codes* and the *National Standard*

Code to provide proposed code change language and comment on other proposed changes. Mr. George is actively involved in developing code language and contributing to code change discussions for Plumbing Codes, Mechanical Codes, Fuel Gas Codes, Energy Codes, Swimming Pool-Spa-Hot Tub Codes, Fire Codes, Existing Building Code, the Green Construction Code and the Property Maintenance Code. He is actively involved with plumbing, mechanical and fire protection industry standards development with the following organizations: The National Fire Protection Association (NFPA); the American Society for Testing & Materials (ASTM); ASME, ASSE, ASPE and the international Safety Equipment Association (ISEA).

Mr. George has served numerous terms as a chapter officer for the American Society of Plumbing Engineers and he has also served as the American Society of Plumbing Engineer's Society's Vice President of Education. He has been a monthly columnist for *Plumbing Engineer Magazine* since 1994 for the "Designer's Guide" and "Code Update" Columns. He has also written plumbing design and code review feature articles for several other national engineering trade publications including *PM Engineer Magazine*, *Consulting Specifying Engineer Magazine*, *Plumbing Standards Magazine* and several others.

Mr. George has experience designing the following plumbing and mechanical systems:

- *Domestic Water & Process Water Distribution systems*
- *Backflow Prevention Equipment and their Applications*
- *Domestic Hot Water Systems and Equipment with an expertise in Scald & Legionnaires' disease Investigations.*
- *Heating and Chilled Water Pumping and Distribution Systems*
- *Compressed Air Systems: Medical, Laboratory, and Industrial*
- *Sanitary Waste, Acid Waste and Industrial Waste & Venting Systems*
- *Storm Drainage Systems (Conventional, Overflow & Siphonic)*
- *Fuel Oil Piping Distribution Systems, Pumping and Dispensing Equipment*
- *Gasoline & Diesel Storage, Piping, Accessories, Pumping and Dispensing Equipment*
- *Fuel Gasses: Natural Gas, Propane, and Butane systems designs*
- *Fire Department Officer training and fire and explosion investigation training.*
- *Medical Gases: Oxygen, Nitrogen, Nitrous Oxide, Vacuum, Air, and Carbon Dioxide storage and distribution*
- *Lab Utilities & Gases: Helium, Hydrogen, Air, Vacuum, and Pure Water Distribution*
- *Steam & Condensate Piping Systems*
- *Pure Water/Deionized/Reverse Osmosis/Dialysis Distribution and Re-circulation Systems and Materials.*
- *Heating Ventilation & Air Conditioning Systems Design, Duct Layout and Sizing*
- *Plumbing and Mechanical System Failure Analysis - Reports, Forensic Investigations & Litigation Support*
- *Fire Protection: Wet, Dry, Pre-Action Sprinklers, Standpipes, Private fire Service mains, Fire Pimps, Storage tanks.*
- *Clean Agent Fire Suppression Systems: (Halon, Carbon Dioxide/CO2, FM 200, Intergen)*

Project Design Experience:

Mr. George has experience designing plumbing, mechanical and fire protection systems for all building types including; airports, stadiums, industrial manufacturing facilities, high rise buildings, office buildings, commercial and retail buildings, hospitals, laboratories, prisons, jails, hotels, apartment buildings, military projects, and educational facilities. Some of his recent, notable design experience includes:

- *Detroit Lions Stadium - Ford Field (site of the 2006 Super Bowl XL)(Plumbing/Fire Protection)*
- *Detroit Metro Airport new midfield terminal (McNamara Terminal, Plumbing/Fire Protection)*
- *University of Michigan – C.S. Mott Children's & Women's Hospital (Plumbing/Medical Gasses)*
- *University of Michigan - Life Sciences Lab Buildings (Plumbing/Fire Protection)*
- *University of Michigan - Rackham Hall Historic Building Renovations (Plumbing/Fire Protection)*
- *University of Michigan - Commons Building (Classrooms, Retail & Food Service spaces, Plbg./Fire Prot.)*
- *University of Michigan - Undergraduate Science Classroom Building on Palmer Drive (Plbg./Fire Prot.)*
- *Michigan Technological University - Computer Science Building & Library Addition, Houghton, MI (Plbg.)*
- *9-story, Pontiac Osteopathic Hospital Addition - Operating Rooms, Cafeteria & Bed Tower (Plbg./Fire Prot.)*
- *St. John's Hospital, Detroit, MRI Addition and Emergency Room Addition. (Plbg./Fire Prot.)*
- *Oakwood Hospital Dearborn - E.R. Addition, Cancer Center, Birthing Center and Utility System Upgrades*
- *The High-Rise, Waller Creek Hotel, Parking and Office Building Complex, (Hilton Garden Inn) Austin, TX*
- *The MGM Casino in Detroit. (Plbg./Fire Prot.)*
- *The Motor City Casino Hotel Tower in Detroit (Plumbing)*
- *26-story Book Cadillac Hotel & Condominium Renovation Project, Detroit, MI (Plbg./Fire Prot.)*
- *23-story Fort Shelby Doubletree Hilton Hotel & Condos, Detroit, MI (Plbg.)*
- *Sinai Grace Hospital ER Addition and Renovations, (Plumbing & Med Gas), Detroit, MI*

- *St. Joseph's Hospital, Critical Care Tower Addition, (Plumbing & Med Gas), Ann Arbor MI*
- *Beaumont Hospital, Royal Oak, MI and Troy, MI (Various Projects for Beaumont Services and Mech. Contr's)*
- *St. Joseph's Hospital, Oakland County, Surgery Addition & Renovations, Plumbing & Med Gas, Pontiac, MI*

Mr. George's responsibilities have included being the lead system designer responsible for plumbing and fire protection system design on many projects. He has also provided HVAC system design and assisted with HVAC piping design on many projects. A substantially complete list of projects is on the following pages under: *Partial List of Project Design Experience*.

Mr. George has also written construction specifications, performed cost estimates, and participated in value engineering and life cycle cost studies during the planning stages of many of the projects he has been involved in.

He has also worked as a field engineer and provided construction administration services that include: Construction inspection, Weekly field reports and reviewing mechanical equipment shop drawings for conformance with the specifications and contract documents. He has coordinated construction interferences other trades and construction interferences and performance issues associated with substituted materials.

Mr. George has a working knowledge with, the following Codes and Standards:

ICC - International Code Council:

- **IBC**, International Building code,
- **IMC**, International Mechanical code,
- **IPC**, International Plumbing code,
- **IFGC**, International Fuel Gas code,
- **IPMC**, International Property Maintenance code
- **IEBC**, International Existing Building Code
- **IECC**, International Energy Conservation code.
- **IRC**, International Residential Code. (Plumbing & Mechanical)

IAPMO – International Association of Plumbing & Mechanical Officials, Uniform Codes:

- **UMC**, Uniform Mechanical Code
- **UPC**, Uniform Plumbing Code
- **USPHTSC**- Uniform Swimming Pool, Hot Tub & Spa Code.
- **USCC** – Uniform Solar Energy Code

NFPA - National Fire Protection Association:

- 1921 Fire Protection codes and Standards
- 54 Fuel Gas Codes & Standards
- 99 Medical Gas Standards
- Industrial Buildings Committee,
- Healthcare Buildings Committee

ASSE - American Society of Sanitary Engineering, Plumbing Product Standards

ASME - American Society of Mechanical Engineers, Plumbing Product Standards

ASPE - American Society of Plumbing Engineers, Plumbing System Design Standards

CISPI - Cast Iron Soil Pipe Institute, Piping material and installation standards

ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers, HVAC Standards

NSF - National Sanitation Foundation, Water Quality, Health and Safety Standards

ADAAG - Americans with Disabilities Act - Accessibility Guidelines, ICC/ANSI A117.1

ISEA - Int'l Safety Equipment Association ISEA/ANSI Z358.1 Emergency Fixture Standards

PDI - Plumbing and Drainage Institute – Material and Installation Standards

- PDI G101 Grease interceptor Standard, & -PDI WH201 Water Hammer Arrestor Standard

Affiliations/Memberships:

Mr. George is actively involved in the following organizations, committees and activities:

International Code Council, (ICC)

- Former member of the **International Plumbing Code (IPC) Development Committee (1999-2004)**
- Former Chairman of the **International Residential Plumbing & Mechanical Code Committee 2004-2009**.
- Member of the **ICC Plumbing, Mechanical and Fuel Gas Code Interpretation Committee (PMGCIC)**
- Former International Code Council Instructor for:
 - 2003-2012 **International Plumbing Code (IPC) seminars**
 - 2003-2012 **International Mechanical Code (IMC) seminars**
 - 2003-2012 **International Fuel Gas Code (IFGC) seminars**
 - 2003-2012 **International Residential Plumbing & Mechanical (IRC-PM) Code seminars.**

Affiliations/Memberships (Continued):

International Association of Plumbing & Mechanical Officials (IAPMO)

- Former Member of the IAPMO “Standards Council”
 - The IAPMO Standards council oversees the *Uniform Plumbing code, Uniform Mechanical Code, Uniform swimming Pool, Hot Tub & Spa Code*, and the *Uniform Solar Energy Code*. The committee also reviews all appeals to the *Uniform Codes* and they review committee applications and appoint members to the various *Uniform Code technical committees*.
- Former Member of the *Uniform Plumbing Code “Answers and Analysis Committee”*
 - Mr. George served on this committee where he received all requests for code interpretations and the committee would provide a written response to the petitioner. Throughout the year the committee provided answers to code questions and each year the committee meets to decide which questions are worth adding to the *Uniform Codes Interpretations Answers and Analysis book*.

Building Officials and Code Administrators (BOCA)

- Former member Mechanical Code Interpretations Committee. 2000-2003 This code organization no longer exists. They joined with ICBO and SBCCI to form the International Code Council.

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

- Member Detroit Chapter,
- Member ASHRAE 188P Legionellosis: Risk Management for Building Water Systems
- Member ASHRAE Guideline 12 - Minimizing the Risk of Legionellosis Associated with Building Water Systems.

American Society of Plumbing Engineers (ASPE):

- Past President Eastern Michigan Chapter.
- CIPE: I was certified in plumbing engineering (CIPE) by exam by ASPE in 1983.
- CPD: I was certified in plumbing design in 1998. By ASPE with continuing education requirements.
- Former Society Board Member, Vice President, Education
- Participated in the following Plumbing System Design Standard Committees:
 - ASPE Venting design standard committee
 - ASPE Water pipe sizing design standard committee
 - ASPE Temperature Limits for Domestic Hot Water Systems committee

National Fire Protection Association (NFPA):

- Member “Industrial Buildings Committee”
- Member “Health Care Facilities Committee”.
- Attends NFPA 54 Fuel Gas Code hearings
- Attends NFPA 99 Medical Gas Code hearings
- Former Firefighter, Emergency Medical Responder with several Volunteer Fire Departments.

Society of Fire Protection Engineers (SFPE):

- Active with Michigan Chapter.

Tri-County Plumbing Inspectors Association (TCPIA):

- Active with Tri-County Chapter. (Wayne, Oakland, Macomb Counties)
(Speaker for Act 54 Continuing Education Credits)

S.E. Michigan Plumbing Inspectors Association (SEMPIA):

- Active with S.E. Michigan Chapter. (Monroe, Lenawee, Washtenaw Counties)
(Speaker for Act 54 Continuing Education Credits)

Plumbing Inspectors Association of Michigan (PIAM):

- Active with Michigan Chapter. (Speaker for Continuing Education Credits)

Affiliations/Memberships (Continued):

American Society of Mechanical Engineers (ASME)

- Member of several plumbing product standard committees:

- A112 Main Committee over Plumbing Materials and Equipment which oversees all standards under ASME A112 plumbing product and material standards.

- As a member of ASME, ASSE, ASPE and as a design professional Mr. George participated in the EPA Watersense committee that developed a specification for low flow showerheads.

CSA/ ASME A112 North-American Harmonization Committee: For U.S./Canadian Standards harmonization.

- A112.4.1, Relief Valve Drain, Member, Standard committee
- A112.4.3, Water Closet Seal, Member, Standard committee
- A112.4.7, Sub-metering systems, Member, Standard committee
- A112.4.14, Manually operated 1/4 turn shut-off valves for plumbing systems, Member, Standard committee
- A112.6.3, Floor Drains & Trench Drains, Member, Standard committee
- A112.6.4, Roof Drains, Member, Standard committee
- A112.6.7, Floor Sinks, Member, Standard committee
- A112.6.8, Trench Drains (Draft)
- A112.6.9, Siphonic Roof Drain Systems, Member, Standard committee
- A112.14.3, Grease interceptors, Member, Standard committee
- A112.14.4, Grease Removal Device, Member, Standard committee
- A112.14.5, Oil interceptor, Member, Standard committee
- A112.14.6: Biological Enzyme Grease Removal Device, Standard committee
- A112.18.3: Backflow Device, Member, Standard committee
- A112.18.6 Flexible Water Connector, Member, Standard committee
- A112.18.8 Sanitary Waste Valves, Member, standard committee
- A112.18.9, Protective covers for ADA Traps, member standard committee
- A112.19.3 Vitreous China Plumbing Fixtures
- A112.19.5 Water Closet Trim, Member, Standard committee
- A112.20.1 Residential Fire Protection Installation Standard committee
- A112.20.2 Medical Gas installation Standard committee
- A112.20.3 Process piping installation Standard committee

American Society of Sanitary Engineering (ASSE):

- Former *V.P. and Director of the Michigan Chapter ASSE*
- Member *ASSE Plumbing Product Standard Committee*
- Former Member *ASSE Seal Control Board*
- Member of the *ASSE Legionnaires Disease Research Committee*
- Member of the *ASSE Plumbing Product Testing Laboratory Evaluation Committee*
- Chairman of the *ASSE Committee* responsible for editing and publishing the “*Plumbing Dictionary*”
- Member of the *ASSE Plumbing Research Committee*
- Member of the *ASSE Plumbing Technical Committee*
- Member of the *ASSE Scald Awareness Committee*
- Member of the following ASSE plumbing product standard working groups:
 - ASSE 1010 Performance Requirements for Water Hammer Arrestors
 - ASSE 1016 Automatic Compensating Valves for Individual Showers and Tub/shower Combinations
 - ASSE 1017 Temperature Actuated Mixing Valves for Hot Water Distribution Systems
 - ASSE 1070 Temperature Actuated mixing valves for point-of-use
 - ASSE 1018 Trap Seal Primer Valves – Water Supplied
 - ASSE 1044 Trap Seal Primer Valves – Drainage Supplied
 - ASSE 1066 Individual Balancing In-line Valves for Individual Fixtures.
 - ASSE 1071 Temperature Actuated Mixing Valves for Emergency shower & Eyewash Applications
 - ASSE 1072 Trap Seal Protection Devices
 - ASSE 1081 Performance Req’s for Pressure Reducing Boiler Feed Valves with Integral Backflow Preventers
 - ASSE 1082 (Draft) Perf. Req’s for Water Heaters Temperature Controls for Hot Water Distribution Systems
 - ASSE 1084 (Draft) Perf. Req’s for Tankless Water Heaters used as Temp. Limiting Devices
 - ASSE 1085 (Draft) Perf. Req’s for Tankless Water Heaters for Emergency Fixtures

In addition to the above committees, Mr. George Participates in the following ASSE Professional Qualifications committees:

- ASSE Series 4000 Professional Qualifications for Legionella Management Professionals
- ASSE Series 7000 Prof. Qual. Std for Res. PW Fire Prot. Sys. Installers and Insp’ss for 1 and 2 Family Dwellings

- ASSE Series 8000 Self-Cont'd Breathing Apparatus (SCBA) Replenishment Sys's Prof. Qual's Standard
- ASSE Series 9000 Prof. Qual's std for Firestopping installers and inspectors.
- ASSE Series 10000 Prof. Quals for Sustainable Plumbing
- ASSE Series 12000 Prof. Qual Standard for Infection Control Risk Assessment for Building Water Systems
- ASSE Series 13000 Prof. Quals standard for Res. Mechanical Service Technicians

Former ASSE representative on the ASME A112 Plumbing Materials and Equipment Committee.

Mr. George participates in the following activities:

- Former Instructor for High Rise Plumbing Design and Plumbing Code Classes at the University of Wisconsin
- Former Instructor - Oakland Community College, *Plumbing Design & Code Review* classes.
- Former Instructor - Lawrence Technological University, *Plumbing & Fire Protection* Classes
- Frequent Speaker at industry meetings: *ASPE, ASSE, SFPE, MBPA, ABPA, NSF, Mechanical Contractor Assoc, ICC, IAPMO and various Plumbing Inspector association meetings.*
- Former **Firefighter(FF)/Medical First-Responder (MFR):**
 - Estral Beach, Vol. Fire Dept. **FF/MFR, Lt, Asst. Chief, Fire Chief.** 1997 - 2014
- Former **Firefighter/MFR:** Berlin Township, Michigan (Newport) Vol. Fire Department. 1996-2007
- Former **Firefighter/EMT, Captain,** Kennedale, TX Vol. Fire Department, 1980-1987
- Former Member, **Berlin Township, Water and Sewer Board of Directors.** 1999 - 2003
- Consultant to Berlin Township Water & Sewer Department. 2003 - 2018

Honors & Awards:

- 1993 ASPE Award of Merit,
 - Achieving goals as President of E. Mich. Chapter of the American Society of Plumbing Engineers
- 1994 ASPE Society Presidents Award –
 - For setting up and instructing Plumbing Design Courses at Oakland Community College.
- 1995 ASSE - L. Glenn Shields Award, 1995,
 - Michigan Chapter of ASSE Plumbing industry award for industry contributions.
- 1996 ASPE Society Directors Award –
 - For developing & instructing college courses on Advanced Plumbing Systems Design
- 2002 ASSE Michigan Chapter “Engineer of the Year” Award –
 - Received the “John E. Matthews - **Engineer of the Year Award**” from Michigan Chapter ASSE
- 2002 ASPE Service Award
 - for serving as V.P. of Education for the American Society of Plumbing Engineers
- 2005 Philippine Society of Sanitary Engineers Certificate of Appreciation
 - for presenting seminars at the 2005 conference in Manila on “*The Fire Suppression System Contribution to the Progressive Structural Collapse of the World Trade Center*” and
 - a presentation on “*Forensic Investigations of Plumbing Systems*”
- 2008 IAPMO Plaque for Serving on the Uniform Plumbing Code Answers and Analysis Committee
- 2009 IAPMO Plaque for Serving on the Uniform Plumbing Code Answers and Analysis Committee
- 2009 Plaque of appreciation for Serving on the IAPMO Standards Council
- 2009 Honorary Membership, Fellowship Award by the Indian Plumbing Association (Hyderabad, India)
- 2010 Certificate of Appreciation for conducting a Plumbing Design Seminar in New Delhi, India, by the
 - Indian Plumbing Association (New Delhi Chapter)*
- 2012 Certificate of Appreciation for conducting a Plumbing Design Seminar at the University of Wisconsin – Madison.
- 2014 Certificate of Appreciation for conducting a Plumbing Design Seminar at the University of Minnesota.
- 2014 “Pinnacle Award” from the Ohio Chapter of ASSE for Achievements related to the advancement of Plumbing Engineering
- 2014 Certificate of Appreciation for a Hot Water Systems Design & Scald Prevention Seminar. E.M. ASPE Meeting 12-16-14.
- 2015 Certificate of Appreciation for a Storm Drain & Siphonic Roof Drain Design Seminar. E.M. ASPE Meeting 2-17-15.

Related Interests:

- Former Instructor for University of Minnesota College of Professional Development, Plumbing Design & Code Classes.
- Former Instructor for University of Wisconsin College of Engineering, Department of Professional Development, Plumbing System Design Classes.
- Former Instructor for: ASPE Plumbing Design Courses at Oakland Community College.
- Former Lecturer for: Environmental Systems class on plumbing & fire protection topics at Lawrence Technological University.
- Former Instructor at Charlotte Pipe & Foundry College of Plumbing Knowledge. (4 day plumbing design and installation class)
- Instructor for: HVAC piping, Piping Specialties, & Plumbing and Code seminars for Michigan Chapters of ASPE and ASSE.

- Speaker at American Backflow Prevention Association's annual seminars
- Monthly columnist for the "Code Update/Code Classroom" Column in "*Plumbing Engineer Magazine*"
- Former monthly Columnist – Designers Guide Column in "*Plumbing Engineer Magazine*"
- Speaker at University of Michigan Fire Prevention & Control Seminars.
- Former Volunteer Firefighter. Certifications for: Firefighter 1, Firefighter 2, and Hazardous materials awareness/operations, Trained in Emergency Medical Services as an Emergency Medical Technician. From 1981 – 2014 I attended State mandated continuing education for medical training.
- Former Fire Chief, Estral Beach Volunteer Fire Department. Retired January 2015.

Professional Work Experience:

The firms listed below are Architectural/Engineering firms for which I have been employed continuously since 1978.

Plumb-Tech Design & Consulting Services LLC Monroe, Michigan

Jan 2011 – Present

President of Ron George Design & Consulting Services / Plumb-Tech Design & consulting Services LLC Monroe, Michigan

June 2003 – Present

Job duties included: Plumbing/Piping/Fire Protection & HVAC system design, plbg. & mech. code and standard consulting, Forensic Investigations for Litigation support, Technical Writing, Computer Aided Drafting (CAD) services.

Smithgroup Inc. Architects, Engineers Detroit, MI

November, 1994 – June 2003 (9-1/2 years)

Job duties included: Plumbing/Piping/Fire Protection & assisted with HVAC Piping Systems Design for numerous Major Projects in the Detroit Metro Area and around the country. I provided construction administration on a few projects. I also performed forensic investigations for several attorneys in a litigation support role for plumbing systems failures that included scalding deaths and property damage. While at Smithgroup Inc., I wrote technical articles for several trade publications in my spare time and was trained on AutoCAD.

SSOE Architects, Engineers, Inc., Troy, MI

April 1992- November 1994

Job duties included: Plumbing/Piping/Fire Protection system for numerous building types. Design & Training Seminars.

WOLF WINEMAN Engineers Inc., Southfield, MI

December 1990 – April 1992

Job duties included: Plumbing/Piping/Fire Protection System Design, Construction inspection and administration.

EVERETT I. BROWN Architects/Engineers, Inc., Indianapolis, IN

April 1990-December 1990

Job duties included: Plumbing/Piping/Fire Protection System Design, Construction inspection and administration.

UNITED CONSULTING ENGINEERS, Indianapolis, IN - Temporary contract position

February 1990-April 1990

Job duties included: Plumbing/Piping/Fire Protection System Design, Construction inspection and administration.

FLUOR DANIEL Engineers, Constructors, Greenville, SC - Temporary contract position

July 1989-February 1990

Job duties included: Managing the Plumbing/Piping/Fire Protection System Design for the DuPont Projects in the Delta Division, Construction inspection and administration. Cad Operation.

CRS SIRRINE Engineers, Constructors, Greenville, SC - Temporary contract position

November 1988-July 1989

Job duties included: Plumbing/Piping/Fire Protection System Design on an Intergraph CAD System.

PHILLIPS SWAGER Associates, Architects, Engineers, Peoria, IL - Temporary contract position

August 1987-November 1988

Job duties included: Plumbing/Piping/Fire Protection System Design on Commercial, High-Rise, Jail and Prison projects using Intergraph Microstation CAD System software.

STONE & WEBSTER Engineering Corporation, Engineers, constructors, Houston, TX – Temporary contract position

January 1987-August 1987

Job duties included: Preparing pipe support drawings in conformance with Nuclear Regulatory Commission Requirements for the Comanche Peak Nuclear Power Plant in Glenrose, Texas.

CARTER & BURGESS, Inc., Engineers-Planners, Fort Worth, TX

July 1982-November 1986

Job duties included: Plumbing/Piping/Fire Protection System Design. For commercial, Institutional, University, Government and Airport Projects. During this time I was trained on the Intergraph Computer system for Computer Aided Design. (CAD)

LAWRENCE D. WHITE ASSOCIATES, Architects/Engineers, Inc., Fort Worth, TX

February 1980-July 1982

Job duties included: Plumbing/Piping/Fire Protection System Design for Several Texas Prisons, The Fort Worth City/County Jail and numerous hotel, office building and high-rise commercial projects in Fort Worth and Austin, TX.

LOVE, FRIBERG & ASSOCIATES, INC., Consulting Engineers, (presently Friberg, & Associates, Inc.), Fort Worth, TX

February 1978-February 1980

Job duties included: Plumbing System layout and drafting on numerous high-rise hospitals, laboratories, universities, commercial and military projects under the direction of several plumbing & mechanical engineers.

Relevant Training/Education:

- University of Wisconsin, College of Engineering – High Rise Plumbing Design - Waste, Vent & Hot & Cold water Piping, Mar. 2010-11
- University of Wisconsin, College of Eng'g – Water Conservation, Wastewater Treatment, Medical Gasses, Siphonic drains. Mar. 2009-10
- College of Plumbing Knowledge, Charlotte Pipe & Foundry - 2008
- Plumbing / Piping installer training (PVC, CPVC, Cast Iron) Charlotte, NC - 2007
- Architecture/General studies University of Texas at Arlington, 1979 - 1980
- General Studies, Tarrant County College, Fort Worth, TX 1981 - 1984
- Fire Science Studies – Tarrant County College, Fort Worth, TX, 1981 - 1982
- Plumbing System Design Classes, Tarrant County College, Fort Worth, TX, 1981 - 1984
- Plumbing/Piping/Fire Protection Classes, Brookhaven College, Dallas, TX, 1985
- Plumbing/Fire Protection Design Seminar Series, DFW Chapter of Amer. Soc. Of Plumbing Engineers, 1979
- Heating Ventilation Air Conditioning (HVAC) Studies, Tarrant County College, Fort Worth, TX, 1982
- CAD Operator Training, “AutoCAD 14 & AutoCAD 2000” Schoolcraft College, Livonia, MI, 2000
- CADD Operator Training, “Intergraph Vax and Microstation” Intergraph Corporation, 1983
- Fire Sprinkler & Standpipe Systems Course, Tarrant County College, Fort Worth, TX, 1982
- Irrigation Systems Design, Weathermatic "College of Irrigation Knowledge", Dallas, TX, 1982
- Automatic Sprinkler Systems Plan Review Seminar sponsored by N.F.P.A., Chicago, IL, 1990
- Fire Sprinkler Systems Seminar, Viking Corp., Hastings, MI, 1997
- (3) Boiler/Water Heater Design Seminars, PVI Industries, Fort Worth, TX, 1978, 1980, 2000
- Boiler/Tank Type Water Heater Seminar - Sellers Corp., Lexington, KY, 1980
- Water Heater Seminar/Manufacturing plant tour / Richmond Engineering - 2006
- Water Heater Seminar - Bradford-White Corp., Grand Rapids, MI 1997, 2001
- Kohler Mfg Fac., Kohler Wisconsin, Cast Iron fixture manufacturing processes seminar 2001
- Kohler Mfg Fac., Kohler Wisconsin, Vitreous China Manufacturing process seminar 2001
- Copper fin tube water heater / Tank type Water Heater / boiler Seminar – Lochinvar Corp., Nashville, TN, 1995, 2003
- Copper fin tube water heater / boiler seminar Weben Jarco Corp. – Dallas, TX, 1985
- Copper fin tube water heater / boiler Seminar - RBI Water Heaters, Ontario, Canada, 1998
- Pump Systems Design Seminar – Bell & Gossett ‘Little Red School House’, Chicago, IL 1995
- Chilled Water and Heating Hot Water Water-Hydronic System Seminar – Bell & Gossett 1985, 2000
- Steam & Condensate Piping Systems Seminar – Bell & Gossett, 1995, 2000
- Mixing Valve Seminar – Leonard Valve Co., 1995
- Mixing Valve Seminar – Symmons Valve Co. Boston, MA, 2003
- Mixing Valve Seminar – Lawler Valve, Ind., IN., 1998
- Mixing Valve seminar – Armstrong - Rada Valve Co. – Three Rivers, MI, 2003,
- Certification Program - Legionellae Control in Healthcare Facilities Seminar, 2001
- Legionellae Control in Plumbing & Mechanical Systems Seminar, Armstrong Industries, 2005
- PC Computer systems training, Greenville Tech. College, Greenville, SC, 1997
- Business Administration studies, Greenville Tech. College, Greenville, SC, 1997
- Uniform Plumbing Code Inspector Training, Lansing, MI, 1992
- BOCA Plumbing Code Training Seminar, Grand Rapids, MI, 1995
- BOCA Plumbing Code Training Seminar, Detroit, MI, 1991
- Plumbing Inspectors Courses, Keego Harbor, MI, 1992, 1993, 1995, 1996, 1998, 2000, 2002, 2004,
- Fire Investigator Training – International Association of Arson Investigators – Mich. Chapter – 2003
- Cast Iron Pipe Testing Class, CISPI Certified Testing Lab, (Hardness test, tensile test, Metallurgy) 2007
- Cast Iron Pipe Installation Class - Charlotte Pipe Training Facility, Charlotte, NC. Cast Iron Pipe Foundry Tour 2008
- Plastic Pipe Installation Class - Charlotte Pipe Training Facility, Charlotte, NC, Plastic Pipe Manufacturing Plant Tour 2008
- Charlotte Pipe & Foundry, College of Plumbing Knowledge, Charlotte, NC 2007
- Weekly Firefighter and Medical First Responder Continuing Education training through Berlin Township Volunteer Fire Department.
- Western Mich. Univ. – Cause & Origin of Water Heater & Appliance Fires – Fire Findings Laboratories, Benton Harbor, MI, 2005
- Attendance at monthly Amer. Soc. of Plumbing Engineers, technical meetings on various topics for continuing education to maintain CEUs for “Certification in Plumbing Design” , 1979 thru present, monthly technical seminar re-certification training 2 hours/month.
- Attendance @ ASPE Conventions & Symposiums to maintain CEUs for “CPD” 1980 thru present, Approx 12 hours of training per year.
- Attendance at annual meetings for numerous industry plumbing related groups: American Backflow Prevention Association, American Society of Sanitary Engineering, National Fire Prot. Assoc’n, Plumbing Inspectors Assoc. of Michigan, ICC, IAPMO, ASSE, ASME, ASTM and other industry meetings for codes and standards continuing education seminars.
- Pumps Systems Classes 24 hour course at Grundfoss Pumps, Kansas City, KS 2012
- Pump Systems Class Bell & Gossett/R.L. Deppmann Co, Detroit MI 2012
- Roof Drains & Siphonic Roof Drains ASPE EM Chapter Seminar, Feb 17, 2015.

Plumbers Apprentice Training:

- Plumber Apprentice Training, evenings at TD Mechanical, Dallas, TX 1982-86

Certifications:

- Certified in Plumbing Engineering (CIPE) – By Exam - American Society of Plumbing Engineers, 1983
- Certified in Plumbing Design – (CPD) 2000 – By Exam, American Society of Plumbing Engineers renewed with continuing education
- Licensed Irrigator, State of Texas, – By Exam 1982-1986
- Certified Legionella Prevention Specialist. – By Exam (July 2001)
- Certified Fire Investigator, – By Exam, International Association of Arson Investigators, Michigan Chapter. 2003
- Firefighter Level 1 – By Exam - 1996
- Firefighter Level 2 – By Exam - 1996
- Firefighter Hazardous Materials Awareness – By Exam - 1998
- Firefighter Hazardous Materials Operations – By Exam - 1998
- Fire Incident Command – By Exam - 2000
- Fire Officer 1 – By Exam - 2002
- Fire Officer 2 – By Exam - 2002
- Medical First Responder – By Exam – 1996 (With 24 hours of Continuing Education every 2 years)
- Emergency Medical Technician – By Exam - 1982

Publications:

I am a monthly columnist and technical editor for “Plumbing Engineer Magazine”, I served as a technical editor for “Plumbing Systems & Design Magazine” and I have written numerous articles for various plumbing industry magazines such as “Plumbing Systems & Design Magazine”, “PM Engineer Magazine”; “Consulting Specifying Engineer Magazine”; “Plumbing Standards Magazine”; “Building Design & Construction Magazine” “Wholesaler Magazine” and “Facilities Maintenance Magazine”. I have written over 300 articles published in these plumbing engineering related publications. These columns deal with all building types and system types. The following is a partial list of books and published articles:

Date	Title of Book	Publisher
2007	Contributing Author - 2006 International Plumbing Code Study Companion	The International Code Council
1998	Contributing Author - ASPE Hot Water Design Manual (Chapters: Restaurants, Hospitals, Pool heaters)	American Society of Plumbing Engineers
20xx	Editor, ASPE/ASSE Plumbing Dictionary	ASPE/ASSE

Date	Title of Article	Publication
04/08-Present	Monthly Columnist – Code Classroom (Hundreds of code & standard columns) (Recent Columns available on-line)	Plumbing Engineer Magazine
03/08	Domestic Hot Water and Scald Prevention in the Codes	Plumbing Engineer Magazine
02/08	Emergency Fixtures and the Codes	Plumbing Engineer Magazine
01/08	Cast Iron Pipe and the Standards	Plumbing Engineer Magazine
01/07 - 12/07	Monthly Proposed Code Change/Code Update Columns	Plumbing Engineer Magazine
12/06	Code Update – UPC Code Changes - 2003 to 2006 - Part 3	Plumbing Engineer Magazine
12/06	The History of Emergency Fixture Water Tempering Systems	Plumbing Engineer Magazine
11/06	Code Update – UPC Code Changes - 2003 to 2006 - Part 2	Plumbing Engineer Magazine
10/06	Code Update – UPC Code Changes - 2003 to 2006 - Part 1	Plumbing Engineer Magazine
09/06	Code Update – IPC Code Changes - 2003 to 2006 - Part 6	Plumbing Engineer Magazine
08/06	Code Update – IPC Code Changes - 2003 to 2006 - Part 5	Plumbing Engineer Magazine
07/06	Code Update – IPC Code Changes - 2003 to 2006 - Part 4	Plumbing Engineer Magazine
06/06	Code Update – IPC Code Changes - 2003 to 2006 - Part 3	Plumbing Engineer Magazine
05/06	Code Update – IPC Code Changes - 2003 to 2006 - Part 2	Plumbing Engineer Magazine
04/06	Code Update – IPC Code Changes - 2003 to 2006 - Part 1	Plumbing Engineer Magazine
03/06	Standard Update – Mixing Valve Standard Has Trouble Gaining Support	Plumbing Engineer Magazine
02/06	Code Update – A Report on the International Plumbing code Hearings	Plumbing Engineer Magazine
01/06	Code Update – One Code Progress – San Antonio	Plumbing Engineer Magazine
12/05	New Plumbing Product Standards Being Developed	Plumbing Engineer Magazine
11/05	Standard Update – ASPE HW Design Standard Committee	Plumbing Engineer Magazine
10/05	Hurricane Katrina Code Issues for the Rebuilding Effort	Plumbing Engineer Magazine
09/05	Point – Counterpoint, Trap Primers vs Trap Seal Protection Devices	Plumbing Engineer Magazine
09/05	One Plumbing Code and One Mechanical Code are a Possibility!	Plumbing Engineer Magazine
08/05	ASSE Standards Update	Plumbing Engineer Magazine
08/05	Trap Primers and the Code	Plumbing Engineer Magazine
07/05	Code Update – Update on ICC Code Adoptions and UPC Code Changes	Plumbing Engineer Magazine
06/05	Update on ASSE Standards	Plumbing Engineer Magazine
05/05	Code Update – Uniform Plumbing Code Hearings Denver, CO	Plumbing Engineer Magazine
04/05	Code Update – A Report on the International Plumbing Code Hearings	Plumbing Engineer Magazine
04/05	SNAFU with Canadian Standards at ICC Code Hearings	Consulting-Specifying Engineer Magazine
03/05	Code Update Column – Grease Interceptor Requirements in the Codes	Plumbing Engineer Magazine

11/04	Commercial Kitchen Plumbing for Contractors	Reeves Journal
11/04	Grease Interceptors	PM Engineer Magazine
02/04	Commercial Kitchen Plumbing	PM Engineer Magazine
09/03	Specification Section Revisions	PM Engineer Magazine
06/03	Code Changes for Thermostatic Mixing Valves	PM Engineer Magazine
03/03	Sizing Water Heaters for Hotels/Motels	PM Engineer Magazine
08/02	Get Ready to Learn New Spec Section Numbers – Changes are Proposed in the CSI Format	Plumbing Engineer Magazine
07/02	Water Flow Testing - to Determine Design Pressures	Plumbing Engineer Magazine
06/02	Swimming Pool Design Considerations	Plumbing Engineer Magazine
05/02	Master Thermostatic Mixing Valve Sizing	Plumbing Engineer Magazine
05/02	2002 ASPE Education Report	Plumbing Engineer Magazine
04/02	Thermal Expansion in Hot Water Systems	Plumbing Engineer Magazine
03/02	Valve Types and their Applications	Plumbing Engineer Magazine
02/02	Food Waste Grinders and Grease Interceptors	Plumbing Engineer Magazine
01/02	The Industry has lost a Key Player – Tribute to Pat Higgins	Plumbing Engineer Magazine
01/02	Who's who in ASPE – List of ASPE Officers	Plumbing Engineer Magazine
01/02	Not Everything that Leaks is Broken – Relief Valves & Backflow Preventers	Plumbing Engineer Magazine
12/01	Shop Drawings and Product Submittals	Plumbing Engineer Magazine
11/01	Questions & Answers: Corrosion in Drains a Galvanic Installation	Plumbing Engineer Magazine
10/01	A Scalding Hot Topic – Domestic Hot Water System Temperatures	Plumbing Engineer Magazine
09/01	Water Properties and Treatment Methods	Plumbing Engineer Magazine
08/01	Island Fixture Venting	Plumbing Engineer Magazine
07/01	Piping Materials	Plumbing Engineer Magazine
06/01	The History of Plumbing - Part 4	Plumbing Engineer Magazine
06/01	Modern Plumbing Enhances the American Way of Life	Plumbing Engineer Magazine
06/01	Troubleshooting Pumps – Commons Pump Start-up Problems	Plumbing Engineer Magazine
05/01	The History of Plumbing - Part 3	Plumbing Engineer Magazine
05/01	Legionnaires' Disease and Plumbing Systems	Plumbing Engineer Magazine
04/01	The History of Plumbing - Part 2	Plumbing Engineer Magazine
04/01	Questions & Answers: Pump Check Valves, Pump Sizing, Roof Sumps, Shower Pan Liners, PVC Pipe	Plumbing Engineer Magazine
03/01	RLE Quiz Over the Technical Proceedings of the 2000 ASPE Convention	Plumbing Engineer Magazine
03/01	Hot Water Temperature Maintenance and the Codes	Plumbing Engineer Magazine
03/01	The History of Plumbing - Part 1	Plumbing Engineer Magazine
02/01	Drainage System Venting	Plumbing Engineer Magazine
02/01	Education Update	Plumbing Engineer Magazine
01/01	Mechanical & Plumbing Design Checklist	Plumbing Engineer Magazine
12/00	The Last Question & Answer Forum of the Millennium	Plumbing Engineer Magazine
11/00	Piping Insulation Design Considerations	Plumbing Engineer Magazine
10/00	The First Building Code, The Hammurabi Code	Wholesaler Magazine
10/00	Americans with Disabilities Act and Plumbing Systems	Consulting-Specifying Engineer Magazine
10/00	Pressure Balancing vs Thermostatic Mixing Valves	Plumbing Engineer Magazine
09/00	Q & A's – HW Return, Water Hammer, Booster Pump Sizing	Plumbing Engineer Magazine
08/00	Grey Water Systems	Plumbing Engineer Magazine
07/00	History of Venting	Plumbing Engineer Magazine
06/00	High Water Mark" (Commercial Irrigation Systems)	Consulting-Specifying Engineer Magazine
06/00	Questions & Answers – HW Return Systems	Plumbing Engineer Magazine
05/00	Copper Water Piping	Plumbing Engineer Magazine
03/00	Domestic Hot Water Recirculation Systems	Plumbing Engineer Magazine
02/00	Design Considerations for Low Flow Fixtures	Plumbing Engineer Magazine
01/00	Preparation of Plumbing Drawings	Plumbing Engineer Magazine
12/99	Contributions to the Information Pool	Plumbing Engineer Magazine (Q&A compilation)
11/99	Thermal Shock and Hot Water Storage Temperature	Plumbing Engineer Magazine
10/99	Sizing Domestic Cold Water Systems with Flushometer Valves	Plumbing Engineer Magazine
09/99	Domestic Hot Water Systems for Commercial Kitchens	Plumbing Engineer Magazine
08/99	Compressed Air Energy Savings	Plumbing Engineer Magazine
07/99	More on the Review of Schematic Design on Development Drawings	Plumbing Engineer Magazine
06/99	Reviewing Schematic Design on Development Drawings	Plumbing Engineer Magazine
05/99	Plumbing Fixtures	Plumbing Engineer Magazine
04/99	A Plumbing Library	Plumbing Engineer Magazine
03/99	Fuel Gas Systems	Plumbing Engineer Magazine
02/99	Construction Administration	Plumbing Engineer Magazine
01/99	Calculating Pressure Losses	Plumbing Engineer Magazine
12/98	Water Hammer Arresters	Plumbing Engineer Magazine

11/98	Storm Drainage Systems	Plumbing Engineer Magazine
11/98	The History of Codes	Plumbing Engineer Magazine
10/98	The "Wonder Years" - The Last 25 years of Plumbing Evolution	Plumbing Engineer Magazine (25th Anniversary Issue)
09/98	Irrigation Systems - Part 2	Plumbing Engineer Magazine
08/98	Irrigation Systems - Part 1	Plumbing Engineer Magazine
07/98	Web Site Helps Project Communications	Plumbing Engineer Magazine
06/98	Trust Your Instincts: Give Value Engineering a Chance	Plumbing Engineer Magazine
05/98	Softening the Hard Water Problem	Plumbing Engineer Magazine
04/98	A Septic System Overview	Plumbing Engineer Magazine
03/98	Heat Recovery Systems	Plumbing Engineer Magazine
02/98	Process Piping Layout and Design Recommendations, Part 2	Plumbing Engineer Magazine
01/98	Process Piping Layout and Design Recommendations, Part 1	Plumbing Engineer Magazine
12/97	Pressure Reducing Valve Stations	Plumbing Engineer Magazine
11/97	Controlling Water Hammer in Plumbing Systems	Plumbing Engineer Magazine
10/97	Organizing Your Plumbing Design System, Part 2	Plumbing Engineer Magazine
09/97	Organizing Your Plumbing Design System, Part 1	Plumbing Engineer Magazine
08/97	Pure Water Systems	Plumbing Engineer Magazine
07/97	Piping Accessories	Plumbing Engineer Magazine
06/97	Pipe Expansion and Contraction Design Considerations	Plumbing Engineer Magazine
05/97	Fire Sprinkler Design Considerations	Plumbing Engineer Magazine
04/97	Acoustics in Plumbing Design	Plumbing Engineer Magazine
03/97	The Internet: Making the World Smaller	Plumbing Engineer Magazine
02/97	Selecting Swimming Pool Water Heaters	Plumbing Engineer Magazine
01/97	Acid Waste Systems	Plumbing Engineer Magazine
12/96	Fuel Oil Systems - Part 2	Plumbing Engineer Magazine
11/96	Fuel Oil Systems - Part 1	Plumbing Engineer Magazine
10/96	Specifying Fire Protection Systems Using Division 13	Plumbing Engineer Magazine
09/96	An Introduction to Compressors	Plumbing Engineer Magazine
08/96	Backflow Prevention for Irrigation Systems	Plumbing Engineer Magazine
07/96	Comments on the Specifics of Specifications	Plumbing Engineer Magazine
06/96	Selection and Application of Pipe Hangers and Supports	Plumbing Engineer Magazine
05/96	Natural Gas Piping - Drip Legs & Sediment Traps	Plumbing Engineer Magazine
04/96	The History of Plumbing	Plumbing Standards Magazine
04/96	Plumbing Design for Detention Facilities	Plumbing Engineer Magazine
03/96	Estimating Water Demand - Part 2	Plumbing Engineer Magazine
02/96	Estimating Water Demand - Part 1	Plumbing Engineer Magazine
12/96	Determining Available Water Pressure for Hydraulic Calculations	Plumbing Engineer Magazine
12/95	Design Considerations for Backflow Preventers in Basements - Part 2	Plumbing Engineer Magazine
11/95	Design Considerations for Backflow Preventers in Basements - Part 1	Plumbing Engineer Magazine
10/95	Water Conservation in Commercial/Institutional Buildings	Plumbing Engineer Magazine
09/95	Sizing Domestic Hot Water Systems	Plumbing Engineer Magazine
08/95	Certification in Plumbing Engineering Exam Review - No. 3	Plumbing Engineer Magazine
07/95	Design Considerations for Hospital Plumbing	Plumbing Engineer Magazine
06/95	Fire Sprinkler Systems and Backflow Prevention	Plumbing Engineer Magazine
05/95	Certification in Plumbing Engineering Exam Review - No. 2	Plumbing Engineer Magazine
04/95	Thermal Expansion in Hot Water Systems	Plumbing Engineer Magazine
03/95	Certification in Plumbing Engineering Exam Review - No. 1	Plumbing Engineer Magazine
02/95	Storm Drainage Systems	Plumbing Engineer Magazine
01/95	Hot Water Systems Quiz	Plumbing Engineer Magazine
06/94	Designing Hot Water Systems with circulating Pumps and Mixing Valves	Plumbing Engineer Magazine

Partial List of Project Design Experience for Ronald L. George:

Industrial Projects:

Caterpillar Corporation,

Building VV Addition, Peoria, Illinois.

Daimler / Chrysler Automotive Corporation,

New Headquarters Building 16 - Stories, Auburn Hills, Michigan.

Daimler / Chrysler Automotive Corporation,

Information Services Offices, Auburn Hills, Michigan.

Daimler / Chrysler Automotive Corporation,

Materials Lab, Auburn Hills, Michigan.

Daimler / Chrysler Automotive Corporation,

Building 18 Expansion, Auburn Hills, Michigan.

Daimler / Chrysler Corporation,

New Paint Shop, Newark, Delaware.

Daimler / Chrysler Corporation,

Power House & Air Compressor Plant, Dayton, Ohio.

Ford Motor Company,

Scientific Research Lab, Dearborn, Michigan.

General Motors Corporation

Vehicle Assembly Plant, Lake Orion, Michigan.

General Motors Corporation,

Vehicle Proving Grounds, Milford, Michigan.

General Electric Co.

Aircraft Engine Turbine Plant, Greenville, South Carolina.

Kodak Co.

Film Processing Facility, Rochester, New York.

Kimberly/Clark Paper Company,

Pulp and Paper Mill, Jenks, Oklahoma.

Governmental Projects:

National Institute for Standards & Technology NIST

Fuel oil system study. Forensic evaluation and failure analysis for the existing power plant fuel system.

National Institute for Standards & Technology NIST

Fuel Oil System design for the new power plant expansion.

Tarrant County Texas, City/County Jail and Courts Complex

8-Story Jail & Courts Building, Fort Worth, TX

Burnett Park Fountains,

Decorative Water Fountains, Fort Worth, TX.

Lake County Jail, County Jail and Criminal Justice Facility

Crown Point, Indiana.

Spencer County/Jail

Rockport, Indiana.

Noblesville Park & Recreation Department,

(2) Golf course irrigation systems with pump houses, Noblesville, IN.

Texas State Capital Building,

Renovation of Lt. Governor's Quarters, Austin, TX.

Texas State Capital Building,

Renovation of the State Senate Chambers, Austin, TX

Utility Projects:

Texas Utilities – Comanche Peak Nuclear Power Plant

Pipe Support Design & Engineering to NRC Requirements, Glen Rose, TX

Village Creek Wastewater Treatment Plant

Fort Worth, Texas

National Institute for Standards & Technology NIST

Fuel Oil System design for the New Power Plant Expansion

Michigan Bell Telephone Company,

24 - Fuel Oil Tank & Piping Projects for telephone switching centers. New emergency generators & double wall diesel fuel tanks with double wall fuel oil piping & leak detection and tank inventory monitoring systems.

Detroit, MI, multiple locations; -Cadillac, MI; Marquette, MI; Lansing, MI; Grand Rapids, MI; Pontiac, MI; Birmingham, MI; Ann Arbor, MI; Port Huron, MI; Saginaw, MI; Farmington Hills, MI; Bloomfield Hills, MI; Jackson, MI

Institutional – HealthCare Projects:

Oakwood Hospital and Medical Center,

Cancer Center, Labor & Delivery Addition & Utility Additions and Renovations, Dearborn, MI

Pontiac Osteopathic Hospital,

Master plan and Patient Tower Addition, Pontiac, MI

Detroit Medical Center,

Clinical Cancer Center, Detroit, MI

Detroit Medical Center,

Women’s Center, Two new 9-Story Buildings with 3-story connector bridge, Detroit, MI

Detroit Medical Center,

Vascular Institute, 9 story building, Detroit, MI

Detroit Medical Center,

Cardiac Institute, high-rise building, Detroit, MI

St. John Hospital and Medical Center,

Emergency Room Renovation, Detroit, MI

St. John Hospital and Medical Center,

MRI Unit Addition, Detroit, MI

St. Josephs Hospital

Critical Care Tower Addition – Ann Arbor, MI

St. Josephs Hospital

Surgery Center Addition and Renovations – Pontiac, MI

Bethania Regional Healthcare Center,

Expansion and Renovation, Wichita Falls, TX

Harper Hospital

Cardiac Catheterization Lab. /Detroit Medical Center, Detroit, MI

Beaumont Hospital,

Anatomic Pathology Lab, Royal Oak, MI

Botsford Hospital

New Endoscopy Suites, Farmington Hills, MI

Botsford Hospital

New Emergency Room and Operating Room Addition, Laboratories, Operating Rooms and support areas, Labor & Delivery rooms, Dietary Department, Commercial Kitchen & dining facilities, Central Sterile Supply and Rooftop Heliport.

Mount Clemens General Hospital

4- story - Heart Center, Mount Clemens, MI

Henry Ford Hospital

New hospital – Bloomfield Hills, MI

Oakwood Southshore Hospital

5-story addition – Trenton, MI

University of Michigan – C.S. Mott Children’s and Von Voigtlander Women’s Hospitals

Plumbing & Medical Gas Systems for a New 750 Million Dollar Children’s & Women’s Hospital – Ann Arbor, MI

Educational Projects:

Carmel High School,

One million square foot addition to existing High School, Carmel, IN

Carmel High School,

5000 seat Football stadium/Athletic complex, Irrigation system, showers/lockers, food service & support facilities, Carmel, IN.

North Branch High School,

New High School, North Branch, MI

University of Michigan – Dearborn Campus,

College of Science & Letters, Dearborn, MI

University of Michigan – Anna Arbor Campus

Life Sciences Laboratory Building

University of Michigan – Ann Arbor Campus,

Rackham Hall Renovations

University of Michigan – Ann Arbor Campus,

Palmer Drive Parking Structure

University of Michigan – Ann Arbor Campus,

New Palmer Drive Chiller Plant

University of Michigan – Ann Arbor Campus,

Commons Building, 8 story, conference center & cafeteria

University of Michigan – Ann Arbor Campus,

Palmer Drive “L” Building, 5-Story, Laboratory Classroom Building

University of Michigan – Ann Arbor Campus,

Palmer Drive Plaza - Fountains, drains & snow melt system

Michigan State University

Agricultural Hall - Lansing, MI

Educational Projects (Cont.):

Michigan State University

Shaw Hall - Dormitory Building, Lansing, MI

Michigan State University

Shaw Lane - Parking structure, Lansing, MI

Michigan Technological University

Environmental Science Building, Houghton, MI

Delta College

Project A - Industrial Arts Building renovations and addition, Saginaw, MI

Delta College

Project B - Swimming Pool, Physical Education, and Cafeteria Renovations and Additions, Saginaw, MI

Delta College

Fire Protection Master Plan, Saginaw, MI

Military Projects:

U. S. Navy, Bachelor Enlisted Quarters,

(9) – High Rise Apartment Buildings, Great Lakes Naval Training Center, IL

U. S. Navy, Naval Facilities Command NAVFAC-Chesapeake,

Ship Materials Technology Facility, Naval Surface Warfare Center, Bethesda, MD

U. S. Navy, Aircraft Maintenance Hanger,

Naval Air Station, Dallas, TX

U. S. Army, Aircraft Maintenance Hanger & Shops,

Robert Gray Army Airfield, Fort Hood, TX

U. S. Army, Barracks Rehabilitation,

Fort Hood, Fort Hood, TX

U. S. Air Force, Enlisted personnel Dining Facility,

Carswell AFB, Fort Worth, TX

U. S. Air Force, Enlisted Personnel Housing,

Carswell AFB, Fort Worth, TX

U. S. Army, Armored Vehicle Weapons Training Center.

Survey and Renovation of Mechanical Systems in 500 Barracks and Support Buildings, Fort Polk, LA

U. S. Army, Senior Non-Commissioned Officers Academy,

Fort Bliss, TX

U. S. Navy, Water Tower & Pump House Building,

400,000 gallon water tower to provide adequate water pressure for several new buildings,
Great Lakes Naval Training Center, IL

Commercial Projects:

Sky Chefs, Commercial Airlines Kitchen

Dallas/Fort Worth Airport, TX

Sky Chefs, Commercial Airlines Kitchen

Los Angeles International Airport, CA

Waller Creek Office Tower and Parking Garage,

12 Story Office/Parking Garage, Austin, TX

Allied Bank and Office Tower,

4 - story building, Port Arthur, TX

Federal Office Building,

4 - story building, Port Arthur, TX

Midland Plaza, Office Building,

6 – Story building, Midland, TX

Savings West Office Building,

7 – Story office building, Fort Worth, TX

Waller Creek Hotel and Restaurant,

12-story hotel & Restaurant building, Austin, TX

COBO Hall

Expansion & Renovations of Convention Center, Concessions & Restrooms, Detroit, MI

Cottonwood Village Apartments,

Dallas, TX

Federal Express Freight Facility,

Indianapolis, IN

Park Central Bowling Lanes,

Bowling Center, Fort Arthur, TX

Park Central Shopping Center,

Shopping Mall, Port Arthur, TX

Regency Park Condominiums,

2-story condos, Port Arthur, TX

Commercial Projects (Cont.):

Wedgewood Station Post Office

Altamesa Boulevard, Fort Worth, TX

MGM Casino/Hotel

Detroit, MI

Book Cadillac Marriott Hotel/Apartments

Detroit, MI

YMCA Health Club, Detroit

Detroit, MI

YMCA Health Club, Milford

Milford, MI

Fort Shelby – Doubletree Hilton Hotel

23 Story Hotel & condo project, Detroit, MI

Retail Projects:

Meijer Stores Projects

Store #25 Addn., Okemos, MI; Store #30 Remodel, Jackson, MI; Store #51 Addn. & remodel, Findlay, OH

Store #117 Sylvania Twp., OH; Store #119 Kalamazoo, MI; Store #124 Fort Wayne, IN; Store #125 Fort Wayne, IN

Store #126 Mansfield, OH

Super K-Mart Stores

Terre Haute IN

Evansville, IN

Spartanburg, SC

Greenwood, CO

Mervyn's Department Store

Flint, MI

Institutional – Jail / Prison Projects:

Texas Department of Corrections, Cofield Unit

2500-man Prison, Huntsville, TX

Texas Department of Corrections, Ellis II Unit

2500-man Prison, Huntsville, TX

Texas Department of Corrections, Furgeson Unit

Additions and renovations, Huntsville, TX

Texas Department of Corrections, Pack III Unit

2500-man Prison, Huntsville, TX

Ft. Worth/Tarrant County, City/County Jail

8-Story Building, Fort Worth, TX

Lake County Jail, County Jail and Criminal Justice Facility

Crown Point, IN

Spencer County Jail,

Rockport, IN

Laboratory Projects:

University of Michigan – Ann Arbor Campus

Life Sciences Laboratory Building

Daimler / Chrysler Corporation, Materials Lab,

Auburn Hills, MI

E.I. DuPont Co.,

Medical Products Research Laboratory, Chambers Works Plant, Deepwater, NJ

Ford Motor Company,

Scientific Research Lab, Dearborn, MI

University of Michigan - Dearborn,

Collage of Science & Letters, Dearborn, MI

Michigan State University - Agricultural Hall

Agriculture Science Labs - Lansing, MI

Michigan Technological University

Science Building, Houghton, MI

Harper Hospital

Cardiac Catheter Lab. /Harper Hospital Projects.

Beaumont Hospital,

Anatomic Pathology Lab, Royal Oak, MI

Vic Wertz, Clinical Cancer Research Center,

Wayne State University/Detroit Medical Center, Detroit, MI

Stadium/Assembly Building Projects:

New Major League Baseball Stadium, Detroit Tigers – Comerica Park

Detroit, MI

New National Football League Football Stadium, Detroit Lions – Ford Field

Detroit, MI

Renovations - Will Rogers Memorial Coliseum Renovations – Multi Use Arena

Fort Worth, TX

New Detroit Lions – Headquarters and Training Facility

Allen Park, MI

Airport Projects:

Dallas / Fort Worth International Airport

Terminal 3E HVAC Improvements and Admirals Club Addition

Terminal 2W Renovations

Terminal 3E Airside Expansion

Terminal 4E Section C Federal Inspection Facility

Terminal 2E-3E Apron Control Tower

Terminal 3E Section C Expansion

Terminal 3E A & B Lounge & Restroom additions

Cleveland Hopkins International Airport

New Concourse D and connector tunnel

Detroit/Wayne County Metropolitan Airport

New Midfield Terminal – Ed McNamara Terminal

Detroit/Wayne County Metropolitan Airport

Regional Commuter Terminal