



CALVIN (CAL) NOLING, P.E.
Principal Engineer

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EDUCATION

Master of Science, Environmental Engineering **1991**
Loyola Marymount University, Los Angeles, California

Bachelor of Science, Environmental Engineering (Water Resources & Water Quality) **1986**
Humboldt State University, Arcata, California

EXPERIENCE

StormwaterRx LLC **2006-present**
StormwaterRx designs, manufactures and sells stormwater purification systems for customers throughout North America. Mr. Noling is the founder and a principal engineer with StormwaterRx, leveraging expertise in the areas of physical/chemical- and passive treatment technologies for reduction and mitigation of stormwater pollution due to metals, solids, oil, organics, acidity (pH) and other pollutants. Mr. Noling specializes in compliance strategy, best management practices, stormwater reuse, design and retrofitting industrial sites for control of stormwater pollution.

CONTECH Engineered Solutions / Stormwater360 / Stormwater Management, Inc. **2002-2006**
Director of Industrial Business for this original equipment manufacturer of structural stormwater management systems including settling, screening, filtration, oil / water separation, electrocoagulation, and detention/retention structures. Mr. Noling lead the conversion of packaged stormwater treatment systems for municipal applications to solve pollution control challenges in a host of industries with emphasis on reduction of metals (copper, lead, zinc), turbidity/solids, oil and acidity (pH.)

CH2M HILL **1991-2002**
Multi-national consulting and design engineering company. Environmental Business Group. Process Engineering Group Leader responsible for technology, sales, and project delivery for industrial water technology areas in seven northwest offices. Service areas included water, wastewater, stormwater, pollution prevention, chemical- and energy-efficiency for industry.

Metcalf & Eddy **1987-1991**
International consulting and design engineering company. Environmental Business Group, Western Region. Engineering for various municipal, industrial and environmental remediation projects focusing on water, wastewater and stormwater.

PROFESSIONAL

California Water Resources Control Board, Industrial General Permit Training Team	Current
Oregon Department of Environmental Quality, Industrial Stormwater Advisory Group	2005-2011
Washington Department of Ecology, Industrial Stormwater General Permit Workgroup	2008-2009
Oregon Environmental Council, Statewide Stormwater Solutions Team	2007-2008
Board of Directors, Johnson Creek Watershed Council, Portland OR	2002-2003
American Electroplaters and Surface Finishers Society, Portland Chapter Treasurer	1999-2001
American Institute of Chemical Engineers, Oregon Section Chair	1994-1995

Registered Professional Engineer: California, Oregon, Washington, Hawaii	Current
Passive Plug Flow Stormwater Separator System (Patent #7892425)	2011
Passive Stormwater Management Apparatus and System (US Patent #8002974; Canada Patent #2640800)	2011
Certified Erosion & Sediment Control Lead, State of Washington	2006

Noling, Calvin P.

Certified Electroplater-Finisher, American Electroplaters and Surface Finishers Society	2001
OSHA Standards for the Construction Industry	1997
Certified Project Manager	1996
Certified, Hazardous Waste Operations and Emergency Response Health and Safety	1987

PUBLICATIONS

Noling, C. *Best Practices for Stormwater Management in the Recycling Sector*. Recycling Today, September 2014.

Noling, C., Joseph, D. *Evolution of Stormwater Management at a Seattle Washington Galvanizing Plant*, proceedings of StormCon 2014, Portland, Oregon. August 2014.

Joseph, D., Noling, C. *Stormwater Best Management Practices in the Galvanizing Sector*, proceedings of American Galvanizers Association Technical Forum, Salt Lake City, Utah, October, 2012.

Noling, C., *Trends in Industrial Stormwater Regulation and Enforcement*, proceedings of StormCon 2011, Anaheim, California. August 2011.

Gleason, C., Will, G., Nickolas, N., Generes, A., Noling, C., *Keys to Environmental Responsibility at Calbag Metals*, proceedings of StormCon 2011, Anaheim, California. August 2011.

Noling, C. *Industry Standards – The Future of Pollution Controls and How They Will Affect Industrial Storm Water Treatment*, Stormwater Solutions – Supplement to Water & Wastes Digest, January/February 2011.

Noling, C., *Responsible Stormwater Handling*, Pollution Engineering, BNP Media. July 2010.

Noling, C., Lehman, J, Pedrick J. *Effective Stormwater Management Solutions – Case Studies from a Lead Battery Plant and Lead-Oxide Mill*, proceedings of Battery Council International, Occupational Health, Safety, & Environmental Protection Conference, Tampa, Florida. October 2004.

Noling, C., Lehman, J, Pedrick J. *Minding the Runoff: Lead Removal from Stormwater by Passive Adsorptive Filtration—A Lead-acid Battery Manufacturing Sector Case Study*, proceedings of Battery Council International, 116th Convention, Indian Wells, California. May 2004.

Noling, C, and Kellems, B. *Successful Demonstration of The Stormwater Management Enhanced Filtration System for Toxicity Reduction*, proceedings of International Symposium for Prevention of Pollution from Ships, Shipyards, Drydocks and Ports and Harbors, New Orleans, Louisiana. November 2003.

Lenhart, J.H., deRidder S, Calvert P, Noling, C. *The Removal of Soluble Heavy Metals From Non-Point Source Runoff Originating From Industrial Sources by Leaf Compost Media*. 2003.

Noling, C., *The Road to Environmental Performance: A Small Shipyard's Experience*, proceedings of the 2nd Annual Shipyard Environmental Issues Conference, National Shipbuilding Research Program, New Orleans, Louisiana, October 2002.

Noling, C., deRidder S., Scarpine, D. et al., *A Case Study of Stormwater Management at a Small Coastal Industrial Facility*, proceedings of WEF Industrial Wastes Conference, Philadelphia, Pennsylvania. August 2004

Scarpine, D., Noling, C. *Taking Water Quality Outside the Fab: a Watershed Case Study*, Ultrapure Water, Tall Oaks Publishing. July 2002.

Byers, W., Lindgren G., Noling C, and Peters D. *Industrial Water Reuse and Management: A Systematic Approach, 2nd Edition*. American Institute of Chemical Engineers, Center for Waste Reduction Technologies. 2002.

Noling, Calvin P.

PRESENTATIONS

Evolution of Stormwater Management at a Seattle Washington Galvanizing Plant. Presented at StormCon 2014, Portland, Oregon. August 2014.

Introduction to Industrial Stormwater. Presented to Connecticut Society of Civil Engineers, Middletown, Connecticut, November 2012.

Treatment and Engineering Controls. Presented at the California Metals Coalition Stormwater Conference, Oakland, California; Downey California, September 2012.

Toolbox Talk: Stormwater Compliance for the Scrap and Recycling Sectors; Presented at the Institute of Scrap Recycling Industries, National Convention & Exposition, Las Vegas, Nevada, April 2012

Stormwater – Where Are We Headed?; Presented at the Institute of Scrap Recycling Industries, National Convention & Exposition, Las Vegas, Nevada, April 2012

Stormwater Management Practices for Recycling Facilities. Presented at the Institute of Scrap Recycling Industries Operations Forum, Yard Management Seminar, St. Louis, Missouri, October 2011.

Stormwater Best Management Practices for Secondary Metals Industries. Presented at the California Metals Coalition Stormwater Conference, Oakland, California; Downey California, October 2011.

Trends in Industrial Stormwater Regulation and Enforcement. Presented at StormCon 2011, Anaheim, California. August 2011.

An Overview of Treatment Best Management Practices. Presented at the Environmental Law Education Center, Oregon Stormwater Conference, Portland, Oregon, June 2011.

Best Management Practices and Stormwater Treatment Methods. Presented for the California Refuse Recycling Council, Stormwater Compliance Workshop. Davis, California, March 2011.

Case Studies in Treatment of Industrial Runoff. Presented at Managing Stormwater in the Northwest Conference. Seattle, Washington. March 2011.

Treatment BMPs for Metals. Presented at the Environmental Law Education Center, Advanced Washington Stormwater Conference, Seattle, Washington, February 2011.

Industrial Stormwater and Chemistry. Lewis & Clarke Law School. Portland, Oregon. October 2010

Stormwater Management for the Scrap and Recycling Sectors. Institute of Scrap Recycling Industries, Operations Forum. Indianapolis, Indiana, October 2010.

Environmental Compliance and Infrastructure. Stormwater Compliance for Recyclers. Presented at the Institute of Scrap Recycling Industries Convention & Exposition. San Diego, California. May 2010

Stormwater Treatment: Techniques and Potential Cost of Treatment to be Required Under the New Washington Permit. Clean Water and Stormwater Workshop, Law Seminars International. Seattle, Washington. April 2010.

Chasing the Benchmarks: Business Decisions and BMPs. Session Organizer and Moderator, Managing Stormwater in Washington Conference, Seattle, Washington. March 2010.

Performance and Cost to Retrofit Industrial Facilities with Stormwater Pollution Control BMPs for Metals Reduction. Presented at Northwest Environmental Conference, Portland, Oregon. December 2009.

Stormwater Pollution Control BMPs for Metals Reduction from Boatyards. Presented at Managing Stormwater in Washington Conference. Tacoma, Washington. March 2009.

Noling, Calvin P.

Industrial Stormwater Treatment. Presented to American Public Works Association Stormwater Managers Committee Meeting. Federal Way, Washington. March 2009.

Stormwater Management. Presented at Oregon Association of Water Utilities Summer Classic XIV Conference. Seaside, Oregon. August 2008.

New Developments in Stormwater. Presented at 19th Annual Northwest Environmental Conference. Portland, Oregon. December 2007.

Complying with Oregon's New Stormwater Permits. Presented at 18th Annual Northwest Environmental Conference. Portland, Oregon. December 2006.

Addressing Runoff from Salvage Yards. Presented at the River Networks, River Rally 2006. Bretton Woods, New Hampshire. May 2006.

Stormwater Best Management Practices – Practical Solutions for the Metal Casting Industry. Presented to California Cast Metals Association Meeting, Downey, California. October 2005

Avoiding EPA Stormwater Violations: Guarding Against Fines. Presentation for Progressive Business Conferences, Malvern Pennsylvania. September 2005.

Treatment BMPs for Compost Facility Stormwater Runoff, Washwater and Leachate. Presented to Composting Council of Oregon Annual Meeting on Compost Facility Storm Water and Leachate Control and Treatment. McMinnville, Oregon. September 2004.

Stormwater Best Management Practices for Scrap Recycling Facilities. Presented at Institute of Scrap Recycling Industries, Pacific Northwest Chapter Meeting. Victoria, British Columbia, Canada. June 2004.

Stormwater Best Management Practices for Metal Finishers. Presented to Metal Finishers Association of Southern California, Los Angeles, California. May 2004.

Urban Stormwater Runoff is Mean Soup! Presentation at the Twentieth Annual Waterworks & Wastewater Short School, American Waterworks Association, Eugene, Oregon. March 2004.

Avoiding EPA Stormwater Fines: Guidelines to Ensure Compliance. Presentation for Progressive Business Conferences, Malvern PA. February 2004.

The Removal of Soluble Heavy Metals From Non-Point Source Runoff Originating From Industrial Sources by Leaf Compost Media. Presented at Entech West, Long Beach, California. October 2003.

Got Metals? Sources and Treatment of Stormwater from Industrial Facilities. Presented at the Pacific Northwest Clean Water Conference, Boise, Idaho. September 2003.

It's Not the Process, It's the Roof! Presented at the 2003 Conference for Environmental Excellence, American Electroplaters and Surface Finishers Society / Environmental Protection Agency, Daytona Beach, Florida. February 2003.

Industrial Stormwater in the Mining and Fertilizer Manufacturing Industries. Presented at the J.R.Simplot Company Internal Environmental Conference, McCall Idaho, September 2002.

Industrial Strength Solutions: Stormwater Management and Treatment Technologies for Use by Industry. Presented at the 8th Annual Industrial Wastes Technical & Regulatory Conference, Water Environment Federation, Atlantic City, New Jersey, August 2002.

Metal Products and Machinery Effluent Guidelines Basics: Regulatory and Technical Perspectives, Draft Promulgation. Presented to American Electroplaters and Surface Finishers Society, Puget Sound and Portland Chapters, January 2001.

The Competitive Advantage, Engineered Systems for Materials Recovery and Reuse in Surface Finishing Operations. Presented at the Pacific Northwest Materials and Manufacturing Conference, Portland, Oregon, September 1999.