

JOHN M. WORTH, PE/SE
Civil Engineer/Structural Engineer/Manufacturing Engineer

EDUCATION

- * B.S., Civil Engineering, with Honors, Michigan Technological University, Houghton, MI, 1977
- * Engineering Project Management, Portland State University, 1979

REGISTRATION

- * Registered Civil Engineer, State of Oregon, Washington and Idaho
- * Registered Structural & Manufacturing Engineer, State of Oregon

WORTH TECHNICAL SERVICES - EXPERIENCE RECORD

- * Please note: Worth Technical Services has 1300-1500 completed projects since it was started. Listed are larger and/or more complex projects.

GRAY & COMPANY

- * Support Structure for Cherry Sizing Equipment
- * Interior Room for Above Ground Fuel Storage Tanks
- * Spill Prevention Plan
- * Plant Layout

IMI TITANIUM

- * Water Cooled Casting Crucible for Titanium Crucible
- * Autoclave Installation
- * Building Addition & Mezzanine for Finishing Operations
- * Building Addition for Shot Blast Equipment
- * Acid Milling System for Titanium Castings including Containment Pits, Plastic Tanks, Process Piping, Process Cooling System & Controls

MALARKY ROOFING

- * Lime Silo Foundation
- * Lime Pre-heater with Building Addition, Conveying Equipment & Controls
- * Asphalt Saturator & Cooling System
- * CMU Building Addition

NORTHWEST PIPE COMPANY

- * Industrial Ventilation for Coal Tar Pitch including Collection System, Ductwork and Filter Floor Addition.
- * Relocation of Pipe Manufacturing Mill from Ohio to Portland (\$20 Million Project). This office handled all Engineering Disciplines except for Electrical Engineering.
- * Crane Runway upgrades from 25 Ton to 40 Ton.
- * Machine Designs including Concrete Handling Cart & Pipe Handling Equipment.
- * Office Addition & Remodel
- * Relocation of Pipe Manufacturing Mill from Portland to Bossier City, LA.

EAGLE FOUNDRY CO.

- * Storm Water Management Plan
- * Paving and Road Design
- * Industrial Ventilation - Foundry
- * Sand Silo Support Structures

COLUMBIA ALUMINUM

- * Modifications to Primary Ore Feed System.
- * Air Driers for 12,000 CFM Compressed Air System.

OREGON SANDBLAST

- * Building Addition & Site Development - Including Storm Water Plans & Underground Utilities

GOVERNMENT AGENCIES

- * Value Engineering Study - Washington County Jail
- * Burn Prop - Tualatin Valley Fire and Rescue
- * Grading & Storm Water Plan - Boring Fire Department

MECHANICAL CONTRACTORS

- * Providing Roof Analysis on a Regular Basis for Installation of HVAC Unit. Provided 15 Years of Service to (4) Contractors.

ELECTRONIC FABS - SINCE 1996

- * Provided Engineering Pipe/Seismic Supports for High Purity and Acid Waste Piping System.
- * Provided Engineering for Equipment Anchors.
- * Engineering for Miscellaneous Supports and Platforms.

FABS - Included: FUJITZU, OHKA USA, SEH, WAFERTECH, LSI, NOVELUS, LINEAR
TECH & SOLAR WORLD

THE LYNCH COMPANY

- * Cyclone and Duct Supports for Paper Collection Systems
- * Calculations and Drawings for Equipment Access Platforms & Misc. Fabrications.
- * Dust Collector Supports, Foundation Supports, Foundation & Stack - Esco Corp.

PROCESS ENGINEERING DESIGN

- * Civil/Structural Engineering for Natural Gas Compressor Stations. Included Building & Equipment Foundation, Support Structures for Equipment & Piping, Storm-water Management Plans as Required
- * Klamath Falls Metering Station
- * Williams OP-AMP Site Lewis River Pierce Co.
- * Coyote Springs Metering Station
- * Sandpoint, Idaho Metering Station
- * PGE Compressor Stations - #4, #6, #8, #10 & #12
- * Questar Compressor Station
- * Generator Foundations PGE Stations - #7 & #14
- * 28 miles of High Pressure Natural Gas Lines - Idaho
- * Calpine Metering Station
- * Grey Harbor Metering Station
- * Tumwater Compressor Station
- * Shnohomish Compressor Station
- * Mt. Vernon Compressor Station - Storm Water Plan
- * Sumner Compressor Station
- * Sumas Compressor Station
- * Shnohomish Compressor Station - Storm Water Plan

PALL CORPORATION - SHORT MOUNTAIN LANDFILL

- * Landfill Leacate Processing Facility, included Pile Supported Tanks, Enclosure with Foundations Process Equipment Layout, 30,000 Gallon LPG Tank

MENG-HANNAN CONSTRUCTION

Structural Engineering for:

- * Carter Chevron Convenience Store
- * Reese Chevron Carwash
- * BBC Petro Group - Mini Mart
- * Tualatin Carwash
- * Oak Grove Carwash
- * Storm Water Plan - Temple (3)

- * Storm Water Plan - Eco Carwash

KINETIC SYSTEMS INC.

- * Salem Hospital - Pipe Supports Physical Plant - 800 Supports
- * DEQ Test Lab - Pipe Supports
- * Most of all of the Electronic Fabs

COFFEE BEAN INTERNATIONAL

- * Installation of Coffee Roaster
- * Equipment Support Structures for Plant Relocation

SCHLOSHER FORGE

- * Machine Design for 150 Ton Ring Forming Forge

HANSON AGGREGATE

- * Expert Witness for Mining Dredge
- * Finite Element Analysis for Dredge Hull - 8,000 Nodes & 8,000 Elements
- * Equipment Retrofit on Dredge
- * Analysis of 7 Story Gravel Washing Facility

BENCHMARK INDUSTRIAL SERVICES

- * Site Layout & Storm Water Plan - Young Mechanical Property
- * Mezzanine Relocations & Seismic Upgrade - Nike
- * Crane Runway - Diversified Welding
- * Free Standing Crane Systems - Nike
- * Seismic Equipment Anchors - on going - Nike
- * 20 Ton Crane Runway - Navy Barge
- * Crane Modifications - Weyerhaeuser
- * Crane Head Structure - Precision Castparts

OLSEN ENGINEERING

- * Structural Engineering for Trussed Conveyors, Bin & Equipment Supports for Mutual Materials Block Plant
- * Haz/Flam Storage Facility - Cornell Pump Company

FREIGHTLINER

- * Structural Modifications to Rigid Frame Building to add Load Dock and Overhead Doors (Column Removal)

STUDIO CONCEPT

- * Stage Prop-Singing Christmas Tree - Load: 180 Choir Singers

UNIFIELD ENGINEERING

- * Structural Engineering - Coal Fired Generator Station Equipment
- * Explosion Panel Design - Syline Loading Facility
- * Fan Foundation - Oak Grove Cement

T&M DESIGN

- * Seismic Designs for 160,000 SF Production Facility - Eastman Kodak, White City, Oregon

MARKS BROTHERS

- * Site Development Plan, Foundations for New Fabrication Building Storm Water Plan

COLUMBIA HELICOPTER

- * Crane Runway Structures for New Repair Facility.

OTHER ENGAGEMENTS

FLAKT ING.

- * 1977-1979 - Staff engineer for pollution control equipment including electrostatic precipitators, scrubbers.

ESCO CORPORATION

- * 1979-1985 - Started as project engineer, as plant engineering department; left as plant engineering manager. \$6 million annual capital budget.

PRECISION CASTPARTS

- * 1985-1990 - Project engineer manufacturing engineering department.

SJO CONSULTING ENGINEERS

- * 1990-1992 - Part-time staff engineer. Miscellaneous projects related to HAZ/FLAM storage facilities for the department of Navy.

INDUSTRIAL SPECIALTIES

- * Sand Cast Foundries
- * Investment Cast Foundries
- * Roofing Manufacturing
- * Pipe Manufacturing
- * Natural Gas Compressor Stations
- * Storm Water Management
- * Industrial Site Layout
- * Industrial Ventilation

RESOURCES

- * 1200 SF Office Building
- * Auto Cad & General Cad
- * Multiple Work Stations
- * GT Strudle Structural Software
- * Canon Wide Carriage Plotter
- * Xerox Wide Format Printer
- * Multi-Disciplined Design & Engineering Associates