G. Ryan Taylor, MS, PE, SE, CFM

EDUCATION
BS Degree in Civil Engineering
Colorado State University
MS Degree in Civil and Environmental Engineering
Colorado State University

REGISTERED PROFESSIONAL ENGINEER
Utah Professional Structural Engineer 6880006

PROFESSIONAL AFFILIATIONS
American Society of Civil Engineers, former officer
National Groundwater Association
Colorado State University Engineering Alumni
American Public Water Works Association
-Utah Storm Water Advisory Collation
-RSI / RSR instructor
Association of State Floodplain Managers

EXPERIENCE

STORM WATER/FLOOD CONTROL

- **Bridge/Culver Replacement Haven Estates Drive and Daniel Creek 2011**– Project Manager, Provided a hydrology and hydraulic model, and sized and designed 2 stream crossings. The crossings were sized to minimize debris catch points while passing flows in excess of the 100-year event via controlled overtopping with minimal damage.
- **Culvert Replacement Design Daniel Irrigation Company 2012** Project Manager, Provided a hydrology and hydraulic model, and sized and designed stream crossings. The design minimized debris catch points while passing flows in excess of the 100-year event via controlled overtopping with minimal damage.
- **Little Cottonwood Creek Stream Restoration 2011–**Project Engineer, the project required detailed ground survey that was tied to LIDAR data and hydraulic modeling for a reach of Little Cottonwood Creek for the damaging floods of 2010. Following the model calibration a number of bank stabilization designs, weir installations, and a debris basin were designed to protect adjacent private properties, remove debris and deposits necessary to restore the stream capacity, and designed grade control structures to limit future undesired erosion. The project was constructed during the early spring of 2011, prior to spring runoff. The runoff of 2011 repeatedly exceeded the design flows; consequently, the stream reach experienced unusually high flows for sustained periods. Following the runoff, the project was inspected. It was determined that the design and implementation successfully managed the high water with no additional damage to private property owners. The county provided construction management for the project. Epic provided the necessary permits for the stream alterations
- **Little Cottonwood Creek Stream Restoration 2012–** Project Manager, following the high runoff from March 2011, a number of areas were damaged along Little Cottonwood Creek (not the reach discussed above in 2011). In March of 2012, Epic Engineering began the design to repair isolated damage along Little Cottonwood Creek between the mouth of the canyon and the Jordon River. The damage, caused by high spring runoff, included damage to gabion baskets, gravel bar depositions, bank erosion, weir, and flume failures, bank instabilities and the removal of a debris basin. The project is also investigating the repairs to a private bridge and two diversion structures.
- **Duchesne City–Storm Water Master Plan 2009 –** Project Manager, Completed as part of general plan update including model of drainage swales, roadways, curb and gutter, catch basing, culverts and pipes which was calibrated by correlating a number of know problems in model inundation zones.
- **Uintah County - Ashley Valley Storm Water Master Plan 2008–** Project Engineer, Provided a study of current storm water conveyance network including development of 200 drainage basins, natural drainages, irrigation canals, storm water piping, roadways and culverts within 55 square miles including a detailed study of Ashley Creek. Modeling and simulation efforts were conducted to determine the areas of flooding during local or regional precipitation events, and improvements were proposed to manage flooding risk at problem areas. Study recommended more the 100 improvements.
- **Syracuse City–Storm Water Master Plan 2007–** Project Engineer, Provided a study of existing system to address flooding concerns and anticipated future growth. Project involved modeling inlet basins, storm drain piping, culverts, detention facilities, open ditches, and roadways for storm scenarios up to the 100-year event. A series of recommendations were made to mitigate future flooding at an estimated cost of $1.5 million dollars. Analysis of future growth resulted in City policy changes and recommended facility upsizing at an estimated cost of $11 million dollars which will allow the City to continue to grow without any adverse effects to the storm drainage system

ENVIRONMENTAL

- **Little Cottonwood Creek Channel Repair 2012**–Project Manager, Following the high runoff from March 2011, a number of areas were damaged along Little Cottonwood Creek (not the reach discussed above in Little Cottonwood Creek 2011). In March of 2012, Epic Engineering began the design to repair isolated damage along Little Cottonwood Creek between the mouth of the canyon and the Jordon

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River. Epic Engineering completed joint steam alteration permits and worked with the Army Corps of Engineers for the approval of the NRCS projects.

- **Kerry Holt Farm, Diesel Release, Subsurface Investigation 2012 —** Project Manager, 2-10,000 gallon underground storage tanks were removed from the site in 2011. During the removal process diesel fuel was detected in the subsurface near the tanks. Epic Engineering conducted 2 site investigations to determine the vertical and lateral extent of the release. In May 2012 Epic worked with a local excavator to expose the soils near the reported release to confirm the presence of diesel fuel and remediate as much soil as possible via land farming. Epic oversaw the excavation to over 37 feet and the land farming of the impacted soils. In October Epic conducted a second investigation using a hollow stem auger, advancing samples to 80 feet below grade to fully determine the extent of the release. Future work will include remediation alternatives analysis and implementation. This project is funded by the Utah DERR PST fund.
- **Fruitland General Store Phase 2 Report 2012 —**Project Manager, Conducted a phase 2 site assessment for the Fruitland general store, a former gas station, to determine if a release had occurred from gas, diesel, or used oil tanks that were reported as potential sources of contamination during a phase 1 report, by others. During the process of a phase 2 investigation gasoline was found in the soils and groundwater surrounding the approximate location of former storage tanks and dispensers. Epic completed a site investigation report and worked closely with the state DERR and property owner to establish and limit liability while minimizing costs.
- **Fruitland General Store UST Release 2012—**Project Manager, During the process of a phase 2 investigation gasoline was found in the soils and groundwater surrounding the approximate location of former storage tanks and dispensers. Epic completed a site investigation report and worked closely with the state DERR and property owner to establish and limit liability while minimizing costs. This project is funded through private insurance
- **Mountain Land One Stop Dispenser Release 2011—** Project Manager, Conducted a subsurface investigation report following a dispenser release. Using hand auguring techniques combined with vac-trucks the majority of the impacted soils were removed and the case was closed without mobilizing heavy equipment.
- **South Summit School District 2012**—Project Manager, Conducted a subsurface investigation report following a dispenser release. Using hand auguring techniques combined with vac-trucks the majority of the impacted soils were removed and the case was closed without mobilizing heavy equipment.
- **Kamas Co-Op AST Release 2011 —** Project Manager, A 10,000 gallon AST containing gasoline was found empty. Epic was called to investigate the potential of a release. It was quickly discovered that the bottom of the AST had rusted and released the contents into the subsurface. Epic coordinated with the Summit County Health Department, DERR, and DEQ to investigate and remediate the release quickly via excavation. Working with a local contractor over 500 cubic yards of impacted soils were removed before the release was able to impact groundwater or, off site properties.
- **L&L Motors UST Release investigation 2010 —** Project Manager, In 2010 UDOT improved the L&l intersection in Roosevelt, the construction disturbed an open UST release from the 1980's. Epic Engineering was contracted to help the contractor manage & mitigate the impacted soils during construction. Epic also collected samples and worked with the property owner to obtain additional data for a site investigation report. By using the construction trenches as access points soil and water samples were collected from locations previously unavailable .
- **Charlie Moore RDT 40 acres Phase 1 Study, Williams County North Dakota, 2012 —** Project Engineer, Conducted a phase 1 study on a 40 acre site outside of Williston, North Dakota. The surrounding parcels included the recent development of industrial and oil production facilities. Documentation of recent activates was poorly recorded and required detailed site investigations.
- **Wilder 62 acres Phase 1 study, Williams County North Dakota, 2012 —**Project Engineer, Conducted a phase 1 study on a 62 acre site outside of Williston, North Dakota for potential development.
- **Midway Hot Springs Phase 1 Study 2009—** Project Manager, Conducted a phase 1 study on a 65 acre site outside of Midway, Utah. Property contained a number of abandoned items including cars, and farm equipment. In addition, the unusual geology (hot springs) created a number of unique challenges to identifying potential impacts.
- **Woodenshoe Water Environmental Assessment Report 2012—**Project Engineer, Completed an environmental assessment for the construction of a new water well and storage tank for a small water system.
- **Daniel Municipal Water Improvements 2010 Environmental Assessment—** Project Engineer, Completed an environmental assessment for the construction of a new water well and storage tank pump station and over 5 miles of water lines throughout the Town of Daniel. The project disturbed a number of area's of questionable wetlands and a number of "historic" structures.
- **TomCo Waters of the US Study 2011—** Project Engineer, Project required detailed field investigation and research of the various drainages and wash's located throughout the property to identify and classify the various water courses. Reporting required detailed coordination with previous work and communication with the army corps of engineers.
- **TomCo Threatened and Endangered Species Study 2010**— Project Engineer, Project required a detailed site inspection of the various habitats over a 640 acre site combined with regional studies to determine the probability that species could exist on the subject property. The preliminary study was used to estimate the probability a oil shale operation could be established on the site with limited environmental impacts.

CULINARY WATER

- **Town of Daniel Waterline Replacement 2010 / 2011 —** Project Manager, Included a detailed hydraulic model, pipe network analysis and pipe sizing for pressure analysis and fire flow evaluation. Construction drawings and bid packages were completed for 5 separate waterline replacement projects totaling over 4 mile of waterline,

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- **Town of Daniel New Water Well Design 2009 —** Project Manager, Epic completed a well siting study and the design and bid package for the construction of a new bedrock municipal drinking water well for the Town of Daniel. Following construction pump testing indicated the safe yield exceeded estimates and water quality was better than expected.
- **Town of Daniel Pump Station #1 Design 2010 —** Project Manager, As part of the Daniel Municipal Water Improvements a new pump station for the well and two spring booster pumps was designed, and constructed. The pump station design incorporated one of the first fully automatic aquifer storage and recharge wells in the region, as well as other energy efficient design methods and components which reduced power use by over 30% while increasing capacity by a factor of 4.
- **Town of Daniel 800,000 Gallon Water Storage Tank 2010 —** Project Manager, As part of the Daniel Municipal Water Improvements a new 800,000 gallon conventional concrete storage tank was designed and constructed. Epic completed the tank siting, property acquisition, site plan & access roadway design, utility design, structural plans for the project, and construction management.
- **Town of Daniel Pressure Reducing Valve Vault 2010** — Project Manager, A new pressure reducing vault was designed and constructed to replace a failed unit. The design included detailed modeling to optimize the location and pressure calculations, design drawings and specifications for fire flow and low flow bypass. The vault was designed as cast in place and included the structural vault design to withstand traffic loading, and the construction management.
- **Woodenshoe Water Company New Water Well Design 2012 —** Project Engineer, Included the design of a 6-inch bedrock well to replace a failing spring that serves 17 residential connections and will be the sole water source for the water system. Project included a well siting study, capacity assessment and alternative drilling techniques to reduce cost.
- **Woodenshoe Water Company Pump and Tank Design 2012 —** Project Engineer, Included the design of a pump, pump controls, and metering devices to pump water from the new well to a precast fiberglass tank located 200 feet away. The tank design consisted of site plan and siting, as well as tank alternatives including cast in place, steel, above ground, buried, etc. The project involved federal funding and required an environmental assessment, coordination with SHIPO and other agencies.
- **Red Leaf Resources Well #2 / Well field evaluation 2011—** Project Engineer, Included a detailed well siting study for a well located near the book cliffs of the Uinta Basin to support energy development. Scare water combined with limited aquifer data required a well over 2000 feet in depth with very limited capacity. In addition to the well siting study a groundwater model was developed to evaluate the potential interaction of a well field to produce the needed water. A series of water storage alternative were also explored a part of the project.
- **Ute Indian Tribe Whiterock's Well Design**— Project Manager, Project included a detailed well siting study using electro-magnetic cross sections through select locations and the design of a 6– inch, 300 foot alluvial well with a target capacity of 100 gallons per minute to supply water to a nine square mile rural tribal area.
- **Ute Indian Tribe Sundance Well Design**—Project Manager, Project included a detailed well siting study using electro-magnetic cross sections through select locations and the design of a 12– inch, 500 foot alluvial well with a target capacity of 2500 gallons per minute to augment current supplies and address water quality concerns.
- **Ute Indian Tribe Farm Loop Creek Water Feasibility Study**— Project Manager, Determined the feasibility of constructing a new water system throughout the farm creek loop road area, including developing water sources, storage and distribution. The area is approximatally 9 square miles with over 1000 vertical feet variation. Report recommended approximately 8 million dollars in construction costs with the potential for hydro generation to offset some of the construction cost.
- **Ute Indian Tribe Uriah Heap and Whiterocks Spring Evaluation**— Project Manager, Evaluated the existing springs that current provide the sole of water to over 1000 tribal connections. Project utilized pipe camera technology to evaluate the current collection network in flowing pipes, geologic analysis, capacity assessment.
- **Monticello Water and Roadway Improvement 2010—** Staff Engineer

<u>PLANNING</u>

- **Town of Daniel Culinary Water Capital Facilities Plan 2009 —** Project Manager, In 2009 the Town of Daniel took over a private water system in need for substantial improvements. Epic completed a capital facilities plan to document the needed approval worked with funding agencies to acquire almost 4 million dollars with over 60% as grants.
- **Duchesne City – Sewer Capital Facilities Plan 2008—** Project Manager, Provided a detailed study of the existing collection and treatment system, including network modeling and infiltration analysis. The study developed a capital improvement plan and the design of over 8 miles of replacement sewer lines throughout the community.
- **Syracuse City Culinary Water Capital Facilities Plan 2007—** Staff Engineer
- **Draper Irrigation Culinary Water Capital Facilities Plan Updates 2007, 2009 —**Staff Engineer
- **Magna Water District Capital Facilities Plan Update 2008 —**Staff Engineer
- **Riverton Water Capital Facilities Plan Update 2008—** Staff Engineer

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SECONDARY WATER

- **Daniel Irrigation System Model 2010—** Project Manager, Provided a detailed hydraulic model for the entire system which provides irrigation for approximately 2500 acres in 4 pressure zones. Study included detailed recommendations to improve seasonal low pressure issues as well as modify the pressure zone boundaries.
- **Daniel Irrigation Little Sweden Road Loop —** Project Manager, Worked with the Town of Daniel and the Irrigation company to utilize a former culinary waterline to improve system pressures. The project provided a system loop over 1 mile long at cost of less then 5 dollar per foot, and was able to increase seasonal low pressures by more then 30 PSI.
- **Syracuse City Secondary Water Model —**Project Engineer, Completed a detailed secondary water model for rapidly growing community. The model was able to identify future problems and recommend pipe oversizing and new sources of water to provide sufficient water to the residents.

SANITARY SEWER

Duchesne City – Sewer & Roadway Improvement 2009— Project Manager, The project included the design and construction management of the replacement of over 8 miles of sewer collection line throughout the city. The majority of the replacements was designed within narrow alleys and required close coordination with other utilities. Where sewer lines were replace within roadways the majority of roadways were completely replaced including adding subgrade, base and asphalt design in addition to curb and gutter. The project also required the complete redesign of an existing lift station including new pump selection, electrical, and controls.

TRANSPORTATION

Duchesne City – Sewer & Roadway Improvement 2009— Project Manager, The project included the design and construction management of the replacement of over 8 miles of sewer collection line throughout the city. The majority of the replacements was designed within narrow alleys and required close coordination with other utilities. Where sewer lines were replace within roadways the majority of roadways were completely replaced including adding subgrade, base and asphalt design in addition to curb and gutter. The project also required the complete redesign of an existing lift station including new pump selection, electrical, and controls.

Mackenzie Roadway Realignment 2012

- **Town of Daniel Roadway Capital Facility & Maintenance Plan 2010—**Project Manager,
- **Syracuse City, 700 S Roadway Redesign 2007—**Project Engineer,
- **Town of Daniel, Little Sweden Road Overlay 2012—**Project Manager,
- **Town of Daniel, City Wide Crack Seal, Bidding and Inspection 2012—**Project Manager,
- **Monticello Water and Roadway Improvement 2010—** Staff Engineer

Alpine City Park— Staff Engineer