Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
September 24, 2013
Agenda Item 18(u)

Applicant: Colorado River Water Conservation District

Water Activity Name: Colorado Basin Implementation Plan

Water Activity Purpose: All inclusive

River Basin: Colorado

Water Source: Colorado River and tributaries

Amount Requested: $83,333 (Statewide Account); $166,667 (Colorado Basin Account)

Matching Funds: none

Staff Recommendation:
Staff recommends approval of up to $83,333 from the Statewide Account, and $166,667 from the Colorado Basin Account to help complete the project titled: Colorado Basin Implementation Plan

Water Activity Summary: WSRA funds will be expended to draft a Colorado Basin Implementation Plan that conforms to the Basin Implementation Plan Guidance Document to include Sections 1-6 to be authored by a team lead by SMG, Inc., with the Colorado River Water Conservation District acting as the applicant and fiscal agent on behalf of the Colorado River Basin Roundtable.

Threshold and Evaluation Criteria:
The application meets all four Threshold Criteria.

Statewide Evaluation Criteria:
The application meets all three Tiered Evaluation Criteria.

Discussion:
No additional discussion is needed.

Issues/Additional Needs:
No additional issues or needs were identified.

Staff Recommendation:
Staff recommends approval of up to $83,333 from the Statewide Account, and $166,667 from the Colorado Basin Account for project titled: Colorado Basin Implementation Plan.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting and Final Deliverable: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

THE COLORADO BASIN ROUNDTABLE

C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO
81602

August 14, 2013

Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 200
Denver CO 80203
(303) 866-3441, ext 3210 (office)
(970) 218-9407 (cell)
craig.godbout@state.co.us

Dear Craig:

The Colorado Basin Roundtable voted at its July 29, 2013, to delegate selection of a contracting consultant to help with the Basin Implementation Plan (BIP) to the Roundtable Executive Committee. The Executive Committee issued an RFQ/RFP and received five bids. After narrowing the group to three, the Committee conducted interviews on August 8, 2013. We voted subsequently in favor of the SGM firm. The Committee believed that any of the three vendors could have done the job well, but SGM won and is prepared to accept the work.

To cover the cost of this contract and a contingency, the CBRT is asking for a total WSRA package of $250,000. The breakdown would be $166,667 from the Basin Account and $83,333 from the Statewide Account. The SGM bid is for $199,260, but we want to have a contingency available to cover hydrologic modeling, should we need it, and other unforeseen work we may want to help inform the BIP.

The Colorado River District will be the fiscal agent to accept and distribute funds. The Executive Committee will manage the contractor on behalf of the Roundtable and the fiscal agent.

Sincerely yours,
Jim Pokrandt
Chair, Colorado Basin Roundtable

Attachments: CFWE grant application, SGM Proposal, Schedule and Budget

WATER SUPPLY RESERVE ACCOUNT
APPLICATION FORM FOR
BASIN IMPLEMENTATION PLANS

Colorado Basin Roundtable	Colorado River District
Basin	**Applicant/Fiscal Agent**
Aug. 14, 2014	**Amount from Statewide Account:** $83,333
Roundtable Approval Date	**Amount from Basin Account:** $166,667
	Total WSRA Funds Requested: $250,000

Applicant Mailing Address:	Colorado River District PO Box 1120 Glenwood Springs, CO 81602		
Taxpayer ID#:	84-6000156		
Primary Contact:	Jim Pokrandt	Position/Title:	Colo Basin RT Chair
Email:	jpokrandt@crwcd.org		
Phone Numbers:	Cell: 970-319-1807	Office:	970-945-8522 x 236

The Colorado Water Conservation Board (CWCB) has requested that each basin roundtable complete a Basin Implementation Plan as a fundamental component of the forthcoming update to the Statewide Water Supply Initiative and the Colorado Water Plan requested by Governor Hickenlooper's Executive Order D 2013-005. The CWCB's technical team will be available to help with the creation of these plans. In addition, resources of the Colorado River Water Availability Study Continuation will be available to west slope basins to help with more detailed modeling analyses in the plans. Basins are also encouraged to use Water Supply Reserve Account (WSRA) funds to complete all or a portion of their plans.

Since the plans meet the intent and criteria of the WSRA program, fund requests for this purpose should use this streamlined WSRA application form. In addition, staff has determined that Basin Implementation Plans meet the WSRA evaluation criteria for funds from the Statewide WSRA Account, however, applications that seek more than 33% of funds from the Statewide Account must provide a separate sheet justifying the request.

Along with this completed form, the applicant must submit **a detailed scope of work as Exhibit A**, including a budget and schedule. The scope should closely follow the items set forth in the Basin Implementation Plan Guidance Descriptive Outline available on the CWCB website, including the following components:

	Included in this Application (Y or N)?
Executive Summary	**yes**
Section 1: Basin Goals and Measurable Outcomes	**yes**
Section 2: Evaluate Consumptive and Nonconsumptive Needs	**yes**
2.1 Nonconsumptive Needs	**yes**
2.2 Consumptive Needs	**yes**
Section 3: Evaluate Consumptive & Nonconsumptive Constraints and Opportunities	**yes**
3.1 Current Basin Water Operations and Hydrology	**yes**
3.2 Water Management and Water Administration (Optional)	**yes**
3.3 Hydrologic Modeling (Optional)	**yes**
3.4 Shortages Analysis	**yes**
Section 4: Projects and Methods	**yes**
4.1 Education, Participation & Outreach	**yes**
4.2 New Multi-Purpose, Cooperative, and Regional Projects and Methods	**yes**
4.3 M&I Projects and Methods (i.e. projects, conservation, reuse, drought planning)	**yes**
4.4 Agricultural Projects & Methods	**yes**
4.5 Non-consumptive Projects and Methods	**yes**
4.6 Interbasin Projects and Methods (optional)	**yes**
Section 5: Implementation Strategies for the Projects and Methods	**yes**
Section 6: How the plan meets the Roundtables' Goals and Measurable Outcomes	**yes**

The application must also be accompanied by the roundtable's letter of approval, required for all WSRA applications. In addition, the applicant must: coordinate plan development with CWCB's staff and technical team; meet all the WSRA eligibility criteria detailed in the WSRA Criteria and Guidelines document; be able to use the standard contract; address any TABOR issues; provide a W-9 form; and provide proof of required insurance. Other WSRA reference material is available on the CWCB website. Applications must be approved by the CWCB board, but the CWCB approval process may be expedited to accommodate aggressive timelines.

Signature of Applicant: 

Print Applicant's Name: Jim Pokrandt, Chair, Colorado Basin Roundtable

Date: 8-14-13

Return an electronic version of all application materials to:

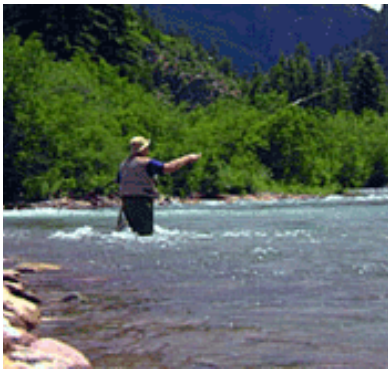
WSRA Application – Basin Implementation Plans
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
rebecca.mitchell@state.co.us

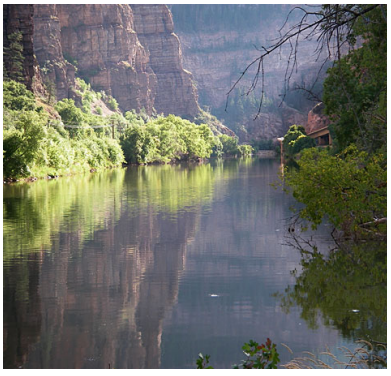
Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement. All WSRA funds are disbursed on a reimbursement basis after review of invoices and appropriate backup material from the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The invoice must include: a description of the work accomplished by major task, an estimate of the percent completed by individual tasks and the entire project in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire project budget will be withheld until final plan documentation is completed. All products, data, and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public.

PROPOSAL

Colorado Basin Roundtable

Colorado Basin Implementation Plan





SGM

August 2, 2013

August 2, 2013

Jim Pokrandt, Chair
Colorado Basin Roundtable
jpokrandt@crwcd.org

RE: Request for Proposals and Qualifications
Colorado Basin Roundtable
Colorado Basin Implementation Plan

Thank you for the opportunity to present this proposal to prepare the Basin Implementation Plan (BIP) for the Colorado Basin Roundtable (CBRT). We look forward to working with the CBRT Executive Committee and members to accurately capture the Basin's vision in a compelling and concise planning document.

This is a historic and significant opportunity to prepare a plan that expresses the CBRT's vision for the Colorado River Basin, which is facing a looming water gap. This reality combined with the statewide water gap will likely target the Colorado Basin for supply by other Basins. We know the BIP must be based on the vision of the CBRT members and be efficiently prepared under an aggressive schedule set by Governor Hickenlooper.

This will not be a simple task, however we have put together a great team to get it done!

Our team members know the preparation of the BIP is an extraordinary opportunity for stakeholders in the Colorado River Basin - communities, citizens, farmers, ranchers, recreationalists, water providers, industry and watershed organizations - to work collaboratively on a vision for the future.

Since the passage of Colorado House Bill 05-1177 eight years ago, members of the CBRT, at monthly meetings and many subcommittee meetings, have lent different pieces to the Colorado Basin water puzzle. They've identified projects and methods to address both consumptive and non-consumptive needs in the Basin, establishing the basis for the BIP.

And now it is time to mold the many pieces into one unified plan. Hence, SGM has assembled a diverse Western Slope-based team that will hit the ground running and meet the tight schedule called for by the state. Our team will not take a traditional technical approach by regurgitating existing studies. Instead, we will build on the base of available knowledge and work in a collaborative manner to glean the relevant elements, articulate and communicate the collective vision of the CBRT to the public.

Each of our team members brings both experience and expertise to the project:

- **Louis Meyer**, PE, President and CEO of SGM, will serve as Project Manager and our Consumptive Needs Task Leader
- **Angie Fowler**, PE, SGM, will serve as Assistant Project Manager and support several tasks
- **Kathleen Curry**, a western Colorado rancher and former Colorado State Representative (2004-2010), will serve as the Agricultural Task Leader and advise on policy issues

- **John Sanderson**, PhD, Director of Conservation Science at The Nature Conservancy and co-director of the Center for Conservation Science and Strategy, will serve as our Non-Consumptive Task Leader
- **Karl Hanlon**, an Attorney at Karp, Neu, Hanlon in Glenwood Springs, will provide direction on policy, main-stem management and legal issues; and serve as the Colorado Water Law and Water Administration Task Leader
- **Hannah Holm,** Coordinator of the Water Center at Colorado Mesa University, will serve as the Public Outreach and Education Action Plan Task Leader
- **Shannon Ullmann**, PE, SGM, will support the Consumptive Needs Task, serving as our municipal water supply and efficiency expert
- **Eric Bikis**, PG, a Hydrogeologist with Bikis Water Consultants, will be the Task Leader for Water Hydrology and Water/Shortage Analysis tasks
- **Janice Kurbjun**, Communication Manager, will provide writing and editing services on a freelance basis

Why should the CBRT executive committee select our team?

- **We're collaborative.** Our team will work with the CBRT to create working groups - consumptive, non-consumptive, agriculture, and policy - to guide our efforts and provide the input for the BIP. We have chosen team members who can effectively collaborate with the CBRT and Project Leadership Teams.

- **We have credibility.** The SGM Team has on-the-ground experience with most of the communities, districts and counties in the Colorado River Basin. We have prepared water master plans and facility designs for a large segment of the Basin's municipal sector. We work with the officials of such entities on a daily basis. They know and trust SGM Team's ability to complete complex projects.

- **We have background knowledge.** Members of our team have helped develop and prepare many of the documents and plans that form the technical basis of the BIP, including the SWSI, the Flow Evaluation Tool, the Energy Water Study and the Colorado Cooperative Agreement. Our team also understands Western Slope agriculture, municipal demands, conservation opportunities, instream flow requirements, water law, public education, the state's legislative process, to name a few.

- **We have diverse skills.** We have brought together a group of experts with a range of skills not often found on traditional study groups. Our team has skills developed by working in the arenas of engineering, hydrology, law, planning, agriculture, politics, science, recreation, education and communications. For example:

    - **Kathleen Curry** has statewide policy and legislative experience, extensive water knowledge, and credibility and rapport with the agricultural community
    - **Louis Meyer** understands the needs of water providers, is on the leading edge of municipal efficiency efforts and has a detailed grasp of the myriad of complex issues facing the Basin
    - **John Sanderson** has an extensive understanding of non-consumptive needs and has the expertise and ability to explain those needs in the face of out-of-Basin scrutiny

  - **Karl Hanlon** is a legal expert on water rights who understands the mainstream Colorado operations, the Colorado Cooperative Agreement and the needs of local water providers
  - **Hannah Holm** is a leading voice in regional water education and outreach efforts and is highly skilled at addressing stakeholders and engaging the public

- **We have first-hand knowledge.** Most of our team members live in the Colorado River Basin. The CBRT contract will be with SGM, a West Slope engineering firm with six offices in the mountains and a staff of 75, including 28 professional engineers. We rely upon water from the Basin for our livelihoods, drinking water and food, culture and traditions, recreation and sustenance. We all have a vested interest in this plan!

- **We've been involved.** Our team has been involved with the CBRT since the inception of HB 05-1177. We have over 30 years of aggregate time with the CBRT; that experience and history will allow us to meet the schedule in an efficient manner. Our team also includes members that have worked with other Basin Roundtables.

- **We're ready**. Our team is eager to build upon the success already accomplished by the CBRT, the CWCB and others.

Please see our attached proposal, which addresses the elements of the RFP issued by the CBRT Executive Committee.

And on behalf of our entire team, let me say it is an honor to have the opportunity to work with the CBRT on this Basin Implementation Plan.

Sincerely,

SGM

Louis Meyer, PE
President and CEO

Why the SGM Team?

Why The SGM Team?

The SGM Team recognizes the importance of having a strong presence within the Colorado River Basin. The SGM Team has a presence in Glenwood Springs, Aspen, Meeker, Grand Junction, Durango, Frisco and Boulder, bringing together diversified in-basin and out-of-basin perspectives. We believe our qualifications and experience make our team the right choice for the Colorado Basin Roundtable (CBRT). SGM has teamed with Karl Hanlon (Karp Neu Hanlon); Kathleen Curry, a former State Representative with a keen understanding of agricultural water issues; Hannah Holm (Colorado Mesa University); John Sanderson (The Nature Conservancy); and Janice Kurbjun, a professional writer. This team allows us to provide the specialized knowledge needed to develop a Basin Implementation Plan (BIP) to meet the water needs of the various interests and stakeholders.

The Basin Implementation Plan will be presented in a usable and defendable manner from which future studies can be based, including the Colorado Water Plan, the updated Statewide Water Supply Initiative (SWSI), and the Colorado River Water Availability Study (CRWAS) Continuation.

- We understand the values of the Western Slope. We live, earn our livelihoods, drink the water, grow food, recreate and experience the ups and downs of drought and wet cycles. We communicate daily with the public and our peers in the water community in the Basin because it's where we live.

- We understand that process is important! The process is often more important than the final outcome of the written document. The process must engage the CBRT members and the general public. We intend to challenge the members to become instrumental in the preparation of this document. If they are engaged in the preparation of the document they will have a larger stake in the outcome. Our Team has more to offer than the typical technical experts. We have the credibility to facilitate the process. Our Team can facilitate the public process with not only the CBRT but other key water experts including the Colorado River Water Conservation District (CRWCD), Northwest Council of Governments (NWCOG), Associated Governments of Northwest Colorado (AGNC), water providers, energy,

> *"…to convey the positive experience that I and my staff have had collaborating with the SGM Team on water conservation planning and implementation for the City of Rifle. Key to the success of this effort was the team's ability to:*
> - *Recognize the unique drivers and key factors for successful municipal water conservation in Rifle and on the Western Slope…*
> - *Deliver a winning combination of water and public policy expertise…*
> - *Effectively collaborate with City staff in multiple Departments…*
> - *Weave together system-specific goal, priorities, and data into CWCB's recommended water conservation planning framework to quick win CWCB approval…"*
>
> **Charlie G. Stevens / Utility Director / City of Rifle**

conservancy districts, the environmental community, regulatory agencies, the State Engineers Division 5 office, Club 20 and the public.

- We can meet the aggressive schedule. We have been a part of the Roundtable process since the inception in 2005 and have helped prepare many of the documents that went into the SWSI report. We helped prepare the Energy Water Report, Consumptive Needs Assessment, Colorado Cooperative Agreement, the Non-Consumptive Needs Assessment and the Flow Evaluation Tool. Our Team is connected on a daily basis with the majority of the water providers in the Basin. This familiarity and daily interaction is critical in meeting the schedule.

> *"…Schmueser Gordon Meyer is able to provide diverse in-house engineering support which permits unconstrained coordination of disciplines and results in an efficient design process. Their professional staff possesses the skills needed for prompt decision making, which assures timely and cost effective completion of our projects. Schmueser Gordon Meyer's knowledge and experience provide the Town with well thought out solutions that meet our budgetary and time constraints…"*
> **John Wenzel / Public Works Director / Town of New Castle**

- We are diverse. We have geographic diversity throughout the Basin from the headwaters to the middle and lower river basin. Our skill sets are diverse from technical, legal and policy, agricultural, legislative, communications, outreach, education to the necessary writing and communications expertise. Our Team will not simply regurgitate the technical issues from the existing reports. We will glean the relative and important elements of the existing reports and complex policy issues required to create a clear, concise and persuasive document.

- We have the manpower to meet the schedule. SGM has a staff of over 80 professionals with six offices in the mountains of Colorado. This combined with our subconsultant's resources offers the CBRT a full service team.

- We have on-the-ground experience with working with municipal and district water master plans, water right issues, facility plans, future water supply needs, water quality issues, and water right dedication policies.

- As a former elected official Kathleen Curry, who represented a Western Slope District, is knowledgeable with the legislative process. Today Kathleen works with her husband on their ranch that actually produces food – they relate to and work with the agricultural community on a daily basis.

This proposal:

- Demonstrates responsiveness to the CBRTs objectives and vision for the development of the BIP
- Outlines an approach that is based upon working on similar projects within the Basin and statewide, and incorporates lessons learned
- Displays our qualifications and experience, specifically in working in the Colorado Basin representing municipal, industrial, agricultural, environmental and recreational needs

- Addresses the need to establish a strong communication plan to facilitate and foster dialogue among the CBRT stakeholders, the SGM Team and the public throughout the project
- Exhibits our experience in working with consumptive and non-consumptive needs projects within the Basin
- Shows our ability to be accountable on matters affecting the CBRT's interests throughout the development of the implementation strategies

CBRT Vision

"The Colorado River Basin Roundtable envisions a mainstem Colorado River Basin that is home to thriving communities benefiting from a vibrant, healthy river system and outstanding water quality that provides for all the Basins needs. The Colorado River Basin Roundtable will play an integral policy development role in water allocation strategies in the Basin."

The BIP is a culmination of eight years of CBRT meetings, subcommittee meetings and the SWSI 2010 efforts. Most of the technical basis for the gap has been established in the SWSI 2010 report. The conclusions and results of the SWSI written by CDM and CWCB have not been widely known and disseminated among the CBRT members. How many of our members really understand the gap analysis? The Identified Project and Processes (IPP)? And non-consumptive, consumptive and agricultural goals, strategies and measurable outcomes? Our team would like to change that paradigm.

Overview of our Team

SGM will serve as the prime contractor and project lead for the development of the Colorado Basin Implementation Plan. SGM was founded in 1986, following a brief period as Schmueser and Associates which was founded in 1979. For 27 years, SGM employees have lived, worked, and played in the Western Slope communities they have helped to build. As a result, SGM's

services are delivered with unparalleled authenticity and pride. The resulting success has supported SGM's growth from less than 15 to 75 employees – the largest full-service engineering and surveying firm in Western Colorado. Approximately 63 members of SGM's current staff work from our Glenwood Springs office and an additional 12 employees work in one of our offices in Aspen, Gunnison, Salida, Grand Junction and Meeker.

As we've grown, so has our expertise which is clearly illustrated in the SGM Technical Discipline Sheets found in the Appendices.

SGM's Relationships with Western Colorado Municipalities and Districts

SGM acts as the full time Engineer-of-Record for the following communities:

- Salida since 2007
- Granby since 1986
- Palisade since 2005
- Rifle since 1980
- New Castle since 1990
- Rangely since 1977
- Carbondale since 1981
- Basalt since 1981
- Snowmass Village since 1978
- Collbran since 2009
- Hayden since 2010

We have long standing relationships with communities that have in-house engineers where we provide design services for capital projects including:

- Vail
- Mt. Crested Butte
- Pagosa Springs
- Crested Butte
- Glenwood Springs
- Aspen
- Battlement Mesa

SGM acts as the full time engineer for special districts including:

- Mid Valley Metropolitan District (MVMD) (1982)
- Roaring Fork Water and Sanitation District (RFWSD) (1994)
- West Glenwood Springs Sanitation District (WGSD) (1985)
- Spring Valley Sanitation District (SVD) (1990)
- Starwood Metropolitan District (1990)
- Snowmass Water and Sanitation District (2012)

SGM provides on-going engineering services to the following special districts:

- Redstone Water & Sanitation District
- Eagle River Water & Sanitation District
- Skyland Metropolitan District
- Mt. Crested Butte Water& Sanitation District

Our on-going relationships with other governmental and non-governmental agencies include:

- CDOT
- CDPHE
- National Park Service
- Eagle County
- Gunnison County
- Mesa County

- Rio Blanco County
- Garfield County
- Colorado State Parks
- City of Grand Junction on Bridge design
- Pitkin County
- Numerous schools, colleges and institutions
- Private Resort Communities
- Aspen Ski Co
- Ski Sunlight
- Monarch Ski Area

SGM offers a unique perspective on the consumptive needs as we have served as Town/District Engineers for the following municipalities and districts:

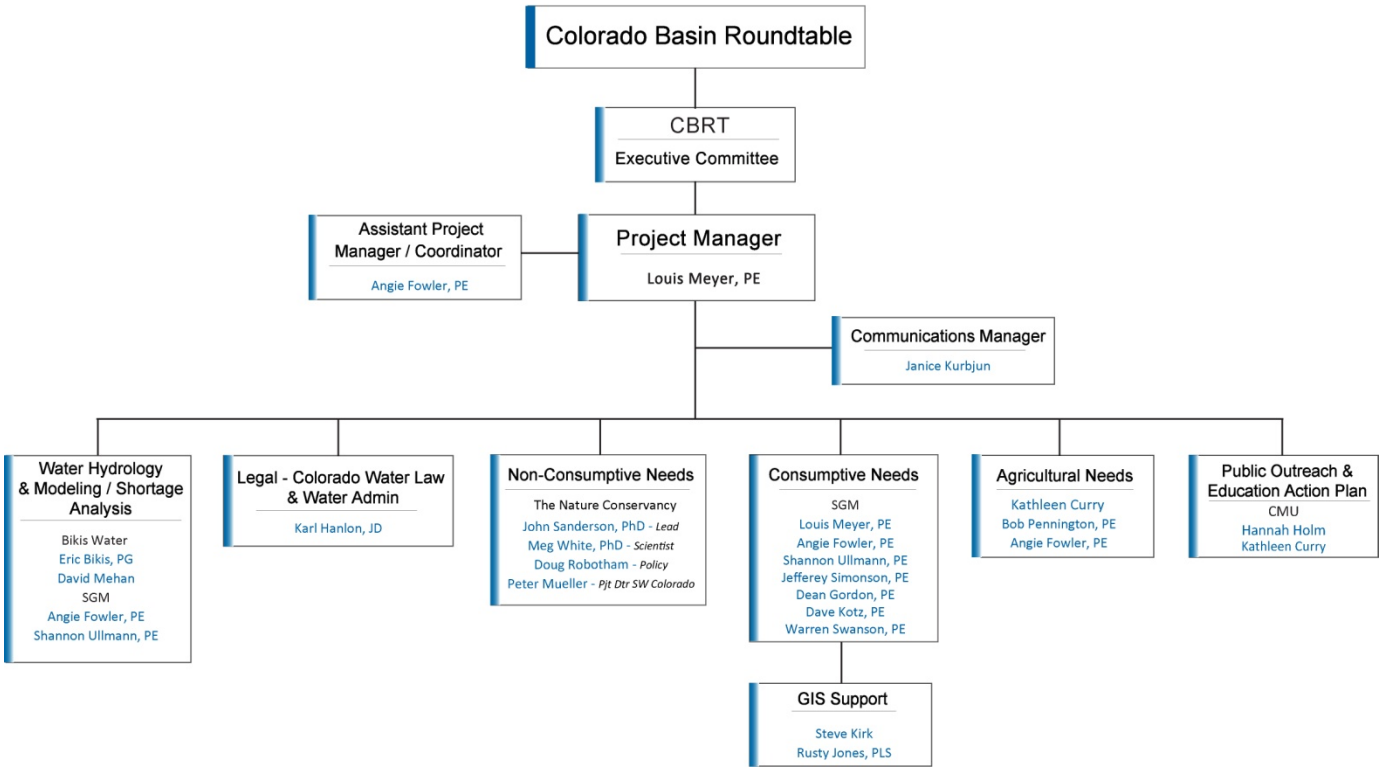
- Town of Carbondale
- City of Rifle
- Town of New Castle
- Town of Collbran
- Town of Rangely
- Town of Hayden
- Town of Battlement Mesa
- Town of Granby
- City of Salida
- Town of Crestone
- City of Palisade
- Town of Basalt
- Grand Mesa Metro District
- Mid Valley Metro District
- Snowmass Water and Sanitation District
- Spring Valley Sanitation District
- Starwood Metropolitan District
- Crested Butte Mountain Resort
- Maroon Creek Club Master Association

SGM hinges its success on long-term relationships and the intangible benefits these relationships bring: consistency, historical perspective, mutual trust, continuity.

Finally, we have forged strong, long-term partnerships with electrical, mechanical, geotechnical and instrumentation/control engineering firms as well as water/wastewater university researchers, water resources specialists, water/wastewater utility branding and communications consultants, architects, and landscape architects to help us offer complete solutions to our clients. We have built upon our local presence and in-house experts by teaming with the specialists needed to effectively implement the Scope of Work needed to develop the BIP.

By engaging SGM as its primary consultant, the Colorado Basin Roundtable will have access to our firm's full resources and hand-selected team of experts. Our project manager and project coordinator will ensure that select resources are delivered to the CBRT when needed. However, based on CBRT's specific needs, there is clearly a subset of individuals who will regularly be a part of leading consumptive, non-consumptive, agricultural, and policy Project Leadership Teams made up of members of the CBRT to provide their expertise. This corps of individuals are identified in the team organizational chart presented below.

Project Team Organization Chart



Proposed Team Members

Louis Meyer, PE / Proposed Project Role: Project Manager & Consumptive Liaison

SGM Position: Co-Founder & President/CEO

Professional Experience: 34 years / ***Years with SGM:*** 30 years

Education: BS Civil Engineering, University of Missouri, Columbia

Louis Meyer, PE has practiced water, wastewater and general civil engineering on Colorado's Western Slope for over 30 years. He has provided water engineering for 15 entities and has consulted on a regular, long-term basis for over 20 others. Louis is particularly passionate about Western Slope water issues and regularly speaks to local groups on the topic. He is Garfield County's designated representative to the Colorado River Basin Roundtable. With this organization, Louis has an opportunity to stay abreast of, and to help promote creative solutions for, Colorado River Basin water supply challenges. Louis has been a consultant to, and participant in, the Statewide Water Supply Initiative. Through the roundtable, SWSI, SGM's practice, and the many other organizations he contributes his time to, including the Granby/Silver Creek Water/Wastewater Authority board, the Aspen Valley Land Trust board, the President of the Carbondale Rotary Club , the Valley View Hospital (Glenwood Springs) board trustee, and the Sunlight Mountain Resort board, Louis has developed a robust network of contacts and deep understanding of the issues at play and forces at work, especially water-

related) in Western Colorado. Louis knows the water, people, and politics of the Western Slope. Louis' solid grasp of Colorado water law and his experience with water resources/water rights consulting projects will be particularly beneficial to this project. Louis is an avid kayaker, road biker, cross-country skier and organic gardener.

Angie Fowler, PE / Proposed Project Role: Assistant Project Manager

SGM Position: Senior Engineer I

Professional Experience: 16 years / ***Years with SGM:*** 1.5 years

Education: BS Biological Systems/ Ag Engineering, University of Nebraska, 1995; MS Bioresource/ Ag Engineering, Colorado State University, 1997

Angie Fowler, PE brings to SGM 16 years of combined water resources engineering and project management experience. She is a strong communicator specializing in managing multi-disciplinary projects, especially those requiring consensus-building among stakeholders. Angie has built strong relationships within the local water resources community through projects and as a part of local Project Leadership Teams, including the Roaring Fork Watershed Partnership, the Middle Colorado Watershed Partnership and the Colorado River Basin Roundtable. Angie has deep experience in both point source and nonpoint source discharge permitting. Her experience includes NPDES permitting, Total Maximum Daily Load (TMDL) consulting, and site-specific standards development. She also has extensive experience characterizing surface water quality impacts from a watershed perspective. She has designed monitoring plans, performed sample collection and data analysis (Driscoll Method, RUSLE, AGNPS modeling), and helped identify impact mitigation strategies.

Angie has a good understanding and local working knowledge of both point source and nonpoint source permitting. Her experience includes NPDES Permitting [including the development and implementation of NPDES Point Source Discharge Permits, Municipal Separate Storm Sewer System (MS4) General Stormwater Programs and Construction and Industrial Stormwater Permitting and Stormwater Management Plans] and watershed management solutions to address challenging water quality issues, including Total Maximum Daily Load (TMDL) and site-specific standards development. Angie is a strong communicator and frequently coordinates among various agencies to gain consensus and resolve water resources problems. She has developed and conducted several training workshops and sessions to educate municipal, state, and private agencies about MS4 stormwater permitting requirements, TMDLs, water quality trading frameworks, the Clean Water Act, 401 and 404 permitting and related regulations.

Kathleen Curry / Proposed Project Role: Agricultural and Policy Lead

Current Position: Owner and Operator Tomichi Creek Natural Beef, Inc.

Professional Experience: 25 years

Education: B.S. Agricultural and Resource Economics, University of Massachusetts, Amherst, MA, 1982 M.S., Water Resources Management, Colorado State University, 1995, Specialty in Agricultural Water Use

Kathleen Curry, a Colorado native, was an Unaffiliated member of the Colorado House of Representatives where she ran unopposed for two terms. She represented the 61st District from 2005 to 2011. Kathleen served as the state's first and only independent member of the state legislature and also served as chair of the Agriculture and Natural Resources Committee as a freshman. Kathleen made great headway with running 91 pieces of legislation as the prime sponsor, passing 81%. Curry served as Speaker Pro Tempore before she left the Democratic Party. In December 2009 Curry dropped her Democratic affiliation, and officially became unaffiliated. She focused on natural resources legislation and ran numerous water, oil and gas, and land management bills. Prior to serving in the Legislature, she managed the Upper Gunnison River Water Conservancy District which covers three headwaters counties in the Gunnison Basin. Kathleen received her Master's Degree in Water Resources Management and Planning from Colorado State University, where she specialized in farm irrigation systems. Her undergraduate degree is in Agricultural Economics from the University of Massachusetts. Curry served as a Manager with the Upper Gunnison River Water Conservancy District, Water Rights Specialist with Wright Water Engineers, and Physical Scientist with the Colorado Water Conservation Board. She is a member of the Gunnison Cattlewomen's, Cattleman's Association and the Gunnison County Stockgrowers Association.

Kathleen lives in Gunnison with her husband Greg Peterson on the Peterson family ranch. Kathleen and Greg own and operate a cattle and hay business, Tomichi Creek Natural Beef, Incorporated, where Kathleen direct markets the beef raised on the ranch. She has two sons, Bill, a senior in high school and Joe, a resident of Santa Cruz, California. Kathleen volunteers extensively in the community when not working on the ranch.

John Sanderson, PhD / Proposed Project Role: Non-consumptive Lead

Current Position: The Nature Conservancy

Professional Experience: 20 years

Education: PhD in Ecology, 2006 Graduate Degree Program in Ecology, Colorado State University, Master of Science in Botany/Field Naturalist Program, 1994 University of Vermont Bachelor of Science in Aeronautical and Astronautical Engineering, 1986 Purdue University

John Sanderson, PhD. John's career in conservation fell from the sky, so to speak. As an undergrad pursuing a degree in aeronautical engineering, Sanderson realized his true calling was the great outdoors. A post-college stint in the Peace Corps working on a forest program in West Africa sealed the deal. He attended the University of Vermont where he received a master's degree in botany. It was also during this time that Sanderson developed a little-known love affair with mosses and lichens, particularly those that grow in wetlands.
Now armed with a Ph.D. in ecology from Colorado State University, Sanderson co-directs the Center for Conservation Science and Strategy. In that capacity, John manages a staff of scientists and project directors to deliver conservation outcomes that range from ensuring

adequate streamflow for endangered fish in the Yampa River to keeping hundreds of thousands of acres on the Great Plains intact to support native wildlife from prairie dogs to antelope. Although he might be trying to understand how energy development can be compatible with sage grouse one day and discussing a new location of a globally rare cliff-dwelling plant the next, John spends most of his time working on rivers. Much of John's energy over the past few years has been focused on a statewide planning process for meeting the water needs of Colorado's growing population while maintaining healthy rivers. This planning process has produced a map of important streams in Colorado as well as a tool to evaluate how water management puts rivers at risk. Plans and tools are valuable, but it's not where to conservation happens, so John also works on several on-the-ground projects. Among these projects is collaboration with municipalities to explore new ways to design and manage water supply systems and efforts with land managers to restore streamside (riparian) ecosystems.

Karl Hanlon / Proposed Project Role: Legal – Colorado Water Law & Water Admin.

Professional Experience: 17 years

Education: Juris Doctorate, Northwestern School of Law of Lewis and Clark College in Portland, Oregon

Karl Hanlon was born in Cheyenne, Wyoming and attended the University of Wyoming where he received a Bachelor of Fine Arts degree in studio art. He received his Juris Doctorate from the Northwestern School of Law of Lewis and Clark College in Portland, Oregon. After law school he returned to the inter-mountain west to practice water law in Colorado. Prior to joining Karp Neu Hanlon, P.C, Karl was the City Attorney for the City of Glenwood Springs, Colorado for 6 years. Karl's 17 years of experience has primarily focused on Water Law and Policy, Municipal, Special Districts and Land Use matters.

Hannah Holm / Proposed Project Role: Public Outreach & Education Action Plan

Position: Director, Water Center at Colorado Mesa University

Professional Experience: 10 years

Education: 1997 M.S., Community & Regional Planning, M.A., Latin American Studies (joint degree) University of Texas at Austin 1992 B.A., Anthropology and International Studies (magna cum laude) Macalester College

Hannah Holm has over 10 years experience as an analyst of water, land-use, economic development and workforce policy issues. She is the coordinator of the Water Center at Colorado Mesa University, which promotes research, education and dialogue to address the water challenges facing the Upper Colorado River Basin. Hannah previously worked on drinking water protection issues for Western Colorado Congress, served on her local watershed group board in Pennsylvania, and staffed natural resource committees for the North Carolina legislature. She has a joint Master's degree in Community & Regional Planning and Latin American Studies from the University of Texas at Austin.

Shannon Ullmann, PE / Proposed Project Role: Consumptive Needs

SGM Position: Engineer II

Professional Experience: 13 years / ***Years with SGM:*** 7 years

Education: BS Chemical Engineering, Colorado State University, 2000 MS Environmental Science and Engineering, Colorado School of Mines, 2004

Shannon Ullmann, a member of SGM's Municipal Team, has worked to identify and develop water and wastewater solutions for municipalities and districts across the Western Slope. She has particularly strong experience in water system planning and analysis. Shannon has developed master plans, conducted water rate/fee studies, assisted utilities with regulatory compliance, and designed multiple types of water infrastructure, including water plants, storage tanks and pipelines. Shannon is currently working closely with City of Rifle staff to coordinate and implement its water use efficiency program. Shannon is a competitive tri-athlete and regularly exploits many of Western Colorado's outdoor offerings.

The table on the following page lists municipal and district clients with water sources tributary to the Colorado River that SGM regularly serves. The table shows which of SGM's proposed team members for this project have worked with each system and are familiar with the organization. Note that through its participation drinking water and water supply organizations and the network of contacts it has built over 25 years, SGM is also familiar with the water supplies, infrastructure, people, politics, etc. of other Western Slope communities for whom it has not worked, such as those in the watersheds of the Fraser, Yampa, Gunnison, Uncompaghre, Blue and Animas River valleys.

Eric Bikis, PG / Proposed Project Role: Water Hydrology & Modeling / Shortage Analysis

Professional Experience: 34 years

Education: M.S., Hydrogeology, 1978, Ohio University, B.S., Mathematics, 1976, Member Phi Beta Kappa, Ohio University, Hazardous Material Management Program, 1990, Environmental Engineering Department, Colorado School of Mines

Eric Bikis, P.G, Hydrogeologist founded Bikis Water Consultants (BWC) in May of 2006. He has worked professionally as an earth scientist for 30 years, 17 of which have been as a water consultant, earning a reputation for being a water resource expert. Typical projects for Eric include water resource planning, development and management; well design, construction and testing; water rights evaluations and applications; and geothermal projects.

Eric has been frequently interviewed by the press due to the depth of his knowledge of water issues. He has traveled extensively to Peru and to other sites such as Mesa Verde National Park on several occasions with other field scientists to study Incan and Ancestral Puebloan paleohydrology. Understanding how the early people managed water helps to solve some of today's challenging water management issues.

Away from the office you might find Eric in the warmer months on his road bike with a son or friend admiring the outcroppings of the red cliffs in the Animas Valley near his home. In the winter he enjoys skiing and relaxing with a good book or football game.

Janice Kurbjun / Proposed Project Role: Communications Manager

Professional Experience: 8 years

Education: University of Virginia, Charlottesville, VA 2002-2006; Bachelor of Arts in Media Studies (Journalism/Communication);Bachelor of Arts in Religious Studies (Buddhism/African Religions/Ethics

Janice Kurbjun began her career as an assistant project manager at an environmental engineering office. She soon moved west to pursue reporting in Wyoming, where she wrote about oil and gas, education and healthcare before hiring on to the Summit Daily News, where she covered environment and ski industry issues in the Central Mountains. With more than eight years of writing and editing experience, including nearly three years of covering water issues in Colorado, Janice has collaborated with fellow reporters and connected with varied voices on environmental issues to covey a cohesive message to lay audiences. She has worked on extended writing projects, including ghostwriting a memoir, and has coordinated multiple personalities and perspectives to create effective projects in non-publication scenarios.

Recent relevant projects include extended coverage of and communication about the Colorado Water Cooperative Agreement, reclamation efforts at the Pennsylvania Mine and Snake River drainage and the “Water and its Relationship to the Economies of Headwaters Counties” study issued by the Northwest Colorado Council of Governments.

Overview of Capabilities

The SGM Team is made up of the experts with extensive knowledge in consumptive, non-consumptive, agriculture, policy, public education and outreach, legal, public relations, communication, writing, and consensus-building. The SGM Team’s Project Experience Table in the Appendices highlights some relevant project experience that offer “lessons learned” for implementing the Colorado BIP.

The map on the following page represents the SGM Team’s working relationships in the Colorado Basin including:

- City Engineer
- District Engineer
- Preparation of Water Master Plans
- Preparation of Water Facility and Capital Improvement Plans
- Design of Water Infrastructure
- Legal Representation
- Water Modeling
- Public Involvement

Demonstrating familiarity of the Colorado River Basin and having working relationships with the major players within the Basin are key criteria for selecting the right consultant for this project – the SGM Team clearly brings these elements to the CBRT as shown on the following map.

Regional List

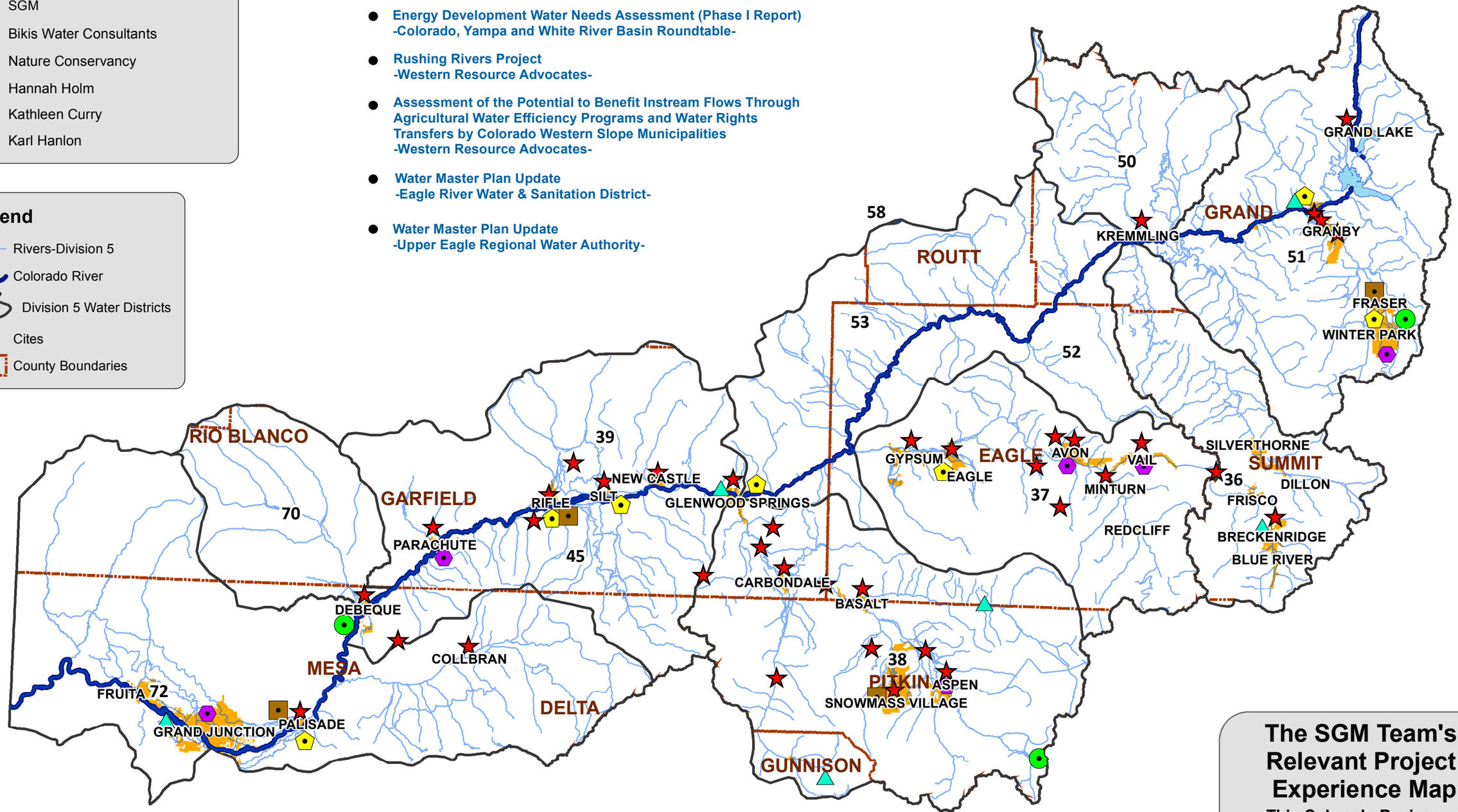
- **Energy Development Water Needs Assessment (Phase I Report)**
  -Colorado, Yampa and White River Basin Roundtable-
- **Rushing Rivers Project**
  -Western Resource Advocates-
- **Assessment of the Potential to Benefit Instream Flows Through Agricultural Water Efficiency Programs and Water Rights Transfers by Colorado Western Slope Municipalities**
  -Western Resource Advocates-
- **Water Master Plan Update**
  -Eagle River Water & Sanitation District-
- **Water Master Plan Update**
  -Upper Eagle Regional Water Authority-

Consultant Project Locations

- SGM
- Bikis Water Consultants
- Nature Conservancy
- Hannah Holm
- Kathleen Curry
- Karl Hanlon

Legend

- Rivers-Division 5
- Colorado River
- 39 Division 5 Water Districts
- Cites
- County Boundaries



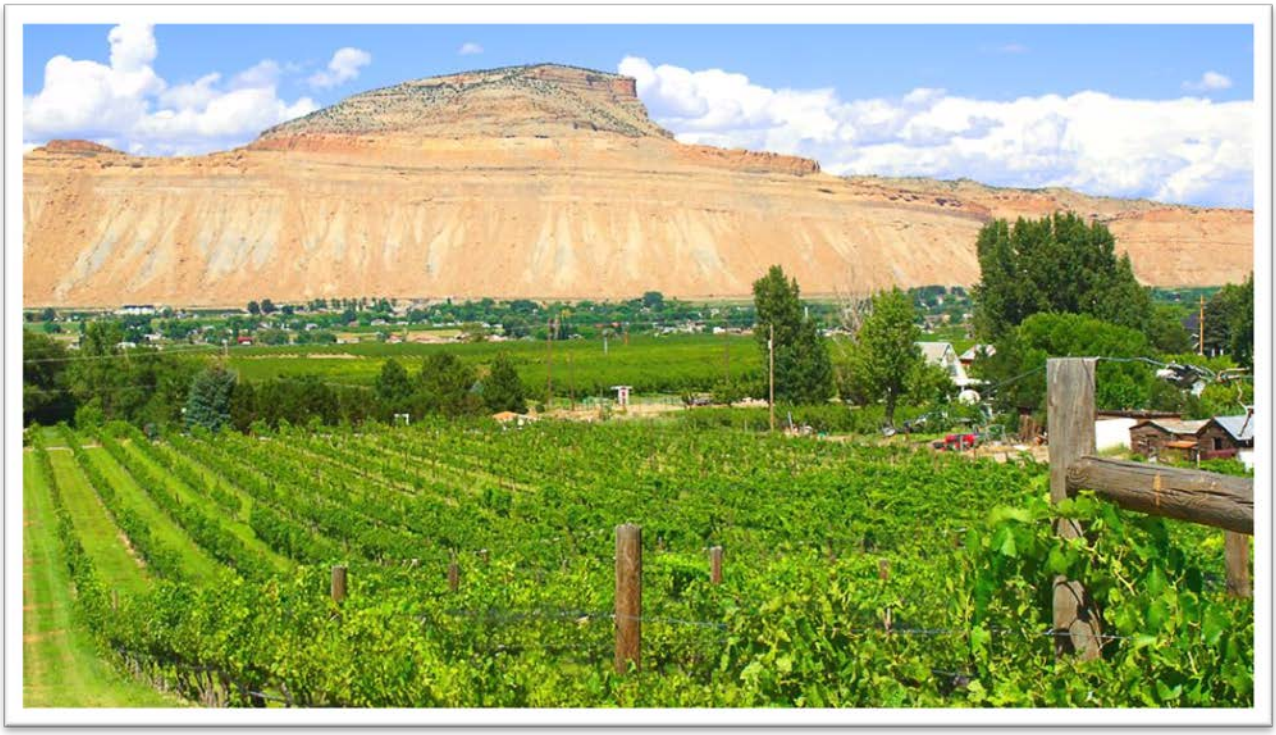
The SGM Team's Relevant Project Experience Map

This Colorado Basin map highlights experience with municipalities, districts, watershed groups, conservation districts and other related water providers.

Relevant projects

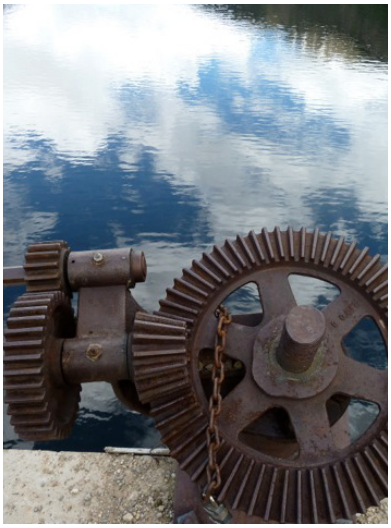
Members of our team have been actively involved in the CBRT since its inception. Louis Meyer has been actively involved in the CBRT as an at-large representative for Garfield County; Kathleen Curry has been active both on the local and statewide levels and offers an-on-the-ground agricultural perspective; John Sanderson was actively involved in the development of the CBRT's non-consumptive Watershed Evaluation Tool for the Colorado River Basin and (Pilot) Roaring Fork River Basin.

Through our active involvement and participation in the CBRT our team understands that the BIP will build upon the Vision that, "…envisions a mainstem Colorado River Basin that is home to thriving communities benefiting from a vibrant, healthy river system and outstanding water quality that provides for all the Basin's needs. The CBRT will play an integral policy development role in water allocation strategies in the Basin."



The purpose of the Colorado Water Plan is to develop a series of consensus-based implementation strategies to meet statewide water needs. The development of the Plan will rely on a bottom up process promoted via the development of the Basin Implementation Plans, where input will be obtained on local projects and methods and implementation strategies in meeting the CBRT's vision and provide a foundation for the SWSI update. The BIP overall must take into account several policies and existing documents including, but not limited to water supply plans, comprehensive land use plans, water quality plans (208 Plans), watershed plans, and related documents adopted by local governments in the Basin of Origin. Our team collectively implements and accounts for these documents as part of our daily work as we are working with most of the local municipalities and special districts.

The SGM Team's Project Experience Table in the Appendices highlights some relevant project experience that offer "lessons learned" for implementing the Colorado BIP.



Project Approach & Scope of Work

Project Approach

This section will discuss some of the broad themes that will guide the SGM Team.

The Basin Implementation Plan (BIP) Draft Guidance document prepared by CWCB is very specific. The scope is outlined in detail for both the Basin Roundtables and the CWCB. The BIP is intended to help Basins proactively meet water needs with currently planned projects, reprioritize projects and new projects, operational agreements, flow protections and other methods.

The fundamental purpose of the BIP is for each Basin to:

- Develop projects and methods to meet municipal, Industrial, Agricultural, environmental and recreational needs
- Review IPP's and the development of new projects and methods that meet water supply gap identified in SWSI 2010 and additional shortages outlined in Section 3
- Develop goals and measureable outcomes, needs, constraints and opportunities within the Basin
- Identify specific implementation strategies that will be needed to fully realize the project and methods described in Section 4

Clearly, our scope of work will include responses to the detailed outline in the CWCB Guidance Document. Our team would like to meet with the Roundtable and the CBRT Executive Committee to receive guidance on other relevant aspects of our long term water supply to include in the Statewide Water Plan. This is the CBRT chance to tell its story. Recently a paper was presented to discuss the Basin's concern to the Low/No Regrets document of the IBCC. Stan Cazier and Lane Wyatt have stated in recent meetings, the importance of getting the CBRT story, concerns and opportunities into a reader-friendly communication. Several members further stated those written communications should express the passion of the CBRT members. Some members have recently discussed the importance of Basin of Origin protections while other members are working on innovative changes to Agricultural efficiencies that may result in legislation. The BIP will be an opportunity to expand upon those issues. We look forward to working with the Roundtable and the CBRT Executive Committee to receive that guidance.

Our proposal addresses the basics of the Guidance Document; however we would like to have a further discussion with the Executive Committee on the following:

- The CBRT has prepared a Vision Statement. To what extent can this document be woven into the BIP so it can accurately reflect the passion of our members and resonate with the general public?
- The SWSI has indicated that we have an M & I and SSI gap of 48,000 Ac-Ft. in 2050. How many members of our CBRT actually know how this number was derived and where those gaps are located?
- Although the guidance document touches upon an educational outreach plan, how can we accurately reflect the input from the public into the document? We have outlined a public process later in this section that uses the classic and effective elements of a true public process. How can we engage the public to go beyond having a document that only water insiders understand? Afterwards, how can we sustain that over the long term after this document is finalized? We would like to further explore those concepts with the CBRT.
- Many other efforts and initiatives have constraints and opportunities that are memorialized, but are not included in the outline prepared by the CWCB including Senate Bill 80, NEPA and EIS requirements of recently approved firming projects, the Colorado Cooperative Agreement, and other documents that include Basin of Origin Protection. We would like to explore those documents with the Roundtable.
- Recent work by the NWCOG outlined the importance of economic drivers of recreation and non-consumptive needs in the Basin.
- Recent work has been published on the importance that innovative water conservation could help lessen the gap in many Basins.
- How about thinking outside the box to include land use issues? Is it predetermined that almost 5 million additional people will live in the Front Range? We believe Governor Hickenlooper is open to out of the box thinking.

- Over the years many members have expressed a desire to have a complete graphical GIS based representation of our Basin. It would graphically show non-consumptive and consumptive needs, dry, average and wet year hydraulics, major main stem calls, diversions, critical stream reaches, and other information that is readable and understood by the general public. We would like to discuss that with the CBRT. State Mod and the CDSS tools are not user friendly and do not have a graphical interface.
- The key to meeting the Governor's schedule is to rely upon CBRT members to reach out to their constituents and or geographic regions. We would like to talk the CBRT and CBRT Executive Committee to create that engagement and sense of urgency.
- Clearly we need to reach out to other water institutions in the Basin including the CRWCD, NWCOG, AGNC, Club 20, Conservancy Districts, regulatory agencies, Alan Martellero and his staff at the Division 5 State Engineers office and local grass roots watershed organizations like the Roaring Fork Conservancy.

- One area in the Guidance document that was possibly overlooked was the importance of how water quantity changes impact water quality issues and compliance with the Clean Water Act, Safe Drinking Water Act, and Endangered Species Act along with other environmental regulations.
- How do we bring the local media into the discussion?
- How can we reach out to the agricultural community in a more effective way to protect their interests and at the same time improve the efficiency and conveyance of irrigation practices?
- How can this plan further the efforts of the West Slope Water Banking effort?
- It became apparent, this summer watershed groups all over western Colorado understood the importance of water temperature to the sustainability of aquatic wildlife.
- How can our Basin's plan rise to the top of readability, vision, inspiration and stand out from the other eight Basin plans? We have included a placeholder for a professional writer to be on our team to ensure we create this type of document.
- How will our BIP be condensed into an overall statewide plan that includes plans from the eight other Basins?
- We would like to explore the use of Google Docs and or other collaborative team communication software such as SharePoint and websites in an effort to engage all members of the CBRT Executive Committee and the CBRT.

How do we prepare our plan knowing that the Colorado Basin will be the target by other Basins to meet their long term water supply through transbasin diversions?

The RFP requires including a parallel or second document which responds to or acknowledges potential solutions of other Basins reliance on the Colorado Basin waters for closing the gap between their supply needs and available supplies. We would like to provide some input on our thoughts of how to approach this issue.

- The most recent white paper from the Metro, South Platte and Arkansas Basins included the highest priority for meeting the gap would be through new supply from the Colorado Basin. However, it did not mention the Colorado main stem and only referenced the Green, Yampa and Gunnison Basins.
- We would propose sending a member of our CBRT to each of these Basin Roundtable meetings. That concept was one of the keystones of the 1177 legislation. We would like to foster that interbasin communication in order to understand the BIP for the other Basins.
- We would propose the CBRT Executive Committee provide guidance on the communication to each of these Basins.
- Once we gain an understanding of amount, location and timing of available water; available funding; anticipated Basin of Origin Protection; and measureable goals and outcomes then we can begin to formulate this parallel document.

Scope of Work

This Scope of Work identifies the tasks needed to develop the BIP and the Interbasin Reliance Report (secondary-parallel) document. Each task has identified objectives, deliverables, task leader and anticipated meetings needed to streamline the execution of the project. It is based upon the content provided in the CWCB's Basin Implementation Plan DRAFT Guidance (2013). A summary of the tasks is as follows:

Task 1 – Public Education & Outreach (PEO) Plan/Public Process

Task 2 – Project Kickoff Meeting/Finalize Scope of Work and Approach

Task 3 – Key Document Review

Task 4 – Project Coordination & Project Management

Task 5 – Basin Implementation Plan

Task 6 – Interbasin Reliance Report

Task 1. Public Education & Outreach (PEO) Plan/Public Process

Objective: Develop a draft Education Action Plan for feedback and input by the Colorado Basin Roundtable members during the August 26, 2013 meeting (or September 23, 2013 meeting if the project award is delayed). Cooperate with the other Basin Roundtable Liaison's in the development and execution of the Education Action Plan as needed.

Our approach is founded on the need to engage the CBRT members and key stakeholders (Colorado River Water Conservation District, Roaring Fork Water Conservancy, Grand Valley irrigators, major water districts and municipalities, industrial, agricultural, environmental, recreation, etc.) early on in the project and maintain their involvement throughout the duration of the project supported by strong technical expertise and experience with our SGM Team members. The primary purpose of the Education Action Plan is to outline how the key decision makers and stakeholders are represented. This Plan will also communicate to these representatives the status of the Basin's consumptive and non-consumptive needs, planned projects, current river operations, opportunities and constraints with the varying hydrologic cycles. The Education Action Plan will build upon existing efforts such as the Colorado Basin Roundtable Education projects which resulted in the development of water awareness media stories, community presentations and an electronic newsletter targeted towards the general public. The Plan will establish BIP Project Leadership Teams that will focus on the development of projects and methods and implementation strategies for consumptive, non-consumptive, agriculture needs. The CBRT must reach out to a culturally and geographically diverse constituency. First, we would recommend that Non-Consumptive, Consumptive and Policy Project Leadership Teams from within the Roundtable membership lead this effort. Further we recommend that outreach must occur geographically in Grand, Summit, Eagle, Garfield, Pitkin and Mesa Counties. Each County has a least two members in the Roundtables, the At-Large Representative and the Municipal Representative. These representatives should be engaged to assist in the outreach in their respective county. Further details of our suggested PEO Plan and Public Process can be found in the Appendix.

Task Lead & Key Team Members: This task will be led by Hannah Holm (CBRT Education Liaison) and supported by Kathleen Curry (public relations and facilitation) and SGM.

Deliverables: Consumptive, Non-Consumptive and Agricultural Project Leadership Teams. Draft/Final Education Action Plan.

Task 2. Project Kickoff Meeting/Finalize Scope of Work & Approach

Objective: Obtain feedback and input from the CBRT members on the scope of work, project approach and draft PEO Plan during the August 26, 2013 meeting. Review the CBRT vision, goals and measurable outcomes (may need to be addressed during the September meeting). Present the Communication Plan for implementation of the project.

Effective implementation of the project is highly dependent upon stakeholder feedback and input up front and early on in the project. The SGM Team is proposing to conduct a presentation during the August 24, 2013 (or September 23, 2013 if there is a delay in the project award) Colorado Basin Roundtable meeting that will review the project scope of work, approach, and draft PEO Plan. The Kickoff Meeting will also review the BRT's vision and goals and measurable outcomes for the BIP with the stakeholders to ensure they are established for the implementation of the project. An effective plan for communicating throughout the project will also facilitate successful and timely execution of the project.

Task Lead & Key Team Members: This task will be led by SGM and supported by all Team members.

Deliverables: Meeting notes summarizing the input from the Roundtable Meeting. Updated scope of work, approach, and/or Public Education & Outreach Plan (as needed). Communication Plan. Finalize goals and objectives.

Task 3. Key Documents Review

Objective: Review key documents that establish the baseline for the BIP and identify areas where additional information may be needed.

Several studies have been documented to date within the Colorado Basin that will be used as the basis for the BIP. Many of these studies have been completed within the past three to five years and include the best available data and information. Some, however, had referenced projects that were underway at the time of the report. For example, gaps identified for Grand and Summit Counties in the 2010 SWSI Report were based upon uncertainties for planned projects that were at the time undergoing National Environmental Policy Act (NEPA). The Identified Projects and Processes (IPPs) for Summit and Grand Counties also referenced the proposed solutions in the Upper Colorado River Study, which also had a high level of uncertainty and challenges due to lack of available water and permitting concerns for structural options. In Mesa County the IPPs included the Hunter Reservoir enlargement and in Pitkin County the West Aspen Reclaimed Water Project. In Eagle County the Eagle River Joint Use Project will provide up to 10,000 acre-feet annually of dry year firm yield for entities (within the County).

- Statewide Water Supply Initiative 1 and 2010 Reports
- Colorado River Water Availability Study (CRWAS)
- Colorado Basin Roundtable 2011 Report
- Colorado Basin Roundtable Phase 1 Non-Consumptive Needs Focal Areas Map
- Colorado Basin Roundtable Phase 2 Non-Consumptive Needs Projects and Methods
- Colorado Basin Roundtable Watershed Flow Evaluation Tool
- 15-Mile Reach Programmatic Biological Opinion and related documents
- Colorado River Basin Water Supply and Demand Study (Reclamation)
- Roaring Fork Watershed Plan

- 2013 Eagle River Watershed Plan Update
- Grand County Stream Management Plan
- Colorado Basin Roundtable Energy Water Demand Study
- Colorado River Cooperative Agreement
- Grand County Permit Conditions for Windy Gap 1041 Permitting
- Stakeholders Alternate Management Plan for the Upper Colorado
- Metro White Papers on Supply and Conservation
- Interbasin Compact Committee (IBCC) Reports on New Supply, Conservation, and Non-Consumptive
- Colorado Basin Roundtable Vision Statement
- Mr. Eric Kuhn's Risk Management Documents
- 10825
- Water Conservation Plans
- Ruedi Reservoir Contract
- Eagle River Memorandum of Understanding
- Statewide Drought Plan

Task Lead & Key Team Members: This task will be led by SGM and supported by all Team members.

Deliverables: Document summarizing the gaps within existing relevant documents (if any) and recommendations for addressing these gaps.

Task 4. Project Coordination & Project Management

Objective: Maintain frequent and open communication and dialogue with the CBRT members and the CWCB to facilitate effective implementation of the project. The SGM Team also participates in other roundtable and IBCC meetings and will keep the CBRT apprised of information as applicable to this project.

The SGM Team will work closely with the appointed Colorado Basin Roundtable member(s) throughout the project. In addition, the SGM Team will also coordinate with the Colorado Water Conservation Board (CWCB), the CWCB subcommittee (as referenced in the Draft BIP Guidance), other roundtables (via on-going participation) and stakeholders including, but not limited to the Colorado River Water Conservation District (CRWCD).

The SGM Team will also keep the CBRT and CWCB apprised of progress through monthly invoicing status reports.

Task Lead & Key Team Members: This task will be led by SGM and supported by all Team members, as needed.

Deliverables: Meeting minutes and phone logs, as applicable. Monthly status reports.

Task 5. Basin Implementation Plan

Objective: Develop a clear, concise and persuasive BIP that meets the expectations of the CBRT's vision, goals and measureable outcomes for consumptive and non-consumptive water needs.

SGM will organize four Project Leadership Teams as part of the PEO Plan that will be tasked with providing input for various sections of the report. The Project Leadership Teams will focus on establishing the Basin goals.

The BIP will follow the format presented in the Basin Implementation Plan DRAFT Guidance (CWCB, 2013) as follows (cross-references to those tasks where the content of a particular section will be developed are included, as applicable). All tasks, including the Optional ones are being scoped as part of this proposal, however, can be removed as decided by the CBRT. It will also include projects and methods and implementation strategies for the Colorado River Basin that are consistent with SWSI and the Colorado Water Plan. The SGM Team will work closely with the CWCB on acquiring existing information as needed.

- Executive Summary
- Section 1 - Basin Goals and Measurable Outcomes
    - Build off of the 2011 Colorado Basin Report, SWSI 2010, SWSI 1, IBCC documents, the Basin Roundtable Summits and documents listed in Task 3.
    - Assumption: CWCB will develop an initial draft of Basin goals and measureable objectives for the Basin Roundtable to review, revise, and/or modify as needed (as stated in the Draft BIP Guidance)
    - Deliverable: Final CBRT goals and objectives (Task 2)
- Section 2 - Evaluate Consumptive and Non-Consumptive Needs
    - Summarize relevant water planning reports and information (Task 3)
    - Identify areas where additional data and information may be needed/recommend approach in obtaining this information (Task 3)
    - Assess opportunities to meet the CBRT goals and objectives to meet consumptive and non-consumptive needs
    - Assumption: CWCB will summarize information noted as important by the CBRT. CWCB will provide assistance in assuring that the existing water planning information is comprehensive (includes other Water Supply Reserve Account (WSRA) studies, drought planning efforts, etc.)
    - Deliverable: List of existing water planning documents (Task 3)
- Section 2.1 – Non-Consumptive Needs
    - Identify focus segments; summarize the projects and methods in place to measure attributes, if available (if so, are they sustainable?); and document whether the existing and planned projects and methods meet the goals and measurable outcomes.
    - Form a Non-consumptive Project Leadership Team (Task 1) to develop the content for this section of the BIP.
    - Build off of the 2011 Colorado Basin Report, SWSI 2010, non-consumptive project and methods database

  - Use the Non-consumptive Toolbox to guide the framing of goals, outcomes, and solutions.
  - Compare data and findings to the CBRT goals and measurable outcomes (Task 2)
  - Assumptions[1]: CWCB will provide 1) non-consumptive project and method database information; 2) interbasin projects and methods information; 3) focus area mapping; and 4) mapping that overlays the projects and methods and focus area.
  - Deliverable: Draft/Final Non-consumptive Needs section in the BIP.
- Section 2.2 – Consumptive Needs
  - Form a Consumptive and Agricultural Project Leadership Team (Task 1) to develop the content for this section of the BIP.
  - Build off of the SWSI 2010 and State Drought Plans
  - Assumptions: CWCB will summarize the information and break it into localized needs for the CBRT to review.
  - Deliverable: Draft/Final Consumptive Needs section in the BIP.
- Section 3 – Evaluate Consumptive and Non-consumptive Constraints and Opportunities
  - Identify locations where potential solutions will meet the goals and measurable outcomes
  - Review current Basin operations, infrastructure, existing hydrological modeling and non-consumptive reaches – assess constrains and opportunities for a potential solution(s)
  - Deliverables: document the water administration and river compacts within the CBRT (constraints to potential solutions)
- Section 3.1 – Current Basin Water Operations and Hydrology
  - Form a Policy Project Leadership Team (Task 1)
  - Review current water operations of major water users under dry, wet, and average hydrologic conditions as documented in existing reports
  - Identify areas and opportunities where non-consumptive and consumptive needs may be jointly met with potential solutions
  - Assumptions[2]: The CWCB will assist the CBRT in providing 1) monthly diversions, storage, exchanges within the Colorado River Basin; 2) hydrologic information at key locations in the Basin related to water uses for wet, dry and average hydrologic conditions; 3) instream flow (ISF) and flow information from programmatic biological opinions; 4)[3] maps depicting municipal and agricultural water uses and hydrology; 5) maps summarizing areas where non-consumptive goals and measurable outcomes may be met; and 6) a summary of the constraints and opportunities within the Basin.

[1, 2] We understand that a lot of this information is currently available on CWCB's website.

[3] The SGM Team has GIS capabilities in the instance these maps need to be updated, edited and/or modified.

    - Deliverable: Document that outlines the constraints associated with potential solutions (include deliverables developed as part of Sections 3.2 and 3.3).
- Section 3.2 – Water Management and Water Administration (Optional)
    - Review existing CWCB, SWSI 2004, and Division of Water Resources (DWR) water management information [including, but not limited to the Colorado Decision Support System (CDSS)]
    - Deliverable: Develop a document that outlines the major control structures within each Water District; the period when general water administration begins and ends; acreages irrigated; major reservoirs; major import; major exports; and compacts within the CBRT or may affect each Basin.
- Section 3.3 – Hydrologic Modeling (Optional)
    - Evaluate local-level water supply and demand imbalances through modeling future supply, demand, and water rights scenarios (using CDSS as available)
    - Build off of efforts completed in CRWAS Phase I and the CBRT Planning scenario activities and initiatives to develop viable combinations of future supply and demand scenarios.
    - Identify where and when supply and demand imbalances occur (using CDSS as applicable)
    - Assumption: CWCB will provide technical support, as needed.
    - Deliverable: Spatial representation of the CBRT's consumptive and non-consumptive need within the CWCB's CDSS modeling framework that will allow further analysis of the water supply availability and uses for current conditions and a future planning horizon. Specifically this analysis will 1) identify the location of future supply and demand imbalances; 2) incorporate strategies to meet imbalances; 3) evaluate options to manage local imbalances; 4) conduct a shortage analysis (as part of Section 3.4); and 5) provide online applications to allow the public to view the information. This spatial analysis will be used to compare various projects and methods for meeting future Colorado Basin needs.
    - The SGM Team will use a data-centered modeling approach for those areas where no existing CDSS modeling is available
- Section 3.4 – Current and Future Shortages Analysis
    - Assumption: If the CBRT chooses not to include this task, the CWCB will assist the CBRT in summarizing the known shortages that exist based upon existing information.
    - Deliverable: Shortage analysis for municipal and industrial (M&I), agricultural and non-consumptive needs under wet, dry, and average hydrological conditions. The shortage analysis will identify gaps for the M&I, agricultural and non-consumptive water shortages and gaps. This analysis will also include an in-Basin solution analysis to meeting the gaps and shortages.
- Section 4 - Projects and Methods
    - Refine the existing consumptive and non-consumptive IPPs
    - Identify structural and non-structural strategies to meet the gaps and shortages
    - Assumption: If the CBRT chooses not to include this task, the CWCB will assist the CBRT in identifying projects for the major water sectors as well as multi-

purpose projects. CWCB will provide the existing IPP lists and information. CWCB will assist in hosting two stakeholder workshops to evaluate the draft Projects and Methods. CWCB will include any updates and new projects and methods into the Basin Needs Decision Support System (BNDSS).

Example implementation strategies include, but are not limited to:

- Currently planned projects
- Re-prioritized projects
- New projects
- Operational agreements
- Flow protections
- How the Plan Meets the Roundtables' Goals and Measureable Outcomes

- Deliverables: Shortage analysis that addresses the potential structural and non-structural solutions to meeting the identified gaps and shortages for M&I, agricultural, and non-consumptive water needs. This section of the BIP will include the following subsections (as applicable, i.e., if the CBRT chooses to implement optional tasks) that will outline the various Projects and Methods to meet the needs for in-basin projects:
  - Education, Participation, and Outreach (PEO) (Task 1)
  - New Multi-Purpose, Cooperative and Regional
  - M&I
  - Agricultural
  - Non-consumptive
  - Interbasin (if Optional tasks are included)

  Cost information [capital costs, debt service, and annual operating and maintenance (O&M)], potential partners, lead entity, volume of water and timing for any new Projects and Methods that are identified will be included in this section of the report (for the planning horizon).

  Two stakeholder workshops will be held to discuss the draft Projects and Methods (coordinated with CWCB).

- Section 5 – Implementation Strategies
  - Identify water management challenges and opportunities within the CBRT and provide a framework for meeting the challenges to ensure a reliable water supply.
  - Collaborate with the CWCB to address both in-basin and cross-basin strategies and collaboration prospects and document them in this section.
  - Provide a description of the tools needed and timeframe (with key milestones) to fully execute the projects and methods (i.e., public education strategies; funding; additional feasibility studies; and/or partnerships)
- Section 6 – Meeting the CBRT Goals and Measurable Outcomes
  - Describe how the Projects and Methods meet the gaps and shortages in relation to the identified goals and measurable outcomes for purposes of future SWSI efforts and the Colorado Water Plan.
  - Assumptions: CWCB will provide an initial draft to the CBRT.

Task Lead & Key Team Members: This task will be led by SGM and supported by all Team members.

Deliverables: Basin Implementation Plan (a summary of specific deliverables for each section of the report are provided above).

Task 5. Interbasin Reliance Report

Objective: Develop a parallel document (to the BIP) that recognizes the position of other Basins reliance on the Colorado River Basin water for closing the water supply needs and supply gaps.

The SGM Team will coordinate with the IBCC in developing the Projects and Methods for the various sectors for cross Basin projects.

Task Lead & Key Team Members: This task will be led by Karl Hanlon and supported by all Team members.

Deliverables: Interbasin Reliance Report.

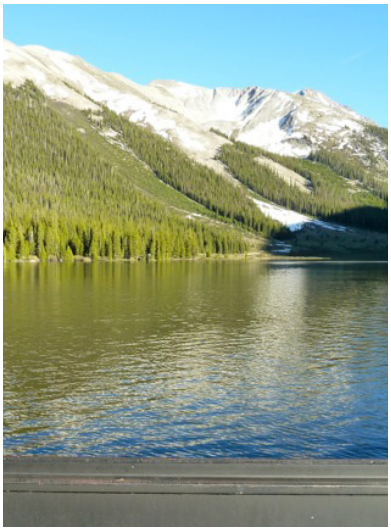
Project Schedule and Fees

SGM Team is readily available and ready to complete the Colorado Basin Implementation Plan within the specified schedule.

The RFQ states "…respondents should include a detailed budget including all costs anticipated. The Contract issued will be a 'not to exceed' Contract." This section will address this requirement. Included in the Appendix is a detailed manhour breakdown by position, firm and task and proposed project schedule. The tasks were taken directly from the Guidance Document and supplemented with our basic "Scope of Work" section of the proposal. Further we have included a breakdown of fees based upon Phases. Costs have not been assigned Option Tasks mentioned in the Scope of Work. Because our team is largely based within the Basin our Team will not have significant travel time or per diem expenses. Our Team expenses will be for work and not travel or per diem. We welcome the opportunity to sit down with the CBRT Executive Committee and have a face-to-face conversation about Scope of Work before submitting the budget to the CWCB.

"…They [SGM] were accountable and responsive to our feedback, provided frequent status updates, and went beyond their budgeted work to ensure delivery of a superb end product. Their work reflects a nuanced understanding of Colorado water law and water management as well as access to key staff and leaders in many West Slope communities…"

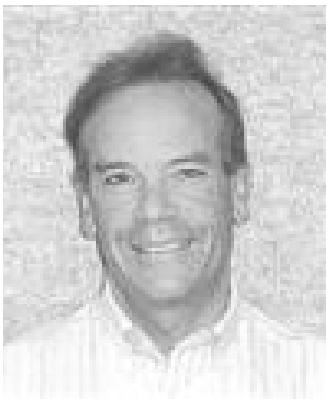
Bart Miller / Water Program Director / Western Resource Advocates



Appendix

Resumes

Louis Meyer, PE



President, CEO, Co-Founder of SGM

Education

BS Civil Engineering, University of Missouri, Columbia 1978.

Professional Affiliations

PE, CO, No. 20797

American Water Works Association

Water Environment Federation

American Society of Civil Engineers

Colorado Basin 1177 Roundtable Representative for Garfield County

Colorado Basin 1177 Grants Committee

Technical Advisor for Statewide Water Supply Initiative

Committee Member for Energy Water Committee Colorado Basin Representative

Committee Member for Non Consumptive Use Committee Colorado Basin Rep.

Aspen Valley Land Trust Vice President President Elect

Roaring Fork Conservancy Board Member

Valley View Hospital Board Trustee

Sunlight Mountain Resort Board Member

Granby Silver Creek Water Authority Board Member

Current President of Carbondale Rotary Committee

Senior Fellow American Leadership Forum

General Background

Louis is a Civil Engineer with 34 years of experience in the Municipal Water and Wastewater field. He has served as the Town Engineer or District Engineer for Colorado Mountain West Slope public entities for over 30 years. His project work has included the design and project management of many drinking water and wastewater treatment plants. He has worked extensively with the Safe Drinking Water Act, Clean Water Act and the State of Colorado Water Quality Control Act. In addition, Louis has expertise in Colorado Water Law, Appropriation Doctrine, Water Rights, and Statewide Water Policy and has been an active public speaker by giving many water presentation to many west slope organizations.

In 1985 Louis and Dean Gordon founded SGM and were the original principals of the firm. Louis has been the Manager, President, and CEO of SGM since 1990. During that tenure, SGM has grown from a firm of 20 staff to over 80 staff.

Summary of Experience

General Civil Engineering. Louis has acted as the Town Engineer for the Town of Basalt,Town of Carbondale, Granby, Mid Valley Metropolitan District and the Roaring ForkWater and Sanitation District. As the full time engineer for these entities, Louis provided engineering expertise for all civil engineering disciplines for capital projects, master plans, project reviews for water and wastewater projects, streets and drainage projects. Louis prepared many public works manuals, town specifications, development rules andregulations, and rate studies

Water Policy. Louis has acted as SGM's coordinator for our "Fall Forum Water Series." These forums have educated water professionals on a wide variety of regional water issues from Drought, forest health, compact issues, Colorado Water law, water quality issues, legislative policy, The importance of the Shoshone Call and other topics.

Water and Wastewater Projects. Louis has been the design engineer for numerous new and/or modifications to water/wastewater treatment plant projects including:

- Mid Valley Metropolitan District Wastewater Treatment Plants
- Roaring Fork Water and Sanitation District Wastewater Treatment plant
- Town of Carbondale Wastewater Treatment Plant
- City of Rifle Wastewater Treatment Plant
- Battlement Mesa Wastewater Treatment Plant
- Town of Rangely Wastewater Treatment Plant
- Town of Granby Water Treatment Plant
- Town of Carbondale Nettle Creek Water Treatment Plant
- Town of Carbondale Roaring Fork Water Treatment plant
- City of Aspen East Water Treatment Plant
- City of Rifle Beaver Creek Water Treatment Plant
- City of Rifle Graham Mesa Water Treatment Plant
- Redstone Water And Sanitation District Water Treatment Plant
- West Glenwood Springs Water District Water Treatment Plant
- City of Glenwood Springs Red Mountain Water Treatment Plant
- City of Glenwood Springs Wastewater Treatment Plant
- Town of Gypsum Water Treatment Plant
- Roaring Fork Water and Sanitation District water supply and treatment plant
- Sunlight Mountain Resort Wastewater Treatment Plant
- Graham Mesa Metropolitian District

Representative Project Experience (cont.)

Louis has prepared master plans for community water and wastewater infrastructure for:

- Town of Carbondale
- Town of Basalt
- Roaring Fork Water and Sanitation District
- Mid Valley Metropolitan District
- City of Rifle
- City of Glenwood Springs
- Eagle River Water and Sanitation District
- City of Aspen Water Treatment Facilities Plan
- Town of Granby

Louis has prepared the public works manual and or prepared rate studies for:

- Town of Carbondale
- Town of Basalt
- Roaring Fork Water and Sanitation District
- Mid Valley Metropolitan District
- City of Rifle
- Granby

Community Involvement / Affiliations

- American Water Works Association, Member
- Water Environment Federation, Member
- American Society of Civil Engineers, Member
- Colorado Basin 1177 Roundtable, Garfield County Representative Committee Member
- Statewide Water Supply Initiative, Technical Advisor
- Energy Water Committee, Colorado Basin Representative, Committee Member
- Non-Consumptive Use Committee, Colorado Basin Representative, Committee Member
- SWSI Gap Analysis, Technical Advisor
- Aspen Valley Land Trust, President Elect
- Roaring Fork Conservancy, Board Member
- Valley View Hospital, Board Member
- Sunlight Mountain Resort, Board Member
- Granby Silver Creek Water Authority, Board Member

Angie Fowler, PE

Senior Engineer
Drinking Water Team

Education
BS Biological Systems/ Agricultural Engineering, University of Nebraska, 1995

MS Bioresource/ Agricultural Engineering, Colorado State University, 1997

Registration/Certification
Professional Engineer, CO

General Background

Angie brings to SGM 16 years of combined water resources engineering and project management experience. She specializes in managing projects that require multi-disciplines to complete the job including development of watershed management solutions to address challenging water quality issues and projects requiring the development and implementation of NPDES Point Source Discharge Permits, Municipal Separate Storm Sewer System (MS4) General Stormwater Programs and Construction Stormwater Permitting and Stormwater Management Plans. Angie is a strong communicator and frequently coordinates among various agencies to gain consensus and resolve water resources problems. She has developed and conducted several training workshops and sessions to educate municipal, state, and private agencies about watershed management, MS4 stormwater permitting requirements, TMDLs, water quality trading frameworks, the Clean Water Act, 401 and 404 permitting and related regulations. Angie's experience also includes TMDL development and implementation using pollutant/water quality trading. In addition, she has extensive experience addressing water resource issues from a watershed perspective specifically for the development of Environmental Assessments (EA) and Environmental Impact Statement (EIS). Angie also has a background in assessing watershed management issues as they relate to water quality issues such as high TSS and selenium loadings. Angie has been a part of developing monitoring plans to assess these issues, performing the sample collection and data analysis (Driscoll Method, RUSLE, AGNPS modeling), and building consensus among stakeholders on the best implementation strategies to mitigate the issues. Angie has been actively involved with the Colorado Basin Roundtable (CBRT) for 5 years where she currently participates in the Grant Review Committee. Angie is also active in the Technical Advisory Committee for the Middle Colorado Watershed Partnership.

Summary of Experience

Watershed Management. In addition to her specific water quality and stormwater management experience, Angie has also worked on larger watershed management issues, offering more regional and coordinated water quality and watershed management among various stakeholders. Angie is a strong communicator and provides clients with the opportunity to communicate challenging regulations to diverse audiences, bringing together the technical and policy issues into workable solutions.

Water Quality and NPDES Permitting. Angie has been developing and implementing water quality studies to support various point source and non-point source discharge permits in Colorado for over 16 years. Angie's role in developing these permit applications has included the development of water monitoring programs to support better site specific standards, Total Maximum Daily Loads (TMDLs) and watershed/water quality models; and coordinating with the Colorado Department of Public Health and Environment on behalf of the client.

Stormwater Management. Angie has been developing stormwater programs for the municipal and industrial sectors for over 10 years. She was part of the development of the first permit through her involvement in the statewide working group and has been recently supporting the Town of Parker, Town of Castle Rock, City of Delta, El Paso County, Colorado Department of Transportation (CDOT), and the City of Casper with the development, implementation, and revision of their stormwater programs. Angie has experience with structural Best Management Practice (BMP) selection and design, supporting the municipal, transportation and oil and gas industries with their construction stormwater management challenges.

Representative Project Experience

Energy Development Water Needs Assessment
2009

Colorado River Roundtable Energy Subcommitte, Western Slope, CO. Performed tasks for Phase 1 of the Energy Development Water Needs Assessment Project in Western Colorado. While there are several factors impacting energy development in Western Colorado, Phase 1 focused on defining a range of planning horizons (near, mid-term and long-term) and production scenarios (baseline versus full). The amount of water varies across the many types of energy extraction and production techniques, the Team researched and documented available water demand information as available to develop reasonable water demand projections.

Water Quality Trading Program for Selenium
2003

City of Grand Junction, Grand Junction, CO. Supported the City of Grand Junction with the development of an EPA Grant to research the potential for water quality trading projects in the Lower Colorado River Watershed. Developed alternatives in reducing selenium impacts throughout the watershed.

River Diffuser Feasibility Study
2009

City of Delta, Delta, CO. Worked with a team of engineers to assess the feasibility of using a river diffuser for the City of Delta's effluent discharge as part of meeting restrictive ammonia standards. Currently there are no established design standards or mixing criteria available by the Colorado Department of Public Health and Environment (CDPHE) or the US Fish and Wildlife Department to guide the design. In addition, she has supported the development of materials to support the amendment to the City's existing site application.

Permitting of Treated Produced Water Discharge
2009 - 2010

Confidential Energy Client, Rio Blanco, CO. Led the permitting efforts to permit a surface discharge of produced water in Rio Blanco County. This effort involved the assessment of the potential natural resources impacts as a result of both the treatment facility and the infrastructure in delivering the water to the facility, in addition to coordination with several federal, state, and local agencies.

Development of BMP Manual and Inspection Protocol for Energy-Related Construction Activites
2006

Confidential Energy Client, Garfield County, CO. Project Engineer who led a team of scientists and engineers to develop Best Management Practices (BMPs) criteria and inspection checklists as part of preparing this private energy client for pending Construction Stormwater Audits by CDPHE-WQCD. Responsible for developing the materials for use during the inspections, documenting any potential non-compliance concerns, communicating with the client on recommending modifications to existing use of BMPs, if needed, and documenting this information for use in updating BMP specifications and drawings.

Baseline Water Quality Sampling
2007

ConocoPhillips, Piceance Basin, CO. Project Manager responsible for developing Sampling and Analysis Plans to support water quality monitoring of springs and wells in Western Colorado. The purpose of this water quality sampling program was to characterize the existing conditions of the water prior to any exploration and production activities. This monitoring program and sampling was specific to the proposed activities anticipated to occur in the future and was a requirement of agreements (Special Use Permits) between ConocoPhillips and adjacent land owners.

Stormwater Management
2007

Noble Energy, Battlement Mesa, CO. Responsible for the coordination of staff to conduct field assessments of Noble Energy's stormwater program and implementation of the program in the Battlement Mesa/Rulison area to ensure the client was meeting expectations of their Construction Stormwater Permit. Provided weekly updates to the client project managers on the progress of the project and communicated any new direction received from the client to the project staff to ensure Noble was in compliance and implementing the project in a cost-effective manner.

Representative Project Experience - (cont.)

Water Sensitivity Assessment
2009

Private West Slope Energy Company, Water Sensitivity Assessment. Western Slope CO. Project Engineer currently participating in a water resources sensitivity assessment to assess the degree of surface water resource sensitivity to new oil and gas development in the Piceance Basin. As part of this assessment Researching water quality standards for both surface water and groundwater resources across multiple watersheds. Also recommending Best Management Practices (BMPs) that can be applied to minimize the risk to those surface waters needing additional protection because of protected water quality.

Watershed Management Plan
2003

Cherry Creek Basin Water Quality Authority, CO. Project Engineer who participated in team effort to develop a Watershed Plan for the Cherry Creek Basin Water Quality Authority. The Watershed Plan addressed the need for a plan that combined sound science and stakeholder concerns into a concise implementation document, promoting effective management strategies to protect water quality in the Cherry Creek Watershed.

Nonpoint Source Pollution Trading Demonstration Project
1998 - 2000

Water Environment Research Foundation and the Cherry Creek Basin Water Quality Authority, Englewood, CO. Project Engineer that assisted in the development of a standardized approach to quantify the water quality benefits of individual phosphorus removal projects within the Cherry Creek Basin and to track the overall benefits of the trading program to the watershed. Also developed a sound technical and policy basis for trading, and provided practical, hands-on guidance and information for others developing trading programs.

Trading Demonstration Project
1998

Cherry Creek Basin Water Quality Authority, CO. Project Engineer who assisted in the development of a standardized approach to quantify the water quality benefits of individual phosphorus removal projects within the Cherry Creek Basin and to track the overall benefits of the trading program to the watershed. Also developed a sound technical and policy basis for trading, and provided practical, hands-on guidance and information for others developing trading programs.

Holistic Watershed Plan
2010

San Antonio River Authority (SARA), TX. Served as Project Engineer for a Holistic Watershed Plan characterizing and assessing the nutrient and bacteria loadings in the Lower San Antonio River. This effort involved coordination and communication with SARA staff, Texas Commission on Environmental Quality (TCEQ), and local stakeholders; water quality data review; and public meetings and workshops.

ARAR
2004

Wellington-Oro Mine ARAR (Applicable or Relevant and Appropriate Requirements Compliance Document), Summit County, CO. Lead Project Engineer in assisting the EPA with the development of an Applicable or Relevant and Appropriate Requirements (ARAR) Compliance Document and associated Discharge Control Mechanism for the Wellington-Oro Mine Removal Facility. Acid mine drainage from the Wellington-Oro mine was proposed to be treated by the facility to remove metals resulting in improved water quality in French Gulch, and ultimately, the Blue River downstream. The project team gathered historical water quality data to support the permit limits and selected removal technique. This involved several meetings and coordination with the CDPHE-WQCD and EPA. The team, along with the agencies, were able to agree on appropriate permit discharge limits and finalize the ARAR.

JANICE K. KURBJUN

P.O. Box 130 ♦ Frisco, CO 80443
610-420-0874 ♦ jkurbjun@gmail.com

Work Experience

Director, Breckenridge Festival of Film – Breckenridge, CO – present
- Manage the production of all facets of the fall Festival of Film, including marketing, sponsorships, events, hospitality, volunteers and planning on a part-time basis

Owner, Dynamic Worlds – Silverthorne, CO – present
- Manage contracted consulting in marketing/public relations, freelanced writing and editing

Sports Editor, Summit Daily News – Frisco, CO – June 2012 to April 2013
- Manage the daily production of the Summit Daily News sports section, including coordinating story and photo assignments
- Produce the SDN Locals' Gear Guide and other enterprise projects meant to grow readership and revenue
- Oversee and mentor interns and stringers

Ghost Writer, Summit County, CO – May 2012 to present
- Author and edit memoir of a community personality through in-depth interviews and teamwork

Reporter, Summit Daily News – Frisco, CO – 2010 to July 2012
- Initiated SDN Locals' Gear Guide, a project designed to engage the community, expand readership and open advertising markets with the plan to grow it year over year
- Beat coverage: Ski and recreation industries; environment
- Responsible for meeting a daily deadline with creativity, accuracy, relevancy and prioritization

Reporter, Rawlins Daily Times – Rawlins, WY – 2008 to 2010
- Won three Wyoming Pacemaker awards in general news, spot news, column writing.
- Edited and managed the production of the 2009 Fall Sports Guide, a 24-page publication covering sports in Carbon County.
- Led initiative to take news services online, using iMovie and Audacity. Launched March 2009.
- Coached and led newspaper staff in online media software and techniques.

Feature Writer, The Cavalier Daily – Charlottesville, VA – Spring 2006

Associate Editor of Photography, V Magazine – Charlottesville, VA 2004-2005

Leadership, Internship and Peripheral Experience

Social Chair and Fundraising Coordinator, Young Professionals – 2009
- Launched young professionals organization in a rural city with the goal of attracting and retaining young workers.
- Coordinated a six-member team to execute a costume party fundraiser. Doubled existing funds.
- Marketed fundraiser while managing a budget.

Assistant Project Manager, BCM Engineers – 2007
- Managed corporate communications between Construction and Engineering departments.
- Pioneered PR segment of marketing plan: worked to establish full range of media contacts and potential partnerships.

Co-Founder, Write On! – Wayne, PA – 2007
- Formed a coalition of creative writers as a forum for peer critique, discussion, and publishing support.

President & Fundraising Coordinator, UVA Women's Water Polo Team - 2004 – 2006
- Managed goal-oriented team with daily duties including: budgeting, developing practice schedules, training new players, developing team activities to build confidence to succeed, managing relationships with pool officials, coordinating travel details.
- Assisted fundraising and coordination for 2005 Wahoo Classic Tournament; produced bi-annual newsletters.

PR & Event Coordinator, Media Studies Exhibit - Spring 2005
- Coordinated PR and logistical aspects of a team-produced exhibit for multimedia projects created by Media Studies majors: Located high-profile venue, communicated with venue officials, established publicity collateral, created schedule.

Events & Marketing Intern, Ash Lawn Opera Festival - Summer 2004
- Planned and executed *Kids' Fest!*, an educational opera event for 150 children: managed limited budget while seeking quality products, planning event schedule, recruiting volunteers and publicizing event.
- Managed general media relations through newsletters, press releases, and logging hard-copy publicity in a clips binder.

Education

University of Virginia, Charlottesville, VA 2002-2006
Bachelor of Arts in Media Studies (Journalism/Communication), GPA 3.57
Bachelor of Arts in Religious Studies (Buddhism/African Religions/Ethics), GPA 3.64

University of Sydney, Sydney, Australia – Fall 2005
- Planned and executed personal study program and travel itineraries: Thailand, Singapore, New Zealand, Australia

Relevant Skills & Interests

Computer:	Type 90+ wpm, Microsoft Office Suite, Adobe Photoshop, iMovie, Open source software
Creative & Professional:	Writing, Organization, Logistics, Photography using Nikon D2X and D90 equipment, Editing, Layout Design

Community Service: Summit High School pre-collegiate mentor

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Fax: 970.385.2341
www.BikisWater.com

BĪKIS Water Consultants LLC

RESUME

ERIC A. BIKIS

Managing Member
Bikis Water Consultants, LLC

EDUCATION

- M.S., Hydrogeology, 1978, Ohio University
- B.S., Mathematics, 1976, Member Phi Beta Kappa, Ohio University

Hazardous Material Management Program, 1990
Environmental Engineering Department
Colorado School of Mines

REGISTRATION

Professional Geologist (P.G.), Wyoming License #365

SUMMARY OF EXPERIENCE

A master-degreed hydrogeologist with 34 years of hydrological, hydrogeological, geological, and geophysical experience. Manage multiple water supply and water planning studies, many of which have been subsequently implemented. Evaluate water rights for water court applications including augmentation plans. Study water quality issues. Oversee environmental analyses including NEPA studies. Conduct evaluations to determine the nature and extent of groundwater movement from recharge areas to discharge areas such as springs and seeps. Routinely locate, test, and complete water supply wells and evaluate water supply adequacy. Perform geologic hazard evaluations. Investigate and define geothermal springs for alternative energy source and recreational use.

REPRESENTATIVE PROJECTS

Water Master Planning

San Juan County, Utah. Project Manager and lead groundwater investigator for countywide Water Master Plan and Water Conservation Plan. Scenic San Juan County is located in southeastern Utah, consisting of more than 5 million acres. The master plan estimates population and water demands for the years 2020 and 2050, and provides alternatives for development of additional water supply. The conservation plan outlines measures for saving existing agricultural and culinary water through increased efficiency.

Durango Mountain Resort, Durango, Colorado. Team member for preparation of a the water rights and water supply portions of a water master plan (WMP) for a development located 25 miles north of Durango. WMP work included the collection and analysis of well yield data, which was then compared to existing and future domestic water demands. Water rights for the project also were evaluated. Recommendations were provided for improving the capacity to meet increased water demands. Subsequently a Water Supply Development Plan (WSDP) was completed and included hydrogeologic analyses, well drilling recommendations and a system loss analysis. The net result was to increase the water supply service area capacity from approximately 460 equivalent residential units to 2,086 equivalent residential units.

Tamarron Resort, Durango Colorado. Assisted in the evaluation of the water supply and wastewater systems from an operational viewpoint as well as the firm yield of the water augmentation plan for this development located between Durango and Purgatory, Colorado.

Gray Head at Telluride. Project Manager for development located 8 miles west of Telluride. Master planning of potable and non-potable supplies was completed, as well as a water rights application.

Ute Mountain Ute Tribe, Towaoc, Colorado. Project Manager for preliminary Water Management Plan that compared legal water rights with their firm yields. Current water management practices were evaluated and management measures were proposed to improve utilization of Tribal resources.

Elkhorn Mountain Ranch, Durango, Colorado. Project Manager for development located 15 miles north of Durango in the Animas River Valley. Scope included applications for water rights cases, master planning, and groundwater supply design and development.

La Plata River, La Plata County, Colorado. Project Manager for Water Conservation and Management Plan for the rural western portion of La Plata County. Water conservation and water development opportunities are included in the plan.

Water Rights

Town of Telluride, Colorado. Expert hydrogeologist for objectors to proposed change of water rights case. Case settled after depositions but prior to trial.

Aldasoro Ranch Development, Telluride, Colorado. Project Manager for a 165-home development near Telluride, Colorado. Water court decrees were obtained to support the development.

Town of Mountain Village and TSG Ski & Golf LLC. Assisted in the development of a Plan for Augmentation for the town, ski resort, and golf course. Water supply is derived from both wells and streams, and utilizes reservoir storage. Historical consumptive use credits for ditches are instrumental in allowing these entities to divert and use water during the irrigation season. A water court application is pending to provide water supply for the revised town and ski area comprehensive plan.

Telluride Airport Reconstruction. Preparation of a substitute water supply plan for water supply during the reconstruction of the airport runway and associated facilities. Industrial water for compaction, dust control, material washing, and other uses totaling 576,000 gallons per day was secured for the project between April and November. A ditch Carriage

Agreement was executed to allow for gravity water delivery visa gravity, which saved on trucking and pumping costs while simultaneously reducing as noise and air pollution. A temporary and affordable water replacement source was secured to avoid injury to senior water rights during the summer call period.

Bootjack Ranch, Pagosa Springs, Colorado. Project Manager for plan for augmentation in San Juan River drainage that will serve proposed development at a 3500-acre ranch. Scope of services included calculations of historic consumptive use of irrigation water rights, lagged return flow obligations, projected demands for the proposed development, and utilization of recharge pits to ensure non-injury of CWCB water rights.

Energy Fuels Resources Corporation, Bedrock, Colorado. Project manager for water rights application in which depletions from proposed operation of a mill in western Colorado were assessed. An Injury with Mitigation proposal was prepared according to guidelines set forth by the CWCB. The CWCB accepted the proposal judging that it adequately protected their instream flow water rights on a portion of the Dolores River.

Chevron U.S.A., La Plata and Archuleta Counties, Colorado. Perform technical aspects of well permitting and water rights for coalbed methane wells in the northern San Juan basin. Potential impacts to streams from produced water were assessed and are being replaced to avoid injury to other vested water rights.

San Luis Rey Indian Water Authority, San Diego County, California. Project manager for one aspect of a water rights settlement between the U.S.A. and five Indian Bands. An evaluation was performed that assessed the feasibility of operating a Plan for Exchange for 16,000 acre-feet of water included in the settlement.

Water Supply Planning and Development

Long Hollow Reservoir, La Plata County, Colorado. Project Manager for a proposed reservoir to be used to meet La Plata River Compact obligations with New Mexico and to benefit irrigators. Project includes a Biological Assessment, Section 7 Consultation for threatened and endangered species, Section 404 Permit, groundwater flow evaluation, water rights analyses, river and reservoir modeling, and feasibility-level dam design.

Town of Mountain Village, Telluride, Colorado. Project Manager for the design and development of water supply to meet the current and future needs of an expanding resort project located on the Telluride Ski Mountain. Two high-yielding (1,000 gpm) alluvial wells with excellent water quality were constructed in 1991 and multiple on-mountain bedrock wells have been constructed to help meet projected water demand. The Town of Mountain Village is projected to supply approximately 3,250 units at full build-out.

Airport Business Park, La Plata County, Colorado. Assist County with evaluation of water aspects of a Master Plan for proposed commercial and residential development near the La Plata County airport. Irrigation water rights, wells, river flows, and project demands were assessed with consideration for safe and dependable water quality and quantity.

Pauma Indian Reservation, Pauma Valley, California. Development of water resources on the Reservation included an initial site-wide geophysical investigation, drilling, and design of an irrigation well and two monitoring wells, and rehabilitation of three existing wells. Findings of the study helped to establish groundwater resources underlying the Reservation and safe yield of the wells. These wells helped meet water demands for a Tribal citrus

orchard project. Approximately 15,000 Valencia orange trees, lemon trees, and avocado trees were planted. Also located, designed, constructed, and tested three domestic wells to provide potable supply for Reservation homes and existing Casino. Other projects included water mass balance study, watershed study, wellhead protection study, basin hydrology and hydrologic study of adjacent mountain lands to determine hydrogeologic regime for area as well as the interaction between surface water and groundwater.

Durango Mountain Resort, Colorado. New well sites were selected using lineaments from aerial photography, geologic field mapping, and evaluation of lithologic and production characteristics of existing wells. One test well was constructed.

Aldasoro Ranch Development, Telluride, Colorado. Project Manager for legal and physical water supply work, which included a plan for augmentation and construction of wells in a 165-home development to provide water for the residents. Results from geophysical investigations were used to select well locations. Full build-out water demands have been met.

Skyland Metropolitan District, Crested Butte, Colorado. Performed geophysical and geological investigations for additional groundwater supply. Proven water supplies have allowed for construction of additional phases in the District's service area. Developed a water supply plan that evaluated alternative sources to meet full build-out demands and several augmentation supplies to replace out-of-priority depletions. The District developed a long-range plan based on this work.

Town of Ophir, San Miguel County, Colorado. Assisted small community on the Howard's Fork San Miguel River with regulatory and water issues pertaining to a water source for the town's potable, fire, and possibly hydropower supply.

Grey Head at Telluride, Telluride, Colorado. Project Manager for water supply and development of a 25-lot development near Telluride, Colorado. Water supply included both surface water and well sources.

Alpine Lakes Ranch, Chromo, Colorado. Project Manager for project that included water supply alternatives study and water supply development. Wells were located, designed, tested, and connected.

Bootjack Ranch, Pagosa Springs, Colorado. Project manager and investigator of a multi-faceted water supply development plan that included analysis of senior priority ditches, springs, and domestic and irrigation wells. Firm yield of the ditches and wells were assessed. Water quality evaluations for the wells were conducted to ensure suitability for domestic use.

Fish and Cross Ranch, Yampa, Colorado. Assess water supply adequacy for a project in conformance with the Land Preservation Subdivisions regulations in Routt County, Colorado. Project scope includes well yield, water quality, water rights, and geothermal analyses.

Boy Scouts of America, Denver Area Council, Elbert, Colorado. Designed and tested one unconfined well to fulfill the water needs of a camp expansion at the Peaceful Valley Ranch site. Performed a long-term pumping test on a confined Denver Basin aquifer well to specify a pump for and determine the safe yield of the well. Also quantified available groundwater reserves available from Denver Basin aquifer system.

Navajo State Park, Arboles, Colorado. Assist Colorado State Parks with the evaluation of the water demands and supply at Navajo State Park in Archuleta County, Colorado. Planning for the development of additional supply was also conducted. Subsequently, additional water supply was developed.

Groundwater

Rocky Mountain Oil Testing Center, Natrona County, Wyoming. Conducted an alluvial groundwater study for the Department of Energy at the Naval Petroleum and Oil Shale Reserve (Teapot Dome Field) to be used when developing the site closure plan.

Red Mesa Aquifer Study, Red Mesa, Colorado. Aquifer characterization study that included water level monitoring of wells in glacial outwash deposits for more than a year. These data were utilized to develop water table maps and groundwater flow paths. Recharge sources were defined and travel times to discharge points were estimated. The Red Mesa Aquifer was calculated to have approximately 165,000 acre-feet of water in storage, about one-half of which is recoverable. An artificial recharge program is planned to utilize additional storage capacity available in the aquifer. Ongoing well monitoring will help to assess project results.

Divide Ranch and Club, Ridgway, Colorado. Conduct investigation of groundwater yield for golf course supply including rehabilitation of existing wells, siting and drilling of new wells and wellfield monitoring program. Water rights portfolio enhancement and water storage also were assessed.

Rocky Boy Indian Reservation, Montana. Performed groundwater study to determine amount of groundwater resources available beneath the reservation. Findings from this study made available for a water rights settlement between the Tribe and the State of Montana.

Southern Ute Indian Tribe, Ignacio, Colorado. Lead investigator for reconnaissance-level investigation of groundwater resources that assessed potential for water supply development on Tribal lands in southwestern Colorado. Also assisted the Tribe in assessing yield of wells on Tribal lands.

Chaco Trails, Navajo Reservation, New Mexico. Groundwater resource evaluation includes pumping and water quality tests of several existing wells to assess potential aquifer yield. Subsequent regional hydrogeologic evaluation is planned to investigate regional recharge sources and develop and opinion of aquifer safe yield for planned resort community.

La Plata West Water Authority, Durango, Colorado. Project manager for the development of a rural domestic water supply.

National Hog Farm, Greeley, Colorado. Characterized the local groundwater flow regimes and evaluated the impact of land application of effluent on the local groundwater quality and potential impacts to the water quality of the South Platte River.

NEPA and Environmental Permitting

Town of Mountain Village, Telluride, Colorado. Project Manager for project that included preparation of an Environmental Assessment for TMV Lot 1001 to obtain grant funding from

the U.S. Department of Housing and Urban Development for development of an affordable housing apartment building.

Town of Mountain Village, Telluride, Colorado. Project Manager for project that included preparation of an Environmental Assessment for TMV Lot 642 to obtain grant funding from the U.S. Department of Housing and Urban Development for development of an affordable single-family housing initiative.

Town of Mountain Village, Telluride, Colorado. Project Manager for preparation of a Documented Categorical Exclusion for TMV Lot 1003 for a parking structure facility for public transportation.

Long Hollow Reservoir, La Plata, Colorado. Project Manager for project that included preparation of a Biological Assessment (BA) to initiate Section 7 Consultation with the U.S. Fish and Wildlife Service for a proposed dam in southwestern Colorado. The BA included evaluation of Indian Trust Assets and threatened and endangered species. The final outcome was preparation of a Biological Opinion from the USFWS.

Lake Nighthorse (ALP Reservoir) Intake Structure, Durango, Co. Project manager for La Plata West Water Authority, which was formed to develop and deliver potable water to western La Plata County. A planned rural water supply system is planned that will serve residents of western La Plata County, the Southern Ute Tribe, the Ute Mountain Ute Tribe and the State of New Mexico. An EA was prepared for the intake structure designed and constructed in 2009 to pump water from the west side of the lake. BWC also coordinated with construction management on the $5.7 million project for the client (see www.lpwwa.org for more information).

Koinonia LLC, Arboles, Colorado. Project Manager for Environment Assessment (EA) of proposed activity for irrigation ditch located on Southern Ute Indian Tribe's (SUIT) lands. EA included a Biological Assessment. Both documents were reviewed by the Bureau of Indian Affairs on behalf of the SUIT, and the activity was approved.

Southern Ute Indian Tribe, Ignacio, Colorado. Project Manager for preparation of the water resources, geology, minerals and soils sections of SUIT's Environmental Assessment (EA) for proposed increases in oil and gas drilling on SUIT's reservation. BWC conducted technical analyses on the proposed action in order to determine the potential impacts of the project and prepare a thorough evaluation. The EA document was accepted by the BIA and published for public review in 2009.

Water Quality and Pollution

OSO Diversion Tunnel, Chromo, Colorado. Expert witness in a contamination case pertaining to the OSO Diversion Tunnel, a federal project that conveys water transbasin from the San Juan River to the Rio Grande River.

Saddleback Ranch, Pagosa Springs, Colorado. Prepared plan and collected water samples to help to define baseline water quality in the San Juan River.

ASARCO, Globeville Site. Investigation of flow regime and characterization of contamination in the South Platte River alluvial groundwater for a State Groundwater Classification and Standards hearing. Evidence presented from this study was instrumental in the ultimate hearing outcome.

Skyland Metropolitan District, Crested Butte, Colorado. Performed geophysical and geological investigations to help to determine potential water quality impacts from surface construction activities on a municipal spring water source.

Colorado Water Quality Control Commission. Routinely attended and/or reviewed proceedings of monthly meetings of the Commission, a Governor-appointed group, which sets surface water and groundwater quality regulations within the State of Colorado to stay current on existing water quality regulations.

Rocky Flats Weapons Plant. Groundwater hydrogeologist representing EG&G and Department of Energy for water quality standards hearing with the Water Quality Control Commission on the subject property. Investigations included groundwater flow, quality and remediation, and the effect on health and the environment. Reviewed selected portions of shallow, high-resolution seismic reflection data work at Rocky Flats which resulted in an improved understanding of the surface geology and hydrogeology at Operable Unit 2, and a better definition of potential pathways for contaminant migration.

Sandstone Ranch. Evaluation of the effects of aerial spraying of Crossbow, a defoliant, on the local water quality. Investigations included sampling and analysis of streams, ponds, and municipal water supply well.

Town of Minturn, Colorado. Design and construction monitoring of a municipal well that replaced existing well located immediately downgradient of the consolidated tailings pile of the Eagle Mine.

Environmental Site Assessments (ESA). Conducted and managed numerous Phase I ESAs and several Phase II ESAs as part of due diligence for property acquisition and financing.

Geothermal

Sacred Springs, Inc., Pagosa Springs, Colorado. Provided opinion of groundwater system in water rights case. Evaluated geothermal resources in Town area. The study helped to characterize the geothermal aquifer and develop techniques for the conservation of the valuable resource, which is used locally to heat many buildings, and for recreational (pool and spa) purposes.

Great Hot Springs, Archuleta County, Colorado. Evaluation of the yield of geothermal springs in the Pagosa Springs area.

Coamo Hot Springs, Coamo, Puerto Rico. Evaluation of groundwater and geothermal system which supplies water to the only hot spring in Puerto Rico. Using, in part, this technical information, an appraised value of the hot spring will be derived.

Esalen Hot Spring, Big Sur, California. Consultant to the Esalen Institute regarding restoration and development of hot spring flows. The flow of the Esalen Hot Springs was disrupted and its associated bathhouse was destroyed by a landslide during the El Nino rainstorms in early 1998.

Forest Fire Hydrology

Chapin 5 Fire, Mesa Verde National Park. Project hydrologist for burned area emergency response (BAER) team for the 4780-acre Chapin 5 fire, which occurred in August 1996. Instructed 20 professional archeologists on hydrologic and erosion principles. More than 400 ancient ruin sites were assessed for potential mitigation measures to protect against erosion.

Cerro Grande Fire, Los Alamos, New Mexico. Project hydrologist for 43,000-acre forest fire that burned portions of the Santa Fe National Forest. Worked with University of California-Berkeley, operator of Los Alamos National Lab, to provide independent peer review of hydrology studies performed by government agencies, and to provide implementable flood proofing measures to protect specific lab facilities.

Paleohydrology

Mesa Verde National Park, near Cortez, Colorado. Member of paleohydrological team which investigated use and function of a 1,200-year-old Ancestral Puebloan structure in Morefield Canyon. It was concluded that Morefield Mound was used to supply domestic water for approximately 500 Ancestral Puebloans from A.D. 750-1100.

Member of the Wright Paleohydrological Institute (WPI), which concluded that the use of Mummy Lake was to supply domestic water to Ancestral Puebloans that inhabited Chapin Mesa. Prior studies were inconclusive. New signage has been installed at Mummy Lake for park visitors as a result of this study

Member of WPI that investigated 5MV1936 (Stone Axe) site located on Navajo Mesa. Investigation determined purpose of this Ancestral Puebloan “D” structure site.

Member of WPI team that investigated site DO18 in Prater Canyon in October 2002.

Machu Picchu, Peru. Investigator with 2001 WPI team that focused on prehistoric landslide, unfinished Inca construction at time of abandonment in AD 1540, pollen sampling, analysis of two excavations at unfinished temple to document foundation and wall construction techniques, and types of roof structures used during period of occupation. Roof structure information was included in map supplement for May 2002 issue of *National Geographic* magazine.

Investigator with WPI 2002 research team, which mapped Inca ruins on the summit of Huayna Picchu, explored for and documented two Inca trails in the jungle near Machu Picchu, sampled soil for pollen analysis, and participated in an invited lecture at the Universidad Nacional de Ingenieria (National University of Engineering), in Lima, Peru on September 20, 2002.

Chokepukio, near Cusco, Peru. Member of 2001 WPI paleohydrology team that studied water (canal, pool, fountain and spring) system at active excavation site.

Moray, near Machu Picchu, Peru. Investigator with 2005 WPI research team that researched water supply origin and use of Inca site located in the high plains of Peru. Moray is believed to be a geologic depression formed by dissolution of limestone within which the Inca constructed concentric circular terraces.

Geologic Hazards

Estates at Tamarron, Pine Ridge, Durango, Colorado. Performed geologic hazards study for 9-lot development constructed on Leadville Limestone formation. Work was reviewed by Colorado Geological Survey and approved by a La Plata County Planning Commission.

Two Dogs Subdivision, near Purgatory Ski Resort, Colorado. Performed geologic hazards study for 13-lot development to be constructed on Leadville Limestone and Molas formations.

Estates at Tamarron, Crescent Ridge, Durango, Colorado. Performed geological hazards study for 9-lot development. Work was reviewed by Colorado State Geologist and approved by La Plata County Planning Commission.

Cole Ranch Subdivision, Silverton, Colorado. Performed geological hazards study for 6-lot subdivision on Animas River 6 miles north of Silverton, Colorado.

Kentucky Placer Property (Tract E), Telluride, Colorado. Performed geologic hazards study for parcel of land located immediately adjacent to the Town of Telluride. This study met requirements of Colorado House Bill 1041 and Town of Telluride land-use regulations.

SPECIAL PROJECTS

Chaco Canyon National Park, New Mexico. Project team member that assisted the US Geological Survey in obtaining photographs at approximately 40 sites in drainages in Chaco Canyon Park. These photographs will be compared to photographs taken from the same locations approximately 35 and 70 years ago, and used to determine the erosion that had occurred during this period.

OTHER EXPERIENCE

Hygronics. Consultant for projects, which dealt with both surface water and groundwater issues. Most notable was the design and development of the Sarir water well field in the Libyan Sahara. Job duties included analysis of field data from existing test wells to determine aquifer parameters, programming a modified Hantush leaky equation which best matched the geologic setting, and simulating various models to obtain the water well field design. The Sarir field has 157 production wells, each fitted with a self-propelled sprinkler that irrigates 80 hectares. Expected field life is more than 50 years.

Fiberglass Resources Corp. (FRC). Evaluated the performance of fiberglass water well screens manufactured with a performed gravel pack by FRC and continuous-slot stainless steel screens made by the Johnson Company. Research included step-drawdown and continuous pumping tests in both the laboratory and the field and help to advance thinking on well efficiency. Research project was the basis for Masters Thesis that focused on well design and efficiency.

Conoco, Inc. Rapidly promoted up the technical ladder as a geophysicist and through various managerial positions before resigning as Project Director to start an oil and gas partnership. Had success at implementing geoscience applications, managing budgets and investor packages, and directing multidisciplinary teams.

Wright Water Engineers, Inc. Project Manager and scientist with firm for 16 years. Consulting work scope included surface water and groundwater issues, wetlands hydrology, geoscience applications, water rights, water quality and quantity, basin hydrology analysis, and water supply development. Opened and managed the Durango, Colorado satellite office for 11 years.

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BĪKIS Water Consultants LLC

RESUME

David B. Mehan

Senior Consultant
Bikis Water Consultants, LLC

EDUCATION

- M.S., Watershed Hydrology, 1986, Utah State University
- B.S., Fishery Biology, 1980, Colorado State University

REGISTRATION

Professional Wetland Scientist (PWS), No. 00189

SUMMARY OF EXPERIENCE

Hydrologist with more than 27 years of experience with surface and groundwater studies, water rights evaluations and water supply planning and adequacy studies. Has managed a wide variety of projects for public and private sector clients, including for water court applications and water rights acquisition. Work entails a combination of technical analyses and consultations with attorneys, State Engineer's Office staff, and interested parties. Also has expertise in water quality analysis and management (Clean Water Act) and environmental permitting. Provides expert witness testimony for hearings and court proceedings.

REPRESENTATIVE PROJECTS

Water Rights

City of Monte Vista, CO. Have provided evaluations related to water rights and water supply to enable the City to be in compliance with upcoming groundwater rules for the San Luis Valley. Work has included projections of water demands, evaluations of the yield of existing water sources, and evaluations of the yield of various water rights to be used for augmentation. The work has also included analysis of administration of the Rio Grande River and work with Division 3 Colorado Division of Water Resources staff. The work will be used to support an application to water court for a change of use and augmentation plan for the City.

XTO Energy, CO. Completed a variety of water-rights related work for XTO Energy's gas production operations in the Piceance Basin. Work was done to support both a Substitute Water Supply Plan and an application to the water court for a change of use and

augmentation plan. Fieldwork was completed to determine the characteristics of irrigation practices to estimate the amount of historic consumptive use available. A groundwater evaluation was completed to assess delayed return flows. Work included extensive consultations with Colorado Division of Water Resources staff and the opposers in the court case.

La Plata Water Conservancy District, Durango, CO. Have provided assistance with water rights, hydrology, and regulatory approvals for the Long Hollow Reservoir Project. This has included evaluations of reservoir operations and potential impacts on resources.

Investigations of Animas River Water Rights, Durango, CO. The impact of new diversions from the Animas La Plata Project (ALP) Durango Pumping Plant on existing water rights was evaluated. This included evaluation of several different operating and hydrologic scenarios on water rights yields using statistical hydrology methods.

Water Rights Evaluations for Telluride Ski & Golf and the Town of Mountain Village. Have provided evaluations of water rights and water supply needs for the Telluride Ski Resort and Town of Mountain Village. This has included assistance with flow measurement and interpretation, investigation of the effects of instream flows on water rights, and completion of a water rights plan to ensure an adequate water supply in the future.

Instream Flow Evaluations, San Miguel River, San Miguel County, CO. Evaluated the instream flows being proposed by the Colorado Water Conservation Board for the lower San Miguel River for several clients in the basin. This included field work to collect data to characterize the river and independent modeling to assess the reasonableness of the proposed flows. A water availability assessment was completed. Follow-up work included a presentation of the study results at a San Miguel County Commissioners meeting, and ongoing consultations with the State and water interests.

Town of Silverthorne, CO. Completed water rights assessments to support a change in water rights and plan for augmentation for Silverthorne. Included an evaluation of proposed instream flows on the water rights, and development of measures (e.g., a fish habitat improvement plan) to mitigate for proposed diversions.

Mount Olivet Cemetery, Wheat Ridge, CO. Provided assistance with acquisition and use of water rights, and water management. Completed assessments to support an application for water rights and plan for augmentation. Worked with objectors to settle the case. Other work included construction of ponds, channels and water features, and a groundwater study.

Instream Flow Evaluations–Huerfano County, CO. Completed an evaluation of the reasonableness of the instream flows being proposed by the Colorado Water Conservation Board for the upper reaches of the Huerfano and Cucharas Rivers. Included fieldwork and modeling to determine if the proposed flows were reasonable, and a water availability assessment. An assessment of the future water needs of the County and options for meeting these needs with the proposed flows was also completed.

Water Supply Adequacy Assessments

The Point Ranch, San Miguel County, CO. Completed an evaluation of the water rights and water resources on the Point Ranch to meet proposed plans for the ranch. Made

recommendations for water resources development and water rights compliance. Work included a plan to rehabilitate several spring boxes on the ranch.

River Ranch, Dolores County, CO. Completed an evaluation of the water rights and water resources as part of the diligence process for purchase of River Ranch. This included field work to observe features and determine past use of water on the ranch. Recommendations were made for improvements to the water supply and water rights.

Klein River Ranch, Pagosa Springs. CO. An evaluation of existing water sources and water rights was completed, and recommendations made for the water supply for development of the Ranch. Recommendations were also made for construction of multi-purpose ponds on the property. Assistance was provided for a water rights application.

Water Supply for Durango Airport Business Park. The water supply and water rights for the proposed Airport Business Park were evaluated in terms of their adequacy to support the development and for compliance with La Plata County's Water Supply Standards. This included an assessment of the potential yield of the water rights, and recommendations to improve the water supply.

Water Quality and Regulatory Approval

Use Attainability Study, Effluent Limits, and Testimony for Spring Valley Sanitation District, Garfield County, CO. Assisted the District with state hearing to reclassify drainage for proposed wastewater treatment plant. Work included development of proposed classifications and standards, consultations with the Water Quality Control Division and other agencies, and testimony at hearing. The state adopted the proposed new classifications and standards.

Environmental Permits for Long Hollow Reservoir, La Plata County, CO. Provided assistance with obtaining the necessary permits for this propose reservoir, including the Section 404 permit, 401 Certification, Biological Opinion, and T&E species clearance. Work lead to the successful issuance of these permits and approvals.

Environmental Assessment (EA) for Tg Soda Ash, Granger, WY. Managed preparation of an EA for a proposed mine expansion for NEPA compliance. All aspects of EA preparation, from scoping to data collection and report completion, were involved. Fieldwork included vegetation, soils, wetlands, water quality, channel stability, and wildlife resources.

Evaluation of Potential Uses of Water from Coal Bed Methane, Southwestern Colorado. Completed an assessment of potential uses for produced water from coal bed methane operations. Compared water quality characteristics with requirements for various uses. Also assessed possible treatment methods and requirements to meet uses.

Bioassessment of Clear Creek, Golden, CO. Performed bioassessments of Clear Creek from Golden to the South Platte River following U.S. Environmental Protection Agency *Rapid Bioassessment Protocols* to evaluate effects of wastewater discharges, thermal discharges, water diversions, and in-stream habitat on the fish and benthic communities. Special procedures were developed to account for the effects of water diversions.

Water Quality Assessment for Omaha Tribe, Nebraska. Provided assistance over a period of years with water quality evaluation and management on the Omaha Reservation. Work included: surface and groundwater sampling, completion of several bioassessments,

training, data evaluation, and assistance with preparation of water quality standards and regulations.

Management Plan for 55 Lakes, Winnipeg, Manitoba, Canada. Prepared management plan for 55 urban lakes in Winnipeg, Manitoba. Analyzed data on lake and watershed characteristics, water quality, and weed growth. Evaluated a wide range of potential restoration measures. Developed management plans for the lakes, and new lake design standards to reduce weed and algae growth.

Water Quality Studies for Lincoln, NE. Develop site-specific water quality standards and discharge permit limits for the City of Lincoln to avoid excessive costs for nitrification. Included integration of chemical, physical, and biological data to develop a feasible regulatory approach with the state and U.S. Environmental Protection Agency.

PUBLICATIONS

Mehan, D.B. 2006. Creation and Restoration of High Altitude Wetlands in Colorado. Proc. High Altitude Revegetation Workshop No. 17, Fort. Collins, CO.

Mehan, D.B. 2004. Educational pamphlet on wetlands for Southern Ute Indian Tribe, Ignacio, CO.

Mehan, D.B. 1998. New Wetland Regulations Could Affect Ski Areas, National Ski Areas Association Newsletter. February 1998.

Mehan, D.B. 1997. Hydrology of an Irrigated Montane Wetland. Proc. 18th Annual Meeting of the Society of Wetland Scientists, Bozeman, MT.

Mehan, D.B. 1996. Bioassessment of Clear Creek. Proc. 20th Annual Meeting of the Rocky Mountain Chapter of WEF/AWWA, Steamboat Springs, CO.

Mehan, D.B. 1993. Urban Lake Management Study in the City of Winnipeg. Proc. 13th International Symposium of the North American Lake Management Society, Seattle.

Mehan, D.B. and P. Avant. 1992. Riparian Restoration in the Southwestern United States. Rocky Mountain Chapter of Society of Wetland Scientists, Vol. 2(2).

Mehan, D.B. 1990. Effects of Urbanization on the South Platte River. Proc. Symposium on South Platte River by U.S. Fish and Wildlife Service. Fort Collins, CO. November.

Mehan, D.B. and J.E. Jones. 1989. Technical Aspects of the Clean Water Act, Safe Drinking Water Act, Federal Insecticide, Fungicide and Rodenticide Act, and Resource Conservation and Recovery Act; Managing Water Quality on Indian Reservations–A Handbook for Tribal Water Resource Managers. Published by the Council of Energy Resource Tribal Environmental Institute, Denver, CO.

Mehan, D.B. and J.E. Jones. Establishing Stream Criteria in the Context of Urban Runoff. Proc. Water Pollution Control Federation, October 1989 short course on nonpoint source pollution at the WPCF annual convention in San Francisco, California.

Mehan, D.B. 1986. Masters Thesis: Effects of Coarse Fragments on Infiltration Rates and Green and Amp Parameters. Utah State University.

Mehan, D.B. and G.N. Mast. 1984. Cherry Creek Reservoir Clean Lakes Study. Denver Regional Council of Governments.

Mehan, D.B. and G.N. Mast. 1984. Chatfield Reservoir Clean Lakes Study. Denver Regional Council of Governments.

Doerfoer, J.T., D.B. Mehan, and G.N. Mast. 1983. Urban Runoff Quality in the Denver Region. Denver Regional Council of Governments.

Mehan, D.B. 1983. Prediction of Storm Runoff Characteristics from Small Urban Basins. Denver Regional Council of Governments.

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Shannon Ullmann, PE

Project Engineer
Project Engineer
Municipal Team

Education
BS Chemical Engineering, Colorado State University, 2000

MS Environmental Science and Engineering, Colorado School of Mines, 2004

Registration/Certification
Professional Engineer, CO

General Background

Shannon joined SGM in October 2006. Her previous experience includes groundwater contaminant plume monitoring, mapping/modeling and remediation. Since joining SGM, Shannon has focused on municipal water supply planning and design.

Summary of Experience

Municipal Water Efficiency Planning and Implementation. Shannon has and continues to work with numerous local municipal water providers to analyze and improve water use efficiency.

- Shannon is currently working with City of Rifle, CO staff to implement its community Water Use Efficiency Program. Shannon assisted in the completion of a grant application to help fund development of the water conservation plan that served as the springboard for the City's new program.
- Shannon is also currently working with the Snowmass Water and Sanitation District to complete its Water Efficiency Plan including completion of grant funding request to CWCB's Colorado River Basin Roundtable for funding to jumpstart the SWSD's meter replacement program that will provide critically accurate water use data for strategic efficiency plan implementation.
- Shannon also supported Upper Eagle Regional Water Authority in efforts to establish water efficiency goals among local metro districts in order to minimize infrastructure upgrade costs.
- Shannon has also helped to foster the relationship between local non-profit professionals and Colorado Water Conservation Board staff as they initiated a regional water conservation program in the Roaring Fork Valley. Shannon provided expertise, lessons learned and startup guidance related to State of Colorado grant requirements and program components.
- Finally, Shannon has attended numerous conferences and workshops on preparing and implementing CWCB-approved Municipal Water Efficiency Plans as well as Drought Plans.

Statewide Water Supply Initiatives. Shannon is involved in numerous western-slope and state-wide water supply planning initiatives on behalf of west-slope municipal water providers. Those initiatives include:

- Municipal water efficiency studies conducted in on behalf of Western Resource Advocates. Shannon worked with SGM team members on the Rushing Rivers Project to evaluate the potential of municipal water conservation savings to support stream flows in local waterways. Subsequently, Shannon worked with SGM team members on Agricultural-Municipal water efficiency program which aimed at enhancing stream flows through improving efficiencies of irrigation-decreed water owned by municipal water providers.
- Participation in Water2012 Campaign as part of the Colorado Foundation for Water Education's Water Speaker's Bureau. As a member of the Speaker's Bureau, Shannon hosted several presentations to local community organizations throughout 2012 to educate a variety of audiences on water supply history and challenges within the state.
- Municipal water provider outreach. Shannon worked with Angie Fowler and other SGM team members as co-planner of SGM's October 2012 Fall Forum. The Forum focused on municipal water supply management planning and drought response. Shannon helped evaluate topics, solicit and organize speakers, prepare the agenda and along with Ms. Fowler, proctored the day's event.

- **Municipal Water System Master Planning.** Shannon has provided project engineering services on water system master plans for ERWSD, UERWA, Roaring Fork Water and Sanitation District (RFWSD) and the Town of New Castle. She has analyzed water billing and production data to determine water use patterns. She has worked with municipalities, districts, and counties to compile development projections and forecast water demands. She has analyzed water production, pumping, storage, transmission, and distribution facilities. She has assisted in developing optimal infrastructure improvement recommendations and associated cost estimates to support utility capital improvement plans.
- **Water Distribution System Modeling.** Shannon has performed water distribution system hydraulic modeling for many of the water master plans she has supported. Shannon's experience includes updating and calibrating models, including planning and execution of field flow tests. Shannon has employed both static and extended period simulation (EPS) analyses to evaluate water infrastructure planning options, operational strategies to improve water quality, and fire flow delivery.

Rushing Rivers Program
2011

Western Resource Advocates Western-slope wide, CO. Shannon worked with SGM team members on the Rushing Rivers Project to evaluate the potential of municipal water conservation savings for stream flow enhancement on local waterways. The project included evaluation of candidate west-slope communities for such a program and prioritized short-list of "best-fit" communities based on culture, need and support of such a program. Shannon's tasks included working with SGM team members to:

- Research candidate communities
- Interview local community officials as well as state-wide water professionals about the potential for the program
- Compile interview and research information from all SGM team members' interviews
- Establish objective community screening criteria and applying that criteria to candidate communities
- Summarize research findings and recommendations into a report
- Present findings at state-wide water efficiency events

Agricultural Water Efficiency Programs and Water Rights Transfers by Colorado Western Slope Municipalities
2012

Western Resource Advocates Western-slope wide, CO. Shannon worked with SGM team members on Agricultural-Municipal water efficiency program which aimed at enhancing stream flows through improving efficiencies of irrigation-decreed water owned by municipal water providers. The project evaluated local community support as well as potential flow impacts, waterway impairment status, non-consumptive needs and presence of existing instream flow program.Tasks included:

- Conduct literature review and summarize applicable findings
- Calculate flow impact potential
- Support water rights analysis
- Interview key water professionals
- Contribute to draft report preparation

Representative Project Experience

City of Rifle Water Use Efficiency Program
2007 - Current

City of Rifle Rifle, CO. Assisted in creation of the City of Rifle Water Conservation Plan (WCP), Colorado Water Conservation Board (CWCB) WCP Grant Application and WCP Implementation
Tasks included:

- Collecting and analyzing historical potable water use data, water production data and metered raw-water irrigation data.
- Working with CWCB and City of Rifle staff for contribution to the preliminary WCP grant application document.
- Managing task for WCP Implementation effort between City of Rifle staff and contributing sub-consultants.
- Performing engineering related to implementation of audit and rebate programs and performance evaluation of those programs.

Upper Eagle Regional Water Authority Water Master Plan Update
2009

Upper Eagle Regional Water Authority Avon, Edwards and Cordillera, Colorado. Developed 5-year water master plan.
Tasks included:

- Characterized existing water demands.
- Determined anticipated growth and associated demand increase.
- Evaluated existing water treatment capacity and determined production increase strategies that both meet demands and improve system performance.
- Analyzed existing water storage capacity and made recommendations to meet storagegoals without compromising water quality.
- Evaluated existing conveyance capacity, identified current and future system shortfalls, and determined specific improvements to pump stations and pipes for each location.
- Estimated project costs and assigned project priority for planning purposes.

KARL J. HANLON

***EDUCATION*:**

University of Wyoming, Laramie, Wyoming (B.F.A., 1992)
Northwestern School of Law of Lewis and Clark College, Portland, Oregon (J.D. with Environmental Certificate, 1996)

***PROFESSIONAL AFFILIATIONS*:**

Colorado State Bar, admitted 1996
U.S. District Court, District of Colorado, admitted 1997
U.S. Court of Appeals, Tenth Circuit, admitted 1997
Ninth Judicial District Bar Association
Colorado Bar Association

***PROFESSIONAL EXPERIENCE*:**

Shareholder/Partner, Karp Neu Hanlon, P.C., Glenwood Springs, Colorado, February 2010-Present. *Areas of concentration*: Water, Real Estate and Land Use, Municipal, and Special District Law

Shareholder/Partner, Leavenworth & Karp, P.C., Glenwood Springs, Colorado, 2006-January, 2010.

City Attorney, City of Glenwood Springs, Glenwood Springs, Colorado, 2002- 2006. *Areas of concentration*: legislation policy, litigation, water, utilities, personnel, municipal, special district, land use, general corporate, and real estate law

Assistant City Attorney, City of Glenwood Springs, Glenwood Springs, Colorado, 2000- 2002. *Areas of concentration*: land use, water, utilities, personnel, municipal

Associate, Robert M. Noone, P.C., Glenwood Springs, Colorado, 1997-2000. *Areas of concentration*: Natural Resource, Environmental, Land Use and Real Estate, Business, and Water Law, permitting, transactions, and litigation

Associate, Delaney and Balcomb, P.C., Glenwood Springs, Colorado, 1996-1997. *Areas of concentration*: natural resource, environmental, mining, land use, real estate, water law, permitting, transactions, and litigation

Curriculum Vitae

JOHN S. SANDERSON, Ph.D.

Work address:
The Nature Conservancy of Colorado
117 E. Mountain Ave., Suite 201
Fort Collins, CO 80524
Tel. 303-324-2924
jsanderson@tnc.org

Home address:
1012 Sunset Ave.
Fort Collins, CO 80521
Tel. 970-493-7827

EDUCATION

Ph.D. in Ecology, 2006
Graduate Degree Program in Ecology, Colorado State University, Fort Collins, CO 80521
Dissertation: Hydrology and conservation of intermountain wetlands

Master of Science in Botany/Field Naturalist Program, 1994
University of Vermont, Burlington, VT 05405

Bachelor of Science in Aeronautical and Astronautical Engineering, 1986
Purdue University, West Lafayette, IN 47907

WORK EXPERIENCE

Director of Conservation Science
The Nature Conservancy of Colorado, Boulder, CO 80302 Oct 2010 – Present

- Lead staff of eight scientists and GIS analysts to advance TNC's conservation work in land, water, forests and to address energy and climate change risks.
- Developed environmental metrics for Colorado River Basin Supply and Demand Study, and representing conservation science in 'Next Steps' forum.
- Consultant to Colorado Water Conservation Board in development of
    - Non-consumptive Toolbox, approved by CWCB July 2013
    - No/low regrets action plans for Interbasin Compact Committee
- Represent science to Board of Trustees, major donors, and partners.
- Raise >$750,000 annually for conservation work.

Water Program Director / Senior Freshwater Ecologist
The Nature Conservancy of Colorado, Boulder, CO 80302 June 2009 – Jan 2012

- Lead the water program for The Nature Conservancy of Colorado, including science, policy, development, outreach, and protection components.

- Working with Colorado and Yampa/White Basin Roundtables, lead the development of the Watershed Flow Evaluation Tool, a tool for assessing risk to fish and ecosystems resulting from water development and management.
- Lead technical aspects of Phase II of Colorado's Non-consumptive Needs Assessment, documenting status of river and wetland conservation projects.
- Supervised five conservation staff and manage $1.7M/yr for freshwater conservation.

Conservation Ecologist/Senior Freshwater Scientist
The Nature Conservancy of Colorado, Boulder, CO 80302 June 2005 – May 2009

- Provided technical support to Colorado Water Conservation Board in completing Phase I of the Non-consumptive needs assessment.
- Co-lead the Experiment in Shared Vision Planning with Fort Collins and Greeley.
- Technical lead on land protection projects placing conservation easements on >50,000 acres of critical wildlife habitat

PUBLICATIONS: PEER-REVIEWED

Wilding, T. K., J. S. Sanderson, D. M. Merritt, S. B. Rood and N. L. Poff. *In press*. Riparian responses to reduced flood flows: comparing and contrasting narrowleaf and broadleaf cottonwoods. Hydrological Sciences Journal

Wilding, T. K., B. Bledsoe, N. L. Poff and J. Sanderson. 2013. Predicting habitat response to flow using generalized habitat models for trout in Rocky Mountain streams. River Research and Applications *Early view* http://dx.doi.org/10.1002/rra.2678.

Kray, J. A., D. J. Cooper and J. S. Sanderson. 2012. Groundwater use by native plants in response to changes in precipitation in an intermountain basin. Journal of Arid Environments 83:25-34.

Sanderson, J. S., N. Rowan, T. Wilding, B. P. Bledsoe, W. J. Miller and N. L. Poff. 2012. Getting to scale with environmental flow assessment: the Watershed Flow Evaluation Tool. River Research and Applications 28:1369–1377.

Dauwalter, D. C., J. S. Sanderson, J. E. Williams and J. R. Sedell. 2011. Identification and Implementation of Native Fish Conservation Areas in the Upper Colorado River Basin. Fisheries 36:278-288.

Rathburn, S. L., D. M. Merritt, E. E. Wohl, J. S. Sanderson, and H. A. L. Knight. 2009. Characterizing environmental flows for maintenance of river ecosystems: North Fork Cache La Poudre River, Colorado, in James, L.A., S.L. Rathburn, and G.R. Whittecar, eds., Management and Restoration of Fluvial Systems with Broad Historical Changes

and Human Impacts, Geological Society of America Special Paper 451, p. 143-157, doi:10.1130/2009.2451(10)

PUBLICATIONS: OTHER

Sanderson, J., Bledsoe, B., Poff, L, Wilding, T., Miller, W. and Fey, N., 2012. Colorado Basin Roundtable Watershed Flow Evaluation Tool study. Prepared by CDM Smith for the Northwest Colorado Council of Governments.

Sanderson, J., Bledsoe, B., Poff, L., Wilding, T. and Fey, N., 2012. Yampa-White Basin Roundtable Watershed Flow Evaluation Tool study. Prepared by CDM Smith for The Nature Conservancy.

Lorie, M., Werick, B., and Sanderson, J. 2010. Collaborative modelling for water supply controversies in Colorado: Technical challenges and lessons learned. World Environmental and Water Resources Congress 2010: Challenges of Change - Proceedings of the World Environmental and Water Resources Congress 2010, pp. 2162-2172.

Werick, W., Lorie, M., and Sanderson, J. 2010. World Environmental and Water Resources Congress 2010: Challenges of Change - Proceedings of the World Environmental and Water Resources Congress 2010, pp. 2185-2193

Lorie, M., J. S. Sanderson, and B. Werick. 2010. Halligan-Seaman Shared Vision Planning An Experiment in Collaborating for Regulatory Decisions. Report to the Colorado Water Conservation Board, Fort Collins Utilities, Greeley Water and Sewer, and the Institute for Water Resources. Prepared by Resolution Planning, LLC, The Nature Conservancy of Colorado, and Werick Creative Solutions.

Dauwalter, D., J. Williams, and J. Sanderson. 2010. Native fish conservation in the Colorado River Basin. Report to the National Fish and Wildlife Foundation. Trout Unlimited and The Nature Conservancy of Colorado.

Sanderson, J. S. 2009. Quantifying non-consumptive needs in Colorado: the Watershed Flow Evaluation Tool. Colorado Water 26:2-4.

Camp Dressser & McKee Inc., B. P. Bledsoe, W. J. Miller, N. L. Poff, J. S. Sanderson and T. K. Wilding. 2009. Watershed Flow Evaluation Tool pilot study for Roaring Fork and Fountain Creek watersheds and site-specific quantification pilot study for Roaring Fork watershed (draft). Colorado Water Conservation Board, Denver, CO.

MARGARET WHITE
The Nature Conservancy

2424 Spruce Street
Boulder, CO 80302

Tel. (720) 974-7032
meg_white@tnc.org

EDUCATION

Ph.D.	Arizona State University	2011	Plant Biology
M.S.	University of California, Berkeley	2004	Environmental Planning
B.A.	University of Michigan	1998	Political/Environmental Science

RESEARCH EXPERTISE

Dr. White is an interdisciplinary scientist with expertise in riparian ecosystems, primarily in arid and semi-arid regions of western U.S.A. She has focused on understanding fluvial processes and flow ecology relationships across multiple spatial scales. She also specializes in water reuse, effluent-dominated and urban waterways, and environmental policy. Her research is often conducted in the applied context of riparian ecosystem restoration and management.

WORK EXPERIENCE

Healthy Rivers Fellow/ Freshwater Ecologist
The Nature Conservancy of Colorado, Boulder, CO — 02/2012 – Present

Ecologist/Model Reviewer
U.S. Army Corps of Engineers. – ERDC, Vicksburg, MS — 01/2011 - 01/2012

Restoration Scientist/Professor
Scottsdale Community College, Scottsdale, AZ — 08/2005 – 05/2012

Restoration Ecologist
U.S. Forest Service, Siuslaw National Forest, Waldport, OR — 05 - 08/2004

Biologist/Ecologist
U.S. Fish and Wildlife Service, Northwest Hawaiian Islands, HI — 09/2001 – 08/2002

Assistant Director
Center for Native and Urban Wildlife, Scottsdale, AZ — 01/2000 – 09/2001

Environmental Planner/GIS Analyst
Mosaic Analytical Planning, Scottsdale, AZ — 01/1998 – 01/2000

PUBLICATIONS, PEER-REVIEWED

White, M.S. and J.C. Stromberg. (*in review*) Nutrients and nitrophiles: effects of treated wastewater on dryland riparian plant communities. *Journal of Applied Ecology*.

White, M.S., D. White and J.C. Stromberg. (*in prep*) Integrating water resources: opportunities and constraints in using effluent for environmental flows. *Society & Natural Resources*.

White, M.S. and J.C. Stromberg. (*in prep)* Spatial and temporal patterns of effluent discharge

into waterways in the southwest. *Landscape Ecology.*

White, M.S. and J.C. Stromberg. (*in prep*) Environmental flows and the emergence of effluent-dominated riparian ecosystems in the southwestern United States. *Ecohydrology*.

Stromberg J.C., **M.S. White**, A.F. Hazelton, J.M. White, R.A. Fischer. March 2009. Ephemeral wetlands along a spatially intermittent river: temporal patterns of vegetation development. *Wetlands*. 29(1): 330-342.

Stromberg J.C., A.F. Hazelton and **M.S. White**. March 2009. Plant species richness in ephemeral and perennial reaches of a dryland river. *Biodiversity and Conservation*. 18(3): 663 – 677.

White, D. D., E.A. Corley, and **M.S. White**. 2008. Water managers' perceptions of the science-policy interface in Phoenix, Arizona: Implications for an emerging boundary organization. *Society & Natural Resources 21*(3), 1-14.

Stromberg J.C., S.J. Lite, R. Marler, C. Paradzick, P.B. Shafroth, D. Shorrock, **M.S. White**. 2007. Altered stream flow regimes and invasive plant species: the *Tamarix* case. *Global Ecology and Biogeography* 16: 381-393.

PUBLICATIONS, TECHNICAL REPORTS

Rock, C.M., K. Uhlman, S. Eden, F. Solop, S. Newell, P. Fox, J. Stromberg, and **M.S. White**. 2010. Status of Generation, Reuse and Recharge of Treated Wastewater in Arizona: Evaluation of Programs, Data Sources and Utilization Opportunities. Arizona Water Institute.

Stromberg J.C., **M.S. White**, J. White and D. Shorrock. November 2006. Technical Note: Influence of hydrologic connectivity on plant species diversity along southwestern rivers: implications for restoration. U.S. Army Corps of Engineers.

White, M.S., C. Gries, J. Whitman, D. VanDyke, S. Fox. October 2004. United States Forest Service Technical Report: The Lower Drift Creek Management Plan. USFS.

GRADUATE FELLOWSHIPS, GRANTS, AND AWARDS

2011 ASU School of Life Sciences Completion Research Grant ($10,000)
2007 - 2010 Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Fellowship ($110,000)
2009 – 2010 GPSA Travel Grant Award ($750)
2009 ASU University Graduate Fellowship ($2000)
2008 – 2009 Arizona Water Institute Grant ($49,930)
2005 – 2008 United States Army Corps of Engineers Multi-River Study Grant ($92,000)
2005 – 2006 NSF IGERT Associate in Urban Ecology ($2000)
2004 - 2007 ASU University Graduate Fellowship ($2000/year)
2004 Association of Landscape Architecture (ASLA) Certificate of Merit Award
2003 – 2004 Harry Shepard Scholar ($2000).
2002 – 2004 Farrand Fellow ($4000/year)

PROFESSIONAL ASSOCIATIONS

American Association for the Advancement of Science (AAAS)
Ecological Society of America (ESA)
Society for Ecological Restoration (SER)
International Association for Landscape Ecology (IALE)

Douglas M. Robotham

PROFESSIONAL EXPERIENCE

The Nature Conservancy, Colorado Field Office, Boulder, Colorado
Water Projects Director, January 2012 – present
Coordinate TNC's freshwater conservation efforts in four priority Colorado watersheds – the Yampa River Basin, the Dolores River Basin, the Poudre River Basin, and the Republican River Basin – by working closely with TNC's regional program managers and other non-governmental and governmental partners to identify and implement projects and associated public policy that conserve and sustain aquatic ecosystems in these watersheds. Lead TNC's efforts on development and implementation of environmentally beneficial policy adaptations and changes at state level.

Department of Natural Resources, State of Colorado, Denver, Colorado
Assistant Director for Lands, July 2008 – January 2012
Developed policy and provided management oversight to programs related to wildlife, state parks, state lands, and forest health within 1,600 employee agency with $250-plus million budget. Selected responsibilities included:

- Communicate and negotiate with federal resource management agency leaders, elected officials, and representatives of non-governmental constituent groups.

- As needed, represent DNR executive director on various gubernatorial boards and commissions, including Colorado State Land Board, Colorado Parks and Wildlife Commission, Board of Trustees of the Great Outdoors Colorado Trust Fund, and the Colorado Conservation Easement Oversight Commission.

- Recruit and maintain contact with members of citizen boards and commissions.

- Principal point of contact on behalf of DNR executive director for various special initiatives, including Governor's Forest Health Advisory Council, Forest Biomass Working Group and related wood biomass utilization efforts, Forest Restoration grant program (HB 1199), and Species Conservation Trust Fund and associated species and habitat planning and conservation efforts.

- Lead responsibility for negotiating various complex land conservation transactions on behalf of Colorado State Land Board.

Colorado Conservation Trust, Denver, Colorado
Deputy Director for Programs, April 2007 – June 2008
Responsible for delivering this innovative non-profit conservation intermediary's programs, including:

- Land conservation grants and program-related investments (PRIs).

- Recruitment, placement and funding of land conservation fellows.

- Strategic statewide land conservation planning in partnership with leading national and state conservation organizations (Keep it Colorado campaign).

- Statewide conservation finance and land conservation policy.

The Trust for Public Land, Denver, Colorado
Colorado State Director, July 1999 – March 2007
Responsible for providing overall vision, management, and leadership for the Colorado program of this national non-profit land conservation organization. Specific responsibilities included:

- *Management and Fundraising*. Managed staff based in Denver and Sante Fe offices engaged in all aspects of community-based land conservation, including communications and outreach, planning, public finance, private fundraising and conservation real estate transactions. Responsible for raising $1.7 million average annual operating budget and $10-20 million annually for capital purchases.

- *Board Development*. Built 12-member Colorado Board that included leaders from Colorado's civic, political and business communities.

- *Communications, Marketing and Outreach*. Responsible for educating diverse audiences about organizational mission and activities; developed strategic alliances with governments, NGOs, and businesses; represented organization to the media; and created new business and revenue generation opportunities.

- *Strategic Program Development*. Responsible for working with Colorado Advisory Board and diverse clientele to develop and refresh strategic plan and program for delivery of TPL's land conservation mission in Colorado.

Department of Natural Resources, State of Colorado, Denver, Colorado
Assistant Director for Water Policy, September 1993 – June 1999
Developed policy and provided overall direction to programs related to water, wetlands, water-related endangered species, and deployment of natural resource information management systems of 1,300 employee agency with $150-plus million budget. Selected responsibilities included:

- Co-lead Agency Negotiator, Platte River Basin Endangered Species Recovery Program

- Principal Agency Negotiator, *MOU with U.S. Department of the Interior Concerning Management of Colorado's Declining Native Species*

- Primary Agency Liaison, Yampa River Basin Water and Aquatic Wildlife Management Plan

- Manager, Governor's Front Range Water Forum and Metro Water Supply Investigation

The California Resources Agency, State of California, Sacramento, California
Special Assistant to the Secretary of Resources, March 1991 – August 1993
Provided staff support to Secretary for Resources on full range of natural resource issues, including endangered species management, forest management, geographic information systems coordination, water resources and wetlands. Selected responsibilities included:

- Principal staff, Governor's Water Policy Task Force
- Agency Liaison, San Francisco Bay Delta Management Team
- Principal staff, Governor's Statewide Wetlands Conservation Policy
- Co-manager, Sustainable Forestry Working Group

The World Wildlife Fund/Conservation Foundation, Washington, DC
Associate, RESOLVE, September 1990 – February 1991
Assisted principals of WWF/CF's program on mediation in projects involving ecosystem valuation methodologies, environmental risk assessment, transfer of conservation technologies to developing countries, and western water management conflict resolution.

EDUCATION

Yale University School of Forestry and Environmental Studies **May 1990**
Master of Environmental Studies

Middlebury College **May 1984**
Bachelor of Arts in American History

Peter Mueller
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Telluride, CO 81435
pmueller@tnc.org
970-728-5291 (office) 970-708-1368 (cell)

EDUCATION:

Harvard Graduate School of Education, Cambridge, MA
Ed.M. 2001, School Leadership Program, High School Principal Certification 2001

Colby College, Waterville, ME
B.A. Government, 1987

Foreign Study: Kenya, St. Lawrence University, January - May, 1987
Italy, Syracuse University, 1984 – 1985

The Lakeside School, Seattle, WA
Graduate, 1982

CERTIFICATION:

Principal, secondary, Colorado
Social Studies, grades sixth through twelve, Colorado

ADMINISTRATIVE and TEACHING EXPERIENCE:

The Nature Conservancy, Telluride, CO

North San Juans Project Director, 2007 – present
Conservationist - Direct land, river, and community based conservation programs in Southwest Colorado
Lead Conservancy's work in collaborative processes to change water management and land protections for the Dolores River
Lead the implementation of the $3.5 million dollar Dolores River Restoration Partnership's restoration goals on the Dolores River
Philanthropy - Assist the Conservancy's $250,000 annual fundraising in southwest Colorado

Telluride R-1 School District, Telluride, CO

Principal, Telluride Middle and High School, 2004-2007
Educational leader
Hire, train and evaluate a staff of forty full and part-time teachers, administrative assistants, and educational aides. Goal setting, developing professional development training, and guiding teachers to improve their instruction were central to my role as principal.

Connection to Parents and Community
Hosting parent "coffees", college admissions process, and athletic receptions to assist and cultivate support from parents are developed and led by my staff and I.

Financial oversight
Oversaw all middle and high school program budgets as well as work with our administrative team to identify short and long-term financial needs of the school.

Rocky Mountain Academy of Evergreen, Evergreen, CO

Director Kindergarten through eighth grade charter school, 2001-2004

Educational leader
Responsible for hiring, evaluating and guiding instruction for fourteen full-time teachers and eight part-time teachers. Evaluation process includes goal setting, and assisting teachers with the support they need to improve. Emphasis was placed on supporting teacher development with the intention to retain motivated and talented teachers.

Connection to Parents and Community
I wrote weekly administrative communication for our Friday Folders, and for *RMAE's Bulletin*, which highlight critical issues for parents and students. I also led weekly "coffees" for each grade level to inform parents about our school's goals and needs, as well as give parents an opportunity to express their concerns. Further, in the first and second years of the school's inception, I organized and led a Middle School Task Force to engage parents on the needs of our middle school.

Financial Oversight
As Director, I was responsible for working with the RMAE School Board Treasurer to develop and maintain the school's $2.0 million dollar annual budget. Responsibilities also included grant identification and writing. Overseeing grant spending was a significant task, as RMAE secured over one million dollars in private and federal grant monies in our first two years of operation.

Watertown High School, Watertown, MA

Principal Intern, 2000-2001
Work with the English Department Coordinator and teachers to adapt collaborative teaching strategies. Shadow the principal in meetings with students, faculty, assistant principals and superintendent. Served as the secretary of the School Leadership Team, which is comprised of department coordinators, principal and teacher leaders.

Colorado Rocky Mountain School, Carbondale, CO

Teacher, 1991-2000
Taught American Literature, African American Literature and World Geography. Used journals, free-writing, pre-reading and peer review to stimulate collaborative learning. Developed multicultural and environmental curricula.

Director of Outdoor Program, 1995-2000
Developed and administered four all-school outdoor trips. Trained and evaluated staff wilderness skills. Coordinated personnel, equipment and logistics of all wilderness trips.

Head Coach, 1991-2000
Coached climbing, cross-country running and competitive telemark skiing.
Cross-country team qualified for state in 1994, 1995, 1997, 1998.

Faculty Representative to the Board of Trustees, 1994-1996
Elected position to serve faculty needs, assist administration and report to the Board.
Administered the CRMS Head evaluation in 1995. Faculty representative for 1996 Head search.

Committees Served, 1991-2000
Faculty and Student Judicial Board, ACIS Teachers' Service, Sophomore and Senior Class Advisor, Direct Outdoor Committee, Diversity Committee

Kent Denver School, Denver, CO

Sixth Grade Teacher Intern, 1990-1991
Worked under the supervision of a master teacher. Taught English, social studies and math.
Advised ten students, coached boys and girls soccer and led middle school hut trip

OUTWARD BOUND AND CAMP EXPERIENCE:

Colorado Outward Bound School, Denver, CO

Course Director, 1991-2000
Administer 23-day and 14-day mountaineering expeditions for up to 40 students and 10 staff. Train and evaluate COBS instructors. Plan routes, food, and equipment. Coordinate itineraries with U.S. Forest Service.

Instructor, 1988-1991
Instructed mountain, river and management training courses in Colorado, Utah, California and Alaska

Hurricane Island Outward Bound, Yulee, FL

Instructor, 1989
Instructed 30-day STEP course for adjudicated youth down the Suwanee River

Camp Nor'wester, Lopez Island, WA

Director of Climbing Program, 1986 and 1987

ADDITIONAL EXPERIENCE:

Board of Trustees, Tenth Mountain Hut Association, 1999 - present
Fellow, National Endowment for the Humanities, 1996
Successful ascent and rescue on Mt. McKinley, Alaska, 1989, 1992
Correspondent for the Times News paper, Twin Falls, Idaho, 1987-1988
Volunteer for the Child Welfare Society of Kenya, Kenya, 1985
Varsity cross-country and track, Colby College, 1983-1986
Medical volunteer with Amigos De Las Americas, Honduras, 1981

REFERENCES:

April Montgomery, CWCB Board, Project Director, Telluride Foundation, 970-729-1969
Mike Preston, General Manager, Dolores Water Conservancy District, 970-565-7562
David Graf, Colorado Division of Parks and Wildlife, Water Specialist, 970-640-8343
Mary Rubadeau, Superintendent, Telluride Schools, 970-728-4377
Mike Novick, Treasurer, Rocky Mt. Academy of Evergreen, Board, 720-244-3376
Bruce Fitch, Executive Director, Breckenridge Outdoor Education Center, 720-497-2453
Andrew Menke, Head of School, New Hampton School, NH 603-677-3400

Kathleen Curry
54542 US Highway 50
Gunnison, CO 81230
970-209-5537 Cell
970-641-0699 Home
kathleencurry@montrose.net

Professional Experience

Owner, Tomichi Creek Natural Beef, Inc.,
Currently own and operate a small business retailing natural beef raised on our family ranch. Direct market and wholesale approximately 15,000 lbs annually to local customers. Manage processing, marketing, sales, scheduling, accounting and regulatory compliance.

State Legislator, House of Representatives, 2004-2010
Served as the Chairman of the State House Committee on Agriculture, Livestock and Natural Resources, member of the Local Government and Appropriations committees. Sponsored legislation supporting the agricultural industry, protecting Western Slope water resources, enhancing water supply development, providing species protection, supporting the livestock industry and funding the Division of Water Resources and Department of Agriculture. Managed legislative and campaign staff, conducted fundraising, implemented public outreach efforts, ran constituent services. Served as Speaker Pro-Tem, served as the first Unaffiliated (Independent) legislator in the state's history.

Adjunct Professor, Western State College, 2008-2009
Developed and taught a course in State and Local Government in the political science department at Western State College.

Manager, Upper Gunnison River Water Conservancy District, 1998-2004
Managed staff, developed budgets, managed revenue sources. Developed intergovernmental agreements with the US Bureau of Reclamation and other water entities, represented the district in various water right proceedings, sought supplemental water supplies. Served as the district's election officer, developed the annual property tax mill levy documentation, and worked with other water and local government entities throughout the district. Worked on project development, finalized protective agreements with downstream users to protect upstream users, initiated field research to measure consumptive use needs of high altitude forage crops.

Kathleen Curry
Professional Experience (continued)

Colorado Water Conservation Board, Water Resources Specialist, 1996-1998
Worked in the Instream Flow group. Responsible for protecting the state's instream flow filings, filed statements of opposition, analyzed project impacts, developed conditions and settlement documents.

Wright Water Engineers, 1994-1996
Developed augmentation plans, analyzed water supply needs, participated in legal proceedings, served a variety of municipal and private clients.

Education

B.S. Agricultural and Resource Economics, University of Massachusetts, Amherst, MA, 1982
M.S., Water Resources Management, Colorado State University, Fort Collins, CO, 1995, Specialty in Agricultural Water Use.

Volunteer Experience

Gunnison Confidential Advocacy Center, Board of Directors
Gunnison Cattlewomen's Association, Member
Gunnison Stockgrowers Association, Member
Colorado Cattleman's Association, Member
RCALF USA, Member

Family

Married to Greg Peterson, owner of Peterson Cattle and Hay, Inc.
Mother of two sons, Joe (20) and Bill (17)

Hannah Holm

1800 North Third Street, Grand Junction, CO 81501 *970-683-1133* *hholm@coloradomesa.edu*

Skills

Experienced analyst of water, land-use, economic development and workforce policy issues; Skilled event organizer; Successful grant writer; Experienced writer and speaker on diverse topics for diverse audiences; Skilled meeting facilitator; Fluent in Spanish and Portuguese; Proficient in Word, Excel, Access, Macromedia Contribute and PowerPoint.

Education

1997 **M.S. in Community & Regional Planning, M.A. in Latin American Studies** (joint degree)
University of Texas at Austin

1992 **B.A. in Anthropology and International Studies** (magna cum laude)
Macalester College, St. Paul, MN

Additional courses: **Stormwater Management** During Construction and Stormwater Management Plan Preparation, Grand Junction 7/08; **Sustainable Resource Management**, Bucknell University, Spring 2004; **Creative Nonfiction**, Bucknell University, Fall 2003.

Experience

Coordinator, Water Center at Colorado Mesa University 5/11 - present
Grand Junction, CO
The Water Center promotes education, research and dialogue to address the water challenges facing the Upper Colorado River Basin.

- Established the Center in consultation with the CMU Faculty Director and Advisory Council.
- Organize educational seminars, courses, tours, conferences and community presentations.
- Write and manage grants.
- Write newspaper articles, newsletters, press releases and maintain website and social media pages.
- Serve as a resource on water issues for the media and water stakeholders.
- Cultivate new relationships and opportunities for the Water Center to fulfill its mission.

Consultant 10/08 – 5/11
Grand Junction, CO

- Lower Gunnison Wild & Scenic Stakeholder group: Served as co-facilitator, took notes, wrote reports.
- Grand Valley/ Lower Gunnison Wise Water Use Council: Prepared agendas, announcements, minutes and did follow-up on projects.
- Mesa County Water Association: wrote grant proposals, developed business plan, organized events and staffed board meetings.
- Western Colorado Congress: wrote successful grant proposals.

Water Organizer, Western Colorado Congress 2/07 – 9/08
Grand Junction, CO
Western Colorado Congress is a grass-roots organization that works to create healthy, sustainable communities.

- Mobilized members and water providers to comment on state oil and gas rulemaking and state and federal legislative proposals.
- Coordinated events on drinking water and riparian zone protection.

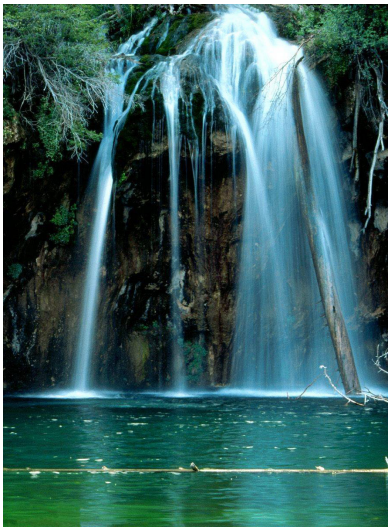
Freelance Writer/ Consultant 8/03 – 1/07
Lewisburg, PA
- Bucknell University: Prepared "Report on the Feasibility of Establishing a Susquehanna Watershed Institute at Bucknell University;" Coordinated a conference on the Upper Susquehanna Watershed 9/23/06; wrote conference report.
- Keystone Research Center (PA): Wrote case studies of joint labor-management workforce development initiatives.
- *Daily Item* Newspaper: Wrote human interest and outdoor recreation articles for a general audience.

Research Director 8/02 – 7/03; **Research Consultant** 8/03 – 8/05
Service Employees International Union (SEIU) – Pennsylvania Disability Services Campaign
Pittsburgh, PA and Lewisburg, PA
This campaign sought to unite workers with consumers, advocates, and providers to improve supports for people with disabilities.
- Researched structure and funding of disability services.
- Co-coordinated and staffed stakeholder discussion groups.
- Drafted policy proposals and created presentations on the workforce crisis in disability services.
- Wrote successful grant applications.

Policy Analyst, Three Rivers Workforce Investment Board (TRWIB) 8/00 – 7/02
Pittsburgh, PA
The TRWIB oversees federally-funded workforce development programs and promotes regional workforce development initiatives.
- Wrote successful applications for four competitive grants totaling over $1 million.
- Researched legislative issues related to workforce development.
- Co-staffed full board of 60 appointed members; primary staff to Workforce Environment Committee, which focused on transportation, childcare, healthcare, and housing barriers to work.

Research Assistant for Environmental Issues, Research Division, NC General Assembly 6/98 – 7/00
Raleigh, NC
The Research Division provides staff support for the House and the Senate, Democrats and Republicans in the North Carolina General Assembly.
- Co-staffed legislative committees and stakeholder groups on environmental issues, small family farm preservation, and "Smart Growth." Duties included summarizing bills, drafting bills, writing reports.
- Conducted research for legislators. Topics included growth management, water quality protection, and coastal development rules.
- Developed and maintained databases to track proposed legislation, research requests, and reports received by committees.

Program Associate, Institute for Agriculture & Trade Policy 8/92 – 2/94
Minneapolis, MN
The Institute for Agriculture & Trade Policy focuses on sustainable agriculture and trade relations.
- Wrote articles and weekly bulletins on economic integration in the Americas.
- Coordinated a "Citizen Dialogue" on the North American Free Trade Agreement and US agriculture, wrote meeting report.
- Coordinated US and Canadian delegations to meetings in Mexico on sustainable agriculture and forestry.



Appendix

SGM Team's Project Experience Tables

RELEVANT PROJECT EXPERIENCE

Project Title/ Client Name/Reference	Year	Project Description
Water Supply Planning and Conservation Studies		
Energy Development Water Needs Assessment (Phase I Report) **Colorado, Yampa and White River Basin Roundtables** Jim Pokrandt, Colorado River Basin Roundtable Chairman 970-945-8522	2008	Angie Fowler, while with URS Corp., conducted the Phase I Energy Development Water Needs Assessment Study for the Colorado, Yampa and White River Basins. The study was conducted to support the Consumptive and Non-Consumptive Needs Studies for those basins in conjunction with the Statewide Water Supply Initiative. The study included research of existing documentation on energy development, scenario definition, demand impacts estimates, summary of water rights, and study recommendations.
Rushing Rivers Project **Western Resource Advocates** Drew Beckwith, Water Policy Manger 720-763-3729	2011	SGM conducted the Rushing Rivers Project investigation supported by Western Resource Advocates in an effort to identify the feasibility of using municipal water conservation savings to enhance stream flows in local waterways. The investigation included interviews and research into potential candidate communities on Colorado's western slope and development and application of a screening process to prioritize those communities. The deliverable included a ranked list of communities for "next-step" actions.
Assessment of the Potential to Benefit Instream Flows Through Agricultural Water Efficiency Programs and Water Rights Transfers by Colorado Western Slope Municipalities **Western Resource Advocates** Drew Beckwith, Water Policy Manager 720-763-3729	2012	In follow up to the Rushing Rivers Project, SGM, supported by Western Resource Advocates, conducted a secondary investigation focusing on municipal water providers that hold irrigation-decreed water rights. The investigation also ranked best-fit water providers based on their water rights' ability to impact local waterways, the presence of an existing instream flow program, the status of the stream reach as impaired, the waterways' non-consumptive needs and the presence of local watershed group or community support.
Water Conservation Plan Development and Implementation **City of Rifle** Dick Duessen, Utility Director 970-665-6557	2009 - current	In 2009, SGM worked with City of Rifle staff as well as community stakeholders groups to develop a CWCB-approved municipal water conservation plan. Subsequently, SGM then continued that collaborative effort to conduct the implementation of the Water Conservation Plan. Implementation included measures both within the City's organization and through customer support projects and outreach efforts.
Water Conservation Plan **Snowmass Water and Sanitation District** Kit Hamby, District Manager 970-923-2056	2013 - current	In 2013, SGM was hired by the board of Snowmass Water and Sanitation District to play the role of District Engineer. Among the SWSD's highest priority projects was that of completion of its Water Conservation Plan. The plan was initiated primarily by SWSD staff; SGM has been working with staff to bring the plan into compliance with CWCB's new guidance documents and is providing technical support for demand analysis and program impact estimation.
Selected Water System Planning Projects		
Water Master Plan Update **Eagle River Water and Sanitation District (ERWSD)** Todd Fessenden, Operations Director 970-477-5471	2007 - 2008	SGM completed an original water infrastructure master plan for ERWSD's Vail water system in 2003. Faced with a development surge in the Vail valley in 2007, ERWSD looked again to SGM, this time to update the plan. SGM collaborated with Town of Vail staff to develop water demand projections that anticipated 30% growth over a 5- to 10-year period. ERWSD's Vail water system is extensive – it includes 7 production wells, a surface water treatment plant, 9 pressure zones, 5 booster pump stations, and 11 water storage tanks. The system's long, linear water transmission backbone with the primary production sources concentrated at one end creates unique hydraulic and operational challenges. SGM recommended that a comprehensive hydrant flow testing program be executed to calibrate the existing water model, which SGM built in 2003; this yielded an accurate tool to assess system hydraulic performance under the future demand conditions. SGM planned and executed the field tests, updated and calibrated the model, and developed and analyzed system infrastructure options using static and dynamic model runs. The analysis included development of planning-level cost estimates. SGM recommended a strategy to expand production capacity using wells to increase service reliability, and allow deferment of construction of a costly new surface water treatment facility. ERWSD later retained SGM to design pumping facility improvements recommended in the plan as well as to evaluate a number of system operational issues and make recommendations to resolve them.
Water Master Plan Update **Upper Eagle Regional Water Authority (UERWA)** Todd Fessenden, Operations Director 970-477-5471	2008 - 2009	In 2008, UERWA/ ERWSD the water provider for Cordillera, Edwards and Avon contracted SGM to conduct a system-wide water master plan update. Each area within the UERWA's service boundaries proved to have unique challenges associated with hydraulic balancing, water quality, future production shortfalls and conveyance mechanisms. SGM updated and used each area's hydraulic model to make recommendations to solve the various challenges faced by each sub-area. SGM provided a prioritized list of capital improvement projects and estimated planning level costs to help guide the UERWA/ERWSD through upcoming budget, planning and construction seasons. SGM continues to support UERWA/ERWSD as they embark on detailed design of each of the master-plan recommended projects and gives insight into additional hydraulic, infrastructure and water/wastewater plant challenges that arise.
Water Master Plan	2010 -	During this project SGM evaluated the Town's potable and secondary irrigation water systems from source to tap. This included review, analysis and recommendations related to

RELEVANT PROJECT EXPERIENCE

Town of Granby Rich Schroer, Water Manager 970-531-8865	2011	water rights/resources, raw water storage and delivery, raw and treated water quality, water production and treatment, regulatory compliance and finished water delivery and storage. SGM developed water demand projections, created and evaluated multiple system-wide infrastructure planning options, and worked with staff to zero-in on the elements of a customized 10-year water system CIP to address multiple interrelated system shortcomings, including performance and asset condition/lifespan issues.
Water Master Plan **Mid-Valley Metropolitan District** Bill Reynolds, Manager 970-665-6557	2008 - 2011	SGM has served Mid-Valley Metropolitan District (MVMD) since working with various stakeholders on its formation. MVMD provides water and wastewater service to a large swath of the middle Roaring Fork Valley between the towns of Basalt and Carbondale, Colorado. SGM built the MVMD water system model, and in 2008, updated and calibrated it to prepare it for use in long-range planning. SGM identified a number of recommended system improvements, including a strategically-located new production well to meet growing demands and solve a hydraulic imbalance in the system. MVMD subsequently hired SGM to site the well and design and oversee construction of the well and associated wellhouse and transmission line.
Water System Master Plan **Roaring Fork Water & Sanitation District** Tonya Uren, District Manager 970-945-2144	2007	SGM developed a comprehensive water system master plan for the Roaring Fork Water and Sanitation District located in Glenwood Springs, CO. SGM projected future development by working closely with the District staff and the development community. SGM then projected future associated water demands. SGM updated and calibrated the District's hydraulic model, analyzed distribution system infrastructure, evaluated the District's groundwater production facilities' ability to meet future demands. SGM also analyzed the District's storage facilities. Recommendations and costs for water infrastructure were developed.
Water Master Plan **Town of Buena Vista**	2005 - 2006	SGM developed a comprehensive water system master plan for the Town of Buena Vista. SGM projected future development and water demands, updated and calibrated the Town's hydraulic model, analyzed distribution system infrastructure, evaluated the Town's surface water and groundwater production facilities' ability to meet future demands and new regulations, and evaluated the adequacy of the Town's existing water rights. Recommendations and costs for water supply, treatment, and distribution system infrastructure development were developed. SGM strongly recommended that the Town work to control the area recharging a valuable infiltration gallery classified as a true groundwater and develop new Arkansas River water supplies.
Water Master Plan **Town of Basalt** Bentley Henderson, Public Works Director 970-987-4965	2006	SGM developed a comprehensive water system master plan for the Town of Basalt. SGM projected future development (and water demands) by working closely with the Town's planning department. SGM then updated and calibrated the Town's hydraulic model, analyzed distribution system infrastructure, and evaluated the Town's surface water and groundwater production facilities' ability to meet future demands. SGM also analyzed the Town's water storage facilities and recommended future water infrastructure improvements to address fire flow, storage, and water quality concerns.
Water System Master Planning **City of Rifle** John Hier, City Manager 970-625-6266	2005 - 2009	SGM's 2006 *Water Business Plan* and subsequent engineering support to implement recommended improvements have helped the City of Rifle to begin transforming its water system. SGM's plan evaluated all aspects of the City's water system infrastructure, water quality, and operations. SGM's recommendations have led to the City rehabilitating an old 500-kgal water storage tank, making many water line improvements, evaluating riverbank filtration as an alternative water supply, conducting a water quality monitoring and RO pilot study, planning a unidirectional flushing program, preparing and implementing a water conservation plan, and beginning design of a new WTP – all efforts SGM has assisted the City with. SGM also prepared SOPs and an initial water system asset inventory. The master plan has also served the City well in reviewing new developments.
Public Education & Outreach		
Colorado and Gunnison Basin Roundtable Education projects Jim Pokrandt, Colorado River Basin Roundtable Chairman 970-945-8522	2012-2014	Hannah was responsible for coordinating and producing media stories, community presentations and an electronic newsletter to raise awareness about water needs, uses and policies in our region. Media clips can be found at: http://www.coloradomesa.edu/watercenter/RoundtableEducationProject.html (some of the older links need to be updated b/c the GJ Free Press and Delta Independent both changed their websites during the project).
Water Seminars Max Schmidt, Orchard Mesa Irrigation District District Manager 970-464-7885	ongoing	Hannah was responsible for organizing and promoting seminars for the Water Center at CMU and, prior, the Mesa County Water Association.
Public Education & Outreach Dr. Gigi Richard, Professor of Geology Colorado Mesa University 970-248-1689	ongoing	Hannah was responsible for using social media (facebook, twitter, Linked In) to expand the reach of media articles, newsletters and event announcements.
Legal Colorado Water Policy		
Wide Array of Public and Private Clients	ongoing	Karl represents various public and private entities within the Colorado River Basin assisting them with acquiring new water rights and protecting existing water rights. When representing public entities one of Karl's primary functions is to help develop the legal framework for long term reliable municipal water supplies. He is also active in developing and advising clients on water issues and policy at both the local and state level.
Colorado River Cooperative Agreement (CRCA)	ongoing	Karl represented several municipalities on the Middle River during the lengthy CRCA negotiations. In doing so Karl was responsible not only for the closed door negotiations but also the public outreach and education for those entities as the CRCA came to fruition.

RELEVANT PROJECT EXPERIENCE

Agricultural & Statewide Water Legislation		
State House (House District 61) and Candidate (revised district)	2004-2010	Kathleen gained a solid understanding of the hydrologic features and administration of the major tributaries to the Colorado, i.e. the Roaring Fork, Crystal, Frying Pan, Blue, Eagle, Gunnison, North Fork of the Gunnison, and the Uncompahgre Rivers during her tenure in the State House. She represented portions of Garfield, and Eagle counties, all of Gunnison and Hinsdale and Pitkin counties, and spent months campaigning in Lake, Summit, and Delta counties. One of her many responsibilities were to understand how the system worked so that she could represent the interests of the people in these drainages as well as effectively protect the resources. During her time in the State House she served as Chair of the House Committee on Agriculture and Natural Resources and served on the Interim Legislative Water Resources Committee. also led water-related legislation; ran and passed bills that dealt with protecting west slope water resources, compact compliance, funding water commissioners, protecting agricultural water use, allowing for temporary instream-flow arrangements, storage enhancement, funding water projects, establishing the water supply reserve account, managing groundwater resources, establishing a legal framework for oil and gas-related water use, integrating land use and water supply management, and protecting recreational water use.
Upper Gunnison River Water Conservancy District, Manager	1998-2004	Kathleen was involved in a number of water supply and management projects in the Gunnison River Basin. Her tenure with the UGRWCD spanned the 2002 drought which required her to spend considerable amount of time working to address water supply shortages in the basin. As manager she successfully pursued the completion of the Aspinall Unit Subordination Agreement, worked to protect the upper basin from downstream calls by participating in the negotiation of various supply exchanges, represented the district's interests in the endangered fish recovery program discussions, worked closely with the Colorado River Water Conservation District staff on numerous water management projects including flow management goals to meet the Redlands Canal requirements, and coordinated water quality monitoring projects throughout the basin.
Water Related Communication & Publications		
Colorado River Cooperative Agreement, News Articles, Summit Daily News	**2010-2011**	Janice was responsible for understanding and conveying the Colorado River Cooperative Agreement and its relevancy to a local audience. A sample clip can be found at: http://www.summitdaily.com/article/20110504/NEWS/110509914
Pennsylvania Mine/Snake River Watershed Reclamation, News Articles, Summit Daily News	**2010-2012**	Janice worked with the Snake River Watershed Group and myriad associated interests to simplify complex scientific and political themes as reclamation ramped up and got underway at the Pennsylvania Mine site. A sample clip can be found at: http://www.summitdaily.com/article/20110725/NEWS/110729880
"Water and its Relationship to the Economies of Headwaters Counties," Northwest Colorado Council of Governments, News Articles, Summit Daily News	**2012**	Janice synthesized a complete study and relayed its intricacies in an easy-to-read format for a general readership. A sample clip can be found at: http://www.summitdaily.com/news/5113669-113/regional-environment-leadstories-localivg
EPA Clean Water Act, News Articles, Summit Daily News	**2011**	The definition of "US Waterway" and its subsequent parameters for EPA protections came under scrutiny. Janice was responsible for reading and understanding the relevant section of the act, gathering data about the nuances of the debate and conveying the upheaval to readership. A sample clip can be found at: http://www.summitdaily.com/article/20110729/NEWS/110729792

Appendix

Project Schedule & Fees

Colorado Basin Implementation Plan Schedule

PHASES AND TASKS	2013 August	September	October	November	December	2014 January	February	March	April	May	June	July	August	September	October	November	December
Notice-to-Proceed (August 9, 2013)	★																
1.0 Public Education & Outreach (PEO) Plan																	
1.1 Prepare Draft Education Action Plan (EAP)																	
1.2 Present Draft EAP to CRBT	◇																
1.3 Finalize EAP (work with CBRT members to incorporate input)		◆															
1.4 Implement CRBT-Approved EAP Plan																	
1.4.1 6 Town Hall Meetings (1 in each County); 2 times throughout the project (multiple meetings will occur in a week)		★		★													
1.4.2 Develop 4 press releases																	
1.4.3 Develop 4 articles for publication in various news publications			★			★				★		★					
1.4.4 Coordinate with local organizations to publicize Town Hall meetings																	
1.5 Form and coordinate with 4 Project Leadership Teams (non-consumptive, consumptive, agriculture, policy) - will meet before CBRT meetings																	
2.0 Project Kickoff Meeting/Finalize Scope of Work and Approach																	
2.1 Conduct Project Kickoff Meeting with CBRT Executive Committee	★																
2.1.1 Prepare and Participate in CBRT August 26, 2013 Meeting																	
2.1.2 Prepare and Participate in CBRT September 23, 2013 Meeting (Final Scope of Work and Approach)																	
2.2 Final Scope of Work and Approach Preparation (work with Executive Committee to incorporate input)		◆															
3.0 Key Document Review																	
3.1 Conduct Research/Review																	
3.2 Develop Draft Summary of Document Review		◇															
Present Draft to CBRT		◇															
3.3 Finalize Document/Present Final Document to CBRT			◆														
4.0 Project Coordination & Project Management																	
4.2 CBRT Communication and Coordination																	
Roundtable Meetings (monthly progress reports)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		
4.1 CWCB Communication and Coordination																	
4.3 Set up internal project management resources																	
4.4 Manage monthly invoices (including subs)																	
4.5 Track progress/budget/schedule - reports to CBRT Executive Committee																	
4.6 Coordinate subconsultants																	
4.7 Miscellaneous internal and external communications and coordination)																	
4.8 Miscellaneous project communications (CBRT Executive Committee communication and coordination)																	
4.9 Develop Baseline Schedule	★																
4.10 Optional Meetings																	
IBCC Meetings (assume 2 in Denver)																	
CWCB Board Meetings (assume 2 in Denver)																	
5.0 Basin Implementation Plan																	
5.1 **Phase I Draft Document Preparation**																	
Draft-1 Document Preparation																	
Basin Goals and Measurable Outcomes																	
Draft-1 Sections 1-3 to CBRT (October 15, 2013)		◇	◆														
2.1 Evaluate Non-Consumptive Needs																	
2.2 Evaluate Consumptive Needs																	
3.1 Current Basin Water Operations and Hyrology																	
3.2 Water Management and Water Administration																	
3.3 Hydrologic Modeling Optional																	
3.4 Shortages Analysis																	
Draft-1 Sections 4-6 to CBRT (December 15, 2013)				◇	◆												
4.2 New Multi Purpose Cooperative and Regional Projects																	
4.3 M & I Projects and Methods																	
4.4 Agricultural Projects and Methods																	
4.5 Non-Consumpitive Projects and Methods																	
4.6 Interbasin Projects and Methods. Optional																	
5.0 Implementation Strategies																	
6.0 How The Plan Meets the Roundtables Goals.																	
Presentation of Draft to CBRT Executive Committee (late December 2013)					★												
5.2 **Phase II Draft Document Preparation -Incorporate Executive Committee Review Feedback**																	
Draft 2 Document Preparation (work with Executive Committee to incorporate input)																	
Presentation of Draft to CBRT All Members (January 27, 2014)						★											
5.3 **Phase III Draft Document Preparation -Incorporate Full Member Review Feedback**																	
Draft 3 Document Preparation (work with all CBRT members to incorporate input)																	
Complete Draft Document to CBRT									★								
5.4 **Finalize Document**																	
CBRT Review Period												◇					
Final Document Preparation (work with CBRT members to incorporate final document input)																	
CBRT Approval (July 28, 2014)													★				
Final Document to CBRT/CWCB (September 15, 2014)														★			
6.0 Interbasin Reliance Report																	
Final Deliverable														★			

★ Colorado River Basin RFP Milestones

◇ Draft Deliverable

◆ Final Deliverable

Indicates Project Progress

Indicates CWCB Compilation for Colorado Water Plan

Colorado Basin Implementation Plan — SCHEDULE OF FEES

PHASES AND TASKS	SGM HOURS			SGM		SUBCONSULTANT COSTS						TASK TOTAL
	PM	PE	GIS	Subtotal of Hours	Design Cost	TNC	BWC	CMU	WRT	AGIC	LGL	
1.0 Public Education & Outreach (PEO) Plan												
1.1 Prepare Draft Education Action Plan (EAP)	4	4		8	$1,080			$400				$1,480
1.2 Present Draft EAP to CRBT	2			2	$300			$200				$500
1.3 Finalize EAP (work with CBRT members to incorporate input)	2	1		3	$420			$200				$620
1.4 Implement CRBT-Approved EAP Plan				0	$0							$0
1.4.1 6 Town Hall Meetings (1 in each County); 2 times throughout the project	40	32		72	$9,840			$1,500				$11,340
1.4.2 Develop 4 press releases		8	2	10	$1,140			$400				$1,540
1.4.3 Develop 4 articles for publication in various news publications	4	2	2	8	$1,020			$200				$1,220
1.4.4 Coordinate with local organizations to publicize Town Hall meetings	0	8	2	10	$1,140			$400		$500		$2,040
1.5 Coordinate with 4 Project Leadership Teams (non-consumptive, consumptive, agriculture, policy)	8	8		16	$2,160					$500		$2,660
Subtotal: Task 1	**60**	**63**	**6**	**129**	**$17,100**			**$3,300**		**$1,000**		**$21,400**
2.0 Project Kickoff Meeting/Finalize Scope of Work and Approach						$0						
2.1 Conduct Project Kickoff Meeting with CBRT Executive Committee	4			4	$600	$500					$1,000	$2,100
2.1.1 Prepare and Participate in CBRT August 26, 2013 Meeting				0	$0							$0
2.1.2 Prepare and Participate in CBRT September 23, 2013 Meeting (Final Scope of Work and Approach)	4	4		8	$1,080							$1,080
2.2 Finalize Project Scope of Work and Approach	8	8		16	$2,160							$2,160
2.2.1 Final Scope of Work and Approach Preparation (work with Executive Committee to incorporate input)	4	4		8	$1,080							$1,080
Subtotal: Task 2	**20**	**16**		**36**	**$4,920**	**$500**					**$1,000**	**$6,420**
3.0 Key Document Review												
3.1 Conduct Research/Review	40	24		64	$8,880	$500						$9,380
3.2 Develop Draft Summary of Document Review	12	8		20	$2,760							$2,760
Present Draft to CBRT	4	4		8	$1,080							$1,080
3.3 Finalize Document	6	6		12	$1,620							$1,620
Present Final Document to CBRT	2	2		4	$540							$540
Subtotal: Task 3	**64**	**44**		**108**	**$14,880**	**$500**						**$15,380**
4.0 Project Coordination & Project Management												
4.2 CBRT Communication and Coordination												$0
Roundtable Meetings (monthly progress reports)	8	8		16	$2,160	$1,000					$1,000	$4,160
Monthly Status Reports	8	6		14	$1,920							$1,920
Town Hall Meetings (see Public Education Task 1.0 above)				0	$0							$0
4.1 CWCB Communication and Coordination	4	8		12	$1,560	$500						$2,060
4.3 Set up internal project management resources	2	8		10	$1,260							$1,260
4.4 Manage monthly invoices (including subs)		12		12	$1,440							$1,440
4.5 Track progress/budget/schedule - reports to CBRT Executive Committee		12		12	$1,440							$1,440
4.6 Coordinate subconsultants	12	40		52	$6,600							$6,600
4.7 Miscellaneous internal and external communications and coordination)	4	8		12	$1,560							$1,560
4.8 Miscellaneous project communications (CBRT Executive Committee communication and coordination)	24			24	$3,600							$3,600
4.9 Develop Baseline Schedule		16		16	$1,920							$1,920
4.10 Optional Meetings				0	$0							$0
IBCC Meetings (assume 2 in Denver)	8			8	$1,200							$1,200
CWCB Board Meetings (assume 2 in Denver)	8			8	$1,200							$1,200
Subtotal: Task 4	**78**	**118**		**196**	**$25,860**	**$1,500**					**$1,000**	**$28,360**

Colorado Basin Implementation Plan — SCHEDULE OF FEES

PHASES AND TASKS	SGM HOURS PM	PE	GIS	SGM Subtotal of Hours	Design Cost	SUBCONSULTANT COSTS TNC	BWC	CMU	WRT	AGIC	LGL	TASK TOTAL
5.0 Basin Implementation Plan												
5.1 **Phase I Draft Document Preparation**												$0
Draft-1 Document Preparation												$0
Basin Goals and Measurable Outcomes	20	4		24	$3,480	$1,000				$1,000		$5,480
Draft-1 Sections 1-3 to CBRT			8	8	$720							$720
2.1 Evaluate Non-Consumptive Needs	24			24	$3,600	$2,000						$5,600
2.2 Evaluate Consumptive Needs	50	36		86	$11,820					$1,000		$12,820
3.1 Current Basin Water Operations and Hyrology	20	6		26	$3,720						$4,000	$7,720
3.2 Water Management and Water Administration	20	6		26	$3,720						$3,000	$6,720
3.3 Hydrologic Modeling Optional				0	$0							$0
3.4 Shortages Analysis	12	4		16	$2,280							$2,280
Draft-1 Sections 4-6 to CBRT			8	8	$720							$720
4.2 New Multi Purpose Cooperative and Regional Projects	24			24	$3,600	$2,000					$2,000	$7,600
4.3 M & I Projects and Methods	40	24		64	$8,880							$8,880
4.4 Agricultural Projects and Methods				0	$0					$3,500		$3,500
4.5 Non-Consumpitive Projects and Methods				0	$0	$2,000						$2,000
4.6 Interbasin Projects and Methods. Optional				0	$0						$3,000	$3,000
5.0 Implementation Strategies	60	36		96	$13,320						$3,000	$16,320
6.0 How The Plan Meets the Roundtables Goals.	16	8		24	$3,360							$3,360
Presentation of Draft to CBRT Executive Committee	6	4		10	$1,380	$500					$1,000	$2,880
5.2 **Phase II Draft Document Preparation -Incorporate Executive Committee Review Feedback**				0	$0	$500			$1,360			$1,860
Draft 2 Document Preparation (work with Executive Committee to incorporate input)	40	20		60	$8,400							$8,400
Presentation of Draft to CBRT All Members	4	4		8	$1,080							$1,080
5.3 **Phase III Draft Document Preparation -Incorporate Full Member Review Feedback**				0	$0				$1,360			$1,360
Draft 3 Document Preparation (work with all CBRT members to incorporate input)	40	24		64	$8,880	$500						$9,380
Complete Draft Document to CBRT				0								$0
5.4 **Finalize Document**			8	8	$720							$720
CBRT Review Period				0	$0							$0
Final Document Preparation (work with CBRT members to incorporate final document input)				0	$0				$1,500			$1,500
CBRT Approval				0	$0							$0
Final Document to CBRT/CWCB	20	20		40	$5,400							$5,400
Subtotal: Task 5	**396**	**196**	**24**	**616**	**$85,080**	**$8,500**			**$4,220**	**$5,500**	**$16,000**	**$119,300**
6.0 Interbasin Reliance Report												
Final Deliverable	40	20		60	$8,400							$8,400
Subtotal: Task 6	**40**	**20**		**60**	**$8,400**							**$8,400**
TOTAL: Tasks 1 - 6	**658**	**457**	**30**	**1145**	**$156,240**	**$11,000**	$0	**$3,300**	**$4,220**	**$6,500**	**$18,000**	**$199,260**

Appendix

Letters of Commendation

WESTERN RESOURCE
ADVOCATES

August 2, 2013

Jim Pokrandt: Chair, Colorado Basin Roundtable
c/o Colorado River Water Conservation District
P.O. Box 1120
Glenwood Springs, CO 81602

Re: Recommendation for SGM to complete the Colorado Basin Roundtable's Basin Implementation Plan

Dear Mr. Pokrandt,

Western Resource Advocates (WRA) is a solution-oriented non-profit conservation organization with 15 years of experience on river and water issues throughout the West. Our team of attorneys, engineers, and policy analysts has found many collaborative ways to improve water management, including on the Colorado River and its major tributaries. WRA staff also has significant experience working on technical aspects of the Statewide Water Supply Initiative, with members of the Inter-Basin Compact Committee, and with various Basin Roundtables, developing proactive approaches for meeting our future water needs while protecting our rivers and the vibrant recreation, environment, and local economies they support.

We enthusiastically recommend Schmueser Gordon Meyer, Inc. (SGM) to complete your Basin Implementation Plan (BIP). We have worked closely with SGM staff and feel they are extremely well-qualified to undertake the research, analysis, facilitation and other duties your BIP will require. They are very familiar with water issues and well-connected throughout the state, especially in the Colorado River Basin. In the past two years, we hired SGM to complete two assessments, to identify top candidates for municipal and agricultural conservation programs. SGM completed each phase in a timely manner and as outlined. They were accountable and responsive to our feedback, provided frequent status updates, and went beyond their budgeted work to ensure delivery of a superb end product. Their work reflects a nuanced understanding of Colorado water law and water management as well as access to key staff and leaders in many West Slope communities. They were able to sort and prioritize robust quantitative data with qualitative metrics to generate clear, concise, and powerful reports.

We believe SGM can provide the Colorado Basin Roundtable a BIP it can be proud of, and one that will stand the test of time with useful information and insights that state agencies, water managers, and the general public can understand and work with for years to come.

Sincerely,

Bart P. Miller

Bart Miller, Water Program Director
Western Resource Advocates
2260 Baseline Road, Suite 200
Boulder, CO 80302

June ~~22~~, 2009

Louis Meyer, PE
President
Schmueser Gordon Meyer, Inc.
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601

Re: 2008 City of Rifle Water Conservation Plan Development by SGM, Inc

Dear Louis:

I would like to take this moment to convey the positive experiences that I and my staff have had collaborating with the SGM team on water conservation planning and implementation for the City of Rifle. Key to the success of this effort was the team's ability to:

- Recognize the unique drivers and key factors for successful municipal water conservation in Rifle and on the Western Slope, in general. Early identification by SGM of these unique and critical elements led to a customized plan for our system. This not only made gaining City Council approval effortless, but actually piqued their interest as well.
- Deliver a winning combination of water and public policy expertise. This positioned SGM well to help us identify, evaluate, prioritize, select, and consider the implementation of relevant water conservation programs and measures. Warren Swanson, the PM, was invaluable to the project's success as he was able to couple traditional supply-side engineering expertise with emerging demand-side management knowledge and tools.
- Effectively collaborate with City staff in multiple Departments to develop a plan that we believe can successfully be implemented and that will save the City and its water consumers' money over the long term.
- Weave together system-specific goals, priorities, and data into CWCB's recommended water conservation planning framework to quickly win CWCB approval.

SGM began its work by developing a successful water conservation planning grant application to the Colorado Water Conservation Board (CWCB), which funded 75% of the plan's cost. SGM then worked in partnership with City staff to produce the first CWCB-approved water conservation plan for a Western Slope water provider. Plan approval was received in the summer of 2008. The City subsequently retained SGM to assist with plan implementation. This has included application for additional CWCB grant funds and creation of a Water Services Advisory Board. This board of community leaders, water experts, and stakeholders is proving to be particularly helpful to me and my Department in understanding the community's capacity for, and interest in, conserving water.

We are continuing to have SGM assist us in our conservation efforts. Louis, I want you to know I would not hesitate to recommend or refer SGM's team to other municipalities in the future.

Sincerely,

Charles G. Stevens
Utility Director
City of Rifle
202 Railroad Avenue
Rifle, CO 81650
970-625-6272

Public Works Department
(970) 984-0669
Fax: (970) 984-0486
www.newcastlecolorado.org

Town of New Castle
PO Box 90
801 W Main Street
New Castle, CO 81647

To whom it may concern:

My name is John Wenzel and I am Public Works Director for the Town of New Castle. It is my pleasure to recommend the professional services of Schmueser Gordon Meyer. I have had the opportunity to work with their team for nearly seven years.

Schmueser Gordon Meyer is fully qualified and experienced in a wide range of municipal engineering, planning and management services. They have been engaged in a number of recent projects with the Town of New Castle. These projects include the construction of a new wastewater treatment facility, expansion of an existing water treatment plant, construction of a new public works facility, and construction of a new recreational park. Schmueser Gordon Meyer has also assisted the Town with obtaining over 1.1 million dollars of grant funding.

Schmueser Gordon Meyer is able to provide diverse in-house engineering support which permits unconstrained coordination of disciplines and results in an efficient design process. Their professional staff possesses the skills needed for prompt decision making, which assures timely and cost effective completion of our projects. Schmueser Gordon Meyer's knowledge and experience provides the Town with well thought out solutions that meet our budgetary and time constraints.

I highly recommend the services of Schmueser Gordon Meyer. Should you need any further information, please feel free to contact me.

Sincerely,

John Wenzel
Town of New Castle
Public Works Director

CITY OF GLENWOOD SPRINGS

ENGINEERING DEPARTMENT
101 WEST 8TH STREET
GLENWOOD SPRINGS, COLORADO 81601
PHONE: (970) 384-6435 FAX: (970) 945-8582

January 12, 2005

Schmueser Gordon Meyer, Inc
118 W. 6th Street, Suite 200
Glenwood Springs, CO
81601

To Whom It May Concern:

The City of Glenwood Springs has contracted with Schmueser Gordon Meyer, Inc. on a number of utility and road projects over the past fifteen years. They have always performed admirably in the position of design engineer, as well as when performing construction administration and observation services. We would not have any apprehension in recommending either the design services or the construction administration services of Schmueser Gordon Meyer, Inc. We feel they are a professional, well qualified, firm that is able to successfully meet the technical and budgetary requirements of most civil engineering projects.

Sincerely,

Steven P. Vanderleest, P.E.
Assistant Engineer
City of Glenwood Springs, Colorado
P- (970) 384-6438

Suzanne Stewart

From: manager rvr [rvrmanager@rvrcommunity.com]
Sent: Wednesday, February 08, 2012 5:27 PM
To: Louis Meyer
Subject: Referral...happy to revise if need be

My name is Ian Hause, I am currently serving as the Executive Director for the River Valley Ranch Master Association. During my 26 years in real estate acquisition, development and management I have served locally as the Director of Development for the Aspen Glen, Coryell Ranch and Midland Point communities. I have also served as Executive Board Member and District Administrator for the Roaring Fork Water and Sanitation District.

Throughout these tenures I have worked directly with Louis Meyer and the Schmueser, Gordon and Meyer Team (SGM). Each of these projects presented unique technical, environmental and political challenges. I have personally known and worked with Louis and the SGM Team since 1994 and would recommend them without hesitation.

It is my belief that there is no other firm on the western slope of Colorado that has the talent, experience, expertise, permanence, foresight and depth of SGM. I have competitively priced numerous firms for numerous tasks during my career and SGM's pricing has always been at or below market.

I have engaged SGM successfully for many years for due diligence, feasibility, civil engineering, surveying, resource analysis, construction administration and management, and construction inspections and certifications.

SGM is unique in their ability to analyze, plan and execute for both the near and long term. I look back at projects we implemented more than 15 years ago and I cannot find anything I would have, or could have, done differently as it relates to the services and guidance provided by Louis and his Team.

Again, I would immediately refer and highly recommend, without hesitation, Louis and the SGM Team to a friend, family member, client or associate.

February 13, 2012

Jay Harrington, Manager
Town of Carbondale
5121 Colorado Avenue
Carbondale, CO 81623

RE: SGM

Dear Jay: It is my understanding that the Town has put out a request for engineering services to qualified engineering firms. I would just like to put in a letter of support for Schmueser Gordon Meyer. While with the Town I had the experience of working with SGM when they provided the majority of engineering services to the Town. For most of that time my direct contact was Louis Meyer.

Louis, and the rest of the staff, always provided me (the planning department and the Town) timely and high quality professional services. They know the history and culture of the Town and of course have a key understanding of the infrastructure and its relative health and weaknesses. I feel it would be a shame to lose this history, knowledge and professionalism.

Most of my contact with Louis and staff was related to development issues. SGM provided timely reports and well founded analyses. They knew when it was appropriate to be flexible and when a strict line needed to be adhered to. They were practical and did not just blindly adherer to a code citation. They helped me think through technical items and reach a sound conclusion. And when SGM knew one of my deadlines was critical, it was always met; on time and in a professional manner.

During most of my tenure with the Town, I was a one man office. Louis and staff kept me up to speed on upcoming changes in general “best management practices” from the civil side to how upcoming state (and even federal mandates) may affect the Town in the long run. They helped make my job manageable when I could barely keep up. I hope you can give them full consideration as you move forward.

Please feel free to contact me if you wish to discuss any of my experiences with SGM. Good luck in your search.

Sincerely,

Mark Chain

811 Garfield Avenue Carbondale, CO 81623 Ph 970.963.0385 Fax 970.963.2916
mchain@sopris.net

February 8, 2012

Jay Harrington, Town Manager
Town of Carbondale
511 Colorado Avenue
Carbondale, CO 81623

Dear Jay,

I understand that you are in the process of evaluating different firms for your engineering services contract for the Town. I would like to strongly suggest that you select SGM Engineering. Louis Meyer has an extensive amount of experience being the Town Engineer for numerous western slope communities. More importantly, he has been directly involved with the Town of Carbondale for many years. He has invested a significant amount of time and energy in our community. He is a member of the Carbondale Rotary, a board member of AVLT, a board member of Valley View Hospital and has numerous employees who live in Carbondale. He is a leader in our community and his experience will allow him to properly advise Town staff on the issues affecting the infrastructure of our community.

I am not taking the writing of this reference letter, lightly. I would not be writing this unless I had a strong belief that SGM is the appropriate choice for the Town. I believe that SGM's experience and local presence are factors that you should strongly consider.

Louis and his firm are invested in Carbondale. They have a strong reputation and would be a great partner with the Town of Carbondale.

Thank you for your time and consideration.

Sincerely,

David R Weimer, Financial Advisor
Edward Jones
0326 Highway 133, Suite 110
Carbondale, CO 81623
970-963-4513

A4 ARCHITECTS LLC
100 NORTH THIRD STREET SUITE 201
CARBONDALE COLORADO 81623
970.963.6760
www.a4arc.com

12 February 2012

Jay Harrington, Town Manager
Town of Carbondale
511 Colorado Avenue
Carbondale, CO 81623

Re: Engineering Services RFP

Dear Jay,

It's my understanding that the Town is currently seeking proposals for on going consulting engineering services. I am writing to strongly urge you to continue to retain Schmueser Gordon Meyer in the role of Town Engineer. Throughout the eight years I served as mayor, as well as during my ten years as P&Z member and P&Z chair, SGM consistently provided exemplary service and wise counsel to the Town.

In 2004, for example, the Town hired a front range engineering firm to analyze wastewater plant capacity and possible system expansion. Based on sampling and tests overseen by the Utility Director (who later left Town employment), and on reports by this outside firm, the Board of Trustees seriously considered embarking on an ambitious and expensive plan to expand and revamp the present wastewater treatment facility. On his own initiative, and based on his firm's extensive knowledge of the Town's wastewater system, SGM principal Louis Meyer examined the reports and prospective plans. He raised serious concerns about the sampling methodologies, report conclusions and engineering recommendations. Based on Louis' concerns, the Town revised testing protocols and soon joined him in concluding that considerable plant capacity remained - and that beginning a $15 to $20 million-dollar plant replacement was not warranted. Had we not heeded SGM's warnings, we might well have found ourselves today saddled with enormous debt and no offsetting tap fee revenues.

Schmueser Gordon Meyer has demonstrated a clear knowledge and understanding of Federal and State regulations pertaining to municipal utility systems. They understand both the technical idiosyncrasies and the evolution of the Town's systems. They also understand the history and implications of the Town's land use approvals over the last 25 years. I have full confidence in their professional competence and engineering expertise. Just as importantly, I am convinced of their personal commitment to the best interests of the Town of Carbondale.

I certainly understand that the Board of Trustees has an obligation to see that Town funds are wisely spent, and that requesting competitive proposals keeps the process open and transparent. I would simply urge you and the Board to not lose sight of the "institutional memory" that SGM brings to the Town's engineering needs and to keep this in mind while evaluating competing proposals.

Should you have any further questions, or if I may be of any assistance, please don't hesitate to give me a call.

Sincerely yours,

Michael Hassig, RA, LEED AP
Principal

The City of Liberty missouri

January 30, 2013

Louis Meyer, P.E.
President
SGM, Inc.
118 West Sixth Street, Suite 200
Glenwood Springs, CO. 81601

Re: Professional Work – Shannon Ullmann, P.E.

Dear Louis:

I would like to take this moment to convey the positive experiences that I and my staff had collaborating with the SGM team on water conservation planning/implementation and renovation/improvements for the Beaver Creek Water Treatment Facilities for the City of Rifle during my 5 year tenure as the Director of Utilities for the City of Rifle. Key to the success of this effort was the team's ability to:

- Recognize the unique drivers and key factors for successful municipal water conservation in Rifle and on the Western Slope, in general. Early identification by SGM of these unique and critical elements led to a customized plan for our system. This not only made gaining City Council approval effortless, but actually piqued their interest as well.
- Deliver a winning combination of water and public policy expertise. Shannon Ullmann's assistance in developing the plan was invaluable to the project's success as she was able to couple engineering expertise with her listening and communication skills. Shannon was able to gather the necessary technical information and communicate back this information in a non-technical way during the formation of the Water Services Advisory Board and subsequent monthly meetings with this Board.
- Weave together system-specific project goals, priorities, and data into Colorado Water Conservation Board (CWCB) recommended water conservation planning framework to quickly win the first CWCB approved water conservation plan for a Western Slope water provider. Plan approval was received in the summer of 2008.
- Effectively collaborate with City staff to develop engineering plans and specifications for the raw water head-gate improvements and on-site chlorine production facilities for the Beaver Creek Water Treatment Facility.

Sincerely,

Charles G. Stevens
Director of Utilities
City of Liberty
101 Kansas Street
Liberty, MO. 64069

EAGLE RIVER WATER & SANITATION DISTRICT
UPPER EAGLE REGIONAL WATER AUTHORITY
846 Forest Road ◆ Vail, Colorado 81657
◆ Phone (970) 476-7480 ◆ FAX (970) 476-4089 ◆
erwsd@erwsd.org ◆ www.erwsd.org

July 27, 2009

Louis Meyer, PE
President
Schmueser Gordon Meyer, Inc.
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601

Re: Upper Eagle Regional Water Authority Master Plan Project Performance by SGM

Dear Louis:

I would like to take the opportunity to commend Warren Swanson, Shannon Ullman and their supporting staff at SGM for the detailed and professional work we received in connection with the recent Master Plan Update effort for the Upper Eagle Regional Water Authority. As you know a similar effort was completed in August of 2008 for the Eagle River Water & Sanitation District. In each project we found SGM's team to be extremely thorough as well as displaying a high level ingenuity in examining our complex operation and making key recommendations that we feel pave the way for our future as a water provider. These plans will be well-used in operating the systems, planning capital improvements and preparing budgets.

With a combined system consisting of 3 surface water treatment plants, 41 booster pump stations, 46 water storage tanks, 17 wells, 73 pressure zones, and 128 PRV's in just 246 miles of distribution system, you can appreciate how difficult a task Warren and his team were charged with. Once again, we are very grateful for the level of expertise your drinking water team provides, and we look forward to working with them again in the future.

Sincerely,

Todd Fessenden
Water Division Manager
Eagle River Water & Sanitation District
846 Forest Road
Vail, CO 81657
970-477-5471

W E S T E R N S L O P E C O N S U L T I N G L L C

February 15, 2012

Mr. Jay Harrington
Town of Carbondale
911 Colorado Ave
Carbondale, CO 81623

Dear Mr. Harrington:

I am writing this reference letter on behalf of Louis Meyer at Schmueser, Gordon, Meyer Engineers (SGM) for the position of Carbondale Town Engineer. SGM was the town engineer for nine of the 13 years that I was town manager in Carbondale. I continued to work with SGM at various times after I left Carbondale in 1995. They have provided engineering services for the Colorado towns of Buena Vista, New Castle, Silt, Rifle and Collbran while I served in those communities as contract planner.

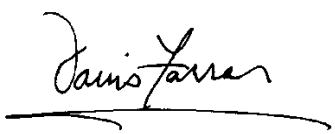
SGM has in-house engineering expertise in a variety of capacities that includes water, wastewater, traffic, surveying, AutoCAD - GIS mapping and land use review. There are benefits to having all of these capabilities under one roof in terms of communication, understanding of the issues and project implementation.

I worked directly with SGM principles Louis Meyer, Dean Gordon and Jeff Simonson on many occasions. They communicate well with elected officials and town staff. I found that they deliver quality engineering services in a cost-effective and timely manner. They are able to provide the necessary "handholding" with boards or staff members in order to ensure that all parties have a thorough understanding of their approach and their work products. I was directly involved with Carbondale water and wastewater system master planning and upgrades that were designed and implemented by SGM. Their work products are first class.

I worked with Jeff Simonson for many years at the town of New Castle in my capacity as town planner. New Castle, until 2008, was one of the fastest-growing municipalities in the state of Colorado. Quality civil engineering services and development application reviews delivered by SGM played a critical role in ensuring orderly and cost-effective development in the community. I have had similar positive experiences with SGM in Buena Vista, Silt and Rifle, Colorado that also experienced substantial growth early in this decade.

I heartily recommend SGM for municipal engineering services to the town of Carbondale. Effective use of a contract engineer is a very efficient way to provide these services on an as needed basis without the overhead and cost burden of an in-house engineer. I would be happy to discuss my experience with SGM in more detail at your convenience. If you have any questions, please do not hesitate to contact me.

Sincerely,



Davis Farrar

Cc Louis Meyer - SGM

0165 BASALT MT DR • CARBONDALE, COLORADO • 81623
TELEPHONE: 970-963-7172

Appendix

Public Education & Outreach Plan & Public Process

Public Education & Outreach (PEO) Plan/Public Process

The Basin Implementation Plan (BIP) Draft Guidance, Section 4.1, requires the development of an Education Action Plan. Our team will commence work on this document in collaboration with the CBRT Executive Committee and members immediately. Here are some initial thoughts we have regarding this document.

The Public Education and Outreach (PEO) process could be equally important as the development of the BIP and Colorado Water Plan (Plan) if used as an opportunity to engage the public. Imagine if the public had the opportunity to weigh in on the Plan but felt that they had a hand in influencing the final outcome. Much of the statewide water planning efforts including the Statewide Water Supply Initiative (SWSI), Colorado River Water Availability Study (CRWAS), and other statewide and regional water plans has bypassed the engagement of the general public, and that needs to change for the Colorado BIP. Public sentiment should drive the process. As Supreme Court Justice Hobbs has opined, "Colorado Water Law (and Policy) must change over time to reflect the changing values of our Citizens". The more engaged our citizens are the more likely the Statewide Water Plan will be implemented.

The CBRT must reach out to a culturally and geographically diverse constituency. In order to reach these citizens we first, recommend that Non-Consumptive, Consumptive, Agricultural and Policy Project Leadership Teams be formed and made up and led by members of the CBRT. Further, we recommend that outreach must occur geographically in Grand, Summit, Eagle, Garfield, Pitkin and Mesa Counties. Each County currently has a least two member's active in the CBRT, the At-Large Representative and the Municipal Representative. These representatives should be engaged to assist in the outreach in their respective county throughout the BIP project.

Leadership efforts at the local level have come a long way over the past few years. SGM staff has been involved in training through the American Leadership Forum on how to reach the public and have been successfully using those processes on local controversial projects. Why not apply them to reach out to the public for the BIP?

The American Leadership Forum process is based upon concepts referred to as Context Sensitive Solutions, Project Leadership Teams, Stakeholder Working Groups, and Consensus Building. These concepts combined with the following key elements create an effective "Public Process" and are recommended for use on the BIP project:

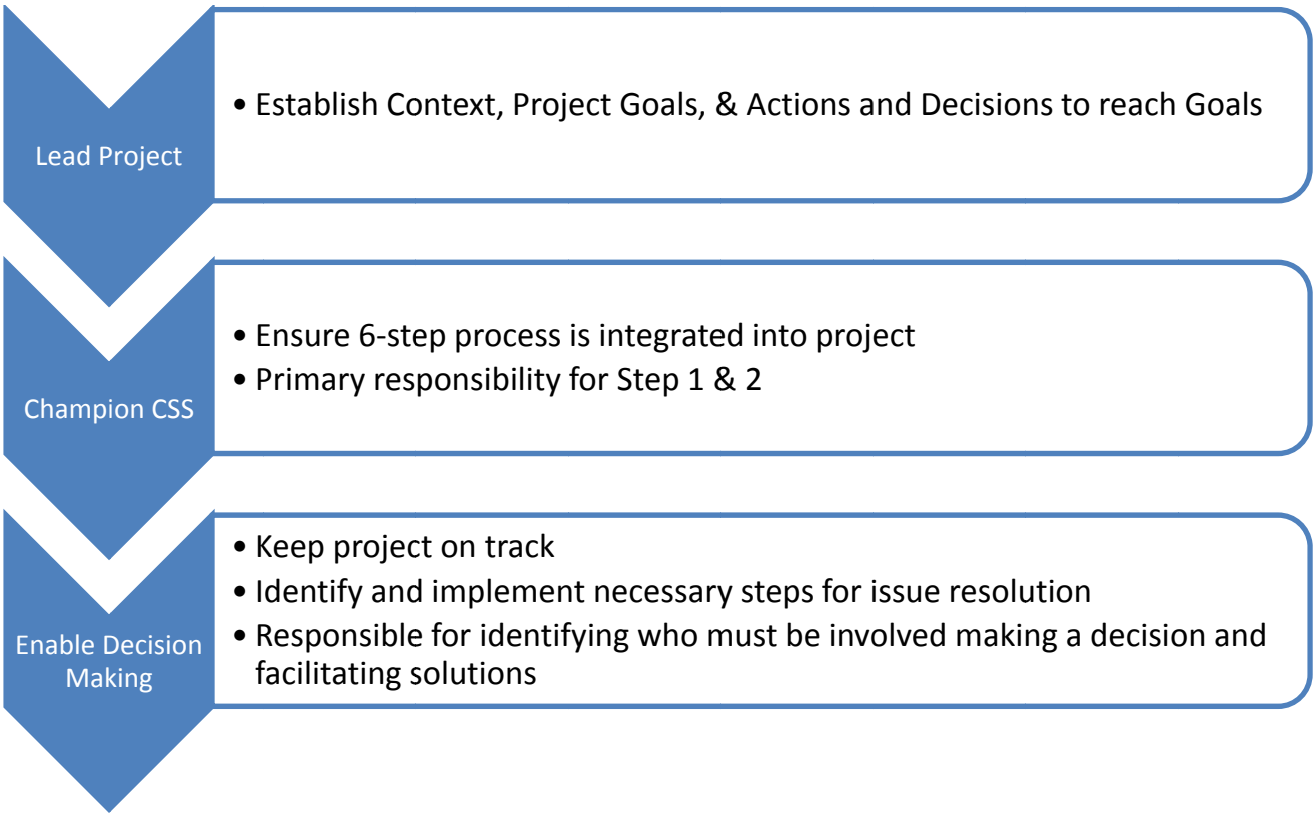
- Diverse representation of the Public
- Open, Transparent, Respectful meetings
- Achieve consensus on Purpose and need
- Qualitative, initial screening process
- Communication, communication, communication
- Process driven by PLT and Stakeholders

- Identification of key Stakeholders and the proper proactive approach to reach out to Stakeholders
- Guidance by a Mission Statement
- Context Sensitive Solutions (CSS)

Further descriptions of some of these elements follow.

Project Leadership Teams

We recommend that the BIP be led by four PLTs. Typical PLT roles and responsibilities are as follows:



Context Sensitive Solutions

Context Sensitive Solutions have been used very successfully for controversial and divisive processes. CSS can be defined by the following 6 step Process:

Consensus Building

A definition of Consensus Building is as follows:

Discussions and Deliberations

- The PLT will use a consensus-building process. Consensus is an agreement built by identifying and exploring all parties' interests and developing an agreement that satisfies these interests to the greatest extent possible. A consensus is reached when all parties agree that their major interests have been taken into consideration and addressed in a satisfactory manner.
- Consensus does not necessarily mean unanimity. Some parties may strongly endorse a

particular recommendation while others may accept it as a workable agreement. Members can participate in the consensus without embracing each element of the agreement with the same fervor as other members or having each interest fully satisfied. The PLT will seek to balance community values, project goals, and technical information during deliberations and discussions.

- To enhance creativity during meetings, individuals are expected to explore a full range of ideas that may transcend or be inconsistent with previously held positions. The goal of the meetings is to have frank and open discussion of the topics and issues needed to lead the project and enable decision making.

Stakeholder Working Groups

The CBRT must reach out to key citizen decision makers, communicators and influence generators. Open Houses typically do not work. The PLT, therefore, shall take an active role in identifying members of the Stakeholder Working Group. The Role of the Stakeholder Working Group would be as follows:

- Assure Local input is integrated into the project
- Assist in developing community input
- Assist in developing alternatives, methods, goals and outcomes
- Build public awareness

Our team welcomes the opportunity to discuss this process with the CBRT and Executive Committee.

Appendix

Technical Discipline Summary Sheets

SGM Qualifications by Technical Discipline

Structural Engineering

Firm Capabilities

SGM's Structural Team provides engineering services for both private and public sector clients for a variety of project types and structural systems. The individual design experiences of our team members combine to form a diverse technical skill-set in the following areas: municipal structure design, building design, civil structure design, and structural evaluations.

Familiarity with multiple design codes is an inherent necessity within the SGM Structural Team. With a variety of products, ranging from buildings to bridges, we remain current with and adhere to all applicable design codes including:

- International Building Code, International Residential Code, ACI Codes, AISC Manual of Steel Construction, Masonry Standards Joint Committee Building Code, AASHTO LRFD Bridge Design Specifications, American Wood Council National Design Specification

We use AutoCad 3D modeling software to provide graphical renderings to our clients. Our structural group also utilizes RAM Advanse®, Enercalc®, Risa 3D®, Revit® and Autodesk® Architectural Desktop. By coupling engineering and drafting tools, we are able to efficiently provide dynamic designs that meet our clients' expectations throughout the lifecycle of the project, from concept to construction.

Project Experience

Grand Valley Fire Station #1 / Grand Valley Fire Protection District

David Blair, Fire Chief, 970-285-9119

- 33,000 sq. ft structure with reinforced multi-wythe structural masonry bearing walls at exterior
- Five clear span apparatus bays with Long Span open web joists
- Steel braced frame system for wind/seismic loads for an Essential Facility

Key Personnel

Bill Swigert, PE, SE / Structural Engineer / 34 years of experience
John Partch, PE / Structural Engineer / 20 years of experience
Mike Fowler, PE / Structural Engineer / 15 years of experience
Mindy Nastal, PE / Structural Engineer / 11 years of experience
Nathan Torres, PE / Structural Engineer / 9 years of experience
John Boulden, PE / Structural Engineer / 8 years experience

Glenwood Springs Wastewater Treatment Plant / City of Glenwood Springs

Robin Millyard, Public Works Director, 970-384-6409

- Structural design for four buildings & four tanks for a 2.1 MGD plant
- Foundation systems of steel piles or soil cement for collapsible silt soil
- Rockfall barrier design uphill of plant to mitigate rockfall/debris flow hazard

Little Dolores River Bridge Replacement / Mesa County Public Works

Bill Taylor, Assistant County Engineer, 970-256-1580

- CDOT Local Agency Funded Project
- Lack of reasonable detour required staged construction
- Coordinated multiple stakeholder inputs for a successful project

Transportation Engineering

Firm Capabilities

The Transportation Team provides engineering services for all aspects of transportation and traffic engineering. Working in the private and public sectors, the transportation team develops practical, cost-effective solutions to today's growing transportation chanllenges. Because SGM has served as Engineer-of-Record for western slope municipalities for 24 years, our project experience encompasses a vast range and variety of projects from small on-call, rapid response emergencies to full scale design and construction oversight for CDOT regulated roundabouts, and from assisting in developing CIPs to cost estimating. Key focus areas include:

- Traffic Planning, Forecasting and Analysis: Traffic impact studies and capacity analyses, transportation master plans, corridor and feasibility studies, safety analyses, capital improvement plans, development of street standards, road assessments and inventories
- Transportation Systems Design: Intersections, roundabouts and traffic signals, rural roadways, urban highways and driveways, trails, subdivisions and parking lots, walls, piers, culverts and prefab structures, construction traffic control and phasing plans, signing and striping plans, cost estimation and specification preparation
- Development Review and State Highway Permitting: Final preliminary and design review of development plans, Access Permits, Utility and Special Use Permits
- Construction Management: Construction inspection and quality control, CDOT pre-qualified, certified inspector

Project Experience

I-70 Exit 90 Roundabout Design and Construction Management / City of Rifle

John Hier, Town Manager, 970-625-6236

- Designed three roundabouts, assisted in obtaining funding sources, prepared bid specs, provided construction oversight
- Project completed under budget and on schedule; won the 2009 Colorado ACPA Concrete Award

Willits Trail System / Town of Basalt

Larry Thompson, Town Engineer, 970-927-4701

- Designed improvements to a three mile trail system sharing a road network and river access
- Developed Streetscape templates and parks and recreation tie-ins
- Conducted community interaction during construction to detour business core

Key Personnel

Dan Cokley, PE / Development Sector Ldr / 22 years of experience
Lee Barger / Traffic Engineer / 16 years of experience
Danny Stewart, PE / Design Engineer / 6 years of experience
Nathan Stroud / Design Engineer / <1 year of experience

Monument Road Reconstruction / Mesa County Public Works

Mike Meininger, Mesa County Engineer, 970-256-1584

- Designed to include the addition of 4' wide paved shoulders with 1'-2' gravel shoulders and a saddle bag design with a full overlay for 3.5 miles
- Addition of appropriate left turn pockets at existing intersections as well as adding a new turn lane
- Corrected undersized drainage features as well as addressed erosion issues and wetlands mitigation

SGM Qualifications by Technical Discipline

Water Quality Engineering

Firm Capabilities

SGM offers expert wastewater treatment, drinking water purification, water quality assessment, and utility consulting services. Our capabilities include treatment process evaluation, simulation, optimization, planning, and design. We always listen to our clients first and seek best-fit solutions. We have veteran designers and engineers with real-world operations experience – our designs start with the end user in mind. We conduct rate studies and assist utilities with obtaining project funding, conducting public outreach, and developing water conservation programs. We regularly partner with CU-Boulder researchers to allow us to offer cutting-edge, right-priced water quality and treatment process testing services. Our staff's strong relationships with Colorado Water Quality Control Division regulators also benefits SGM's clients. Our team stays on top of emerging issues, technologies, and regulations to better serve our clients.

Project Experience

Glenwood Springs Wastewater Treatment Plant / City of Glenwood Springs

Mike McDill, City Engineer, 970-384-6435

- Planning, design, and construction services for $27M 2-mgd (ult. 4-mgd) oxidation ditch WWTP, including centrifuge dewatering, lift station and forcemain

Salida Regional Wastewater Treatment Facility / City of Salida

Randy Sack, Wastewater Manager, 719-539-4555

- Planning, design, and construction services for $15M 2-mgd (ultimate 4-mgd) WWTP with state-of-the-art solids reduction process, multiple energy efficiency and green energy features, and new 30" trunk sewer
- Identified grant & 0% interest loan opportunites & assisted with successful applications for those funds

Water Treatment Plant Improvements / Town of Rangely

Peter Brixius, Town Manager, 970-675-8478

- Planning, design, and construction services for capacity expansion and process improvements to existing WTP, using conventional filtration. Project also featured a $1.5 Million State Revolving Fund loan application and supporting documentation and $1 Million DOLA Energy Impact Assistance Fund grant application.

Mesa Verde NP Water Plant Improvements / National Park Service

Stan White, Buildings & Utilities Manager, Mesa Verde NP, 970-529-5093

- Process testing, design, and construction services to integrate new granular activated carbon (GAC) contacting process into existing membrane filtration plant for disinfection byproduct control

Key Personnel

Louis Meyer, PE / Water & Wastewater / 33 years of experience
Chad Paulson, PE / Wastewater / licensed operator, 19 years of experience
Bob Pennington, PE / Wastewater / licensed operator, 32 years of experience
Warren Swanson, PE / Drinking Water / 17 years of experience
Brad Zachman, PE / Drinking Water / licensed operator, 10 years of experience
Angie Fowler, PE / Drinking Water / 16 years of experience
Jocelyn Mullen, PE / Drinking Water / 20 years of experience
Ryan Loebach, PE / Drinking Water / 9 years of experience

Hydraulic Engineering

Firm Capabilities

SGM's Hydraulic Engineering Team plans and designs water distribution, sewer, and stormwater collection systems, treatment facilities (including complex sludge and chemical handling systems), intakes, outfalls, groundwater wells, pump stations, hot water lines, irrigation water delivery systems, dams, bridges, drop structures and other infrastructure to convey, or to withstand the forces of water. The functional success of our designs attests to our hydraulics expertise. Our staff is well-versed in the latest hydraulic modeling software, including Bentley WaterCAD, SewerCAD, Innovise and FlowMaster. We also are fluent with the HEC family of hydrology and open-channel hydraulics software. Though we use these tools to increase efficiency and maximize calculation accuracy, our engineers understand hydraulic fundamentals and our senior staff members regularly review hydraulic calculations and work products to ensure quality.

Project Experience

Water Distribution System Master Plan / Eagle River Water & San. District

Todd Fessenden, Water Manager, 970-477-5471

- Hydraulic model development, testing, and analysis for Colorado's most complex water distribution system, which includes 17 wells, 3 water treatment plants, 56 pressure zones, 46 water storage tanks, 41 pump stations, 78 PRVs, and 270 miles of water line

Hot Springs Water Line Replacement / City of Salida

Jack Lewis, Administrator, 719-539-4555

- Alignment selection, materials evaluation and design for 4-mile, 8" HDPE line to convey hot spring water to key community amenity. Special challenge included minimizing heat loss while handling high pressure

Water Tank and Pipeline Project / City of Ouray

Patrick Rondinelli, City Administrator, 970-325-7211

- Design and construction services for new 500,000 water tank and approximately 8,400 linear feet of water pipe

Raw Water Intake & Pump Station / City of Rifle

John Hier, City Manager, 970-625-6236

- Design and construction services for new 7.5-mgd capacity river intake, raw water pump station (total of 900 hp) and transmission line

Key Personnel

Dave Kotz, PE / Senior Engineer / 22 years of experience
Shannon Ullmann, PE / Design Engineer / 9 years of experience

See Environmental & Water Resources Engineering sections

Siphon Replacement Project / Silt Water Conservancy District

- Scott Dodero, President, Farmer's Irrigation Company, 970-876-2353
- Design and construction services for 1,250-LF of 42" welded steel siphon pipeline in remote terrain and with new drain, inlet, and outlet structures

SGM Qualifications by Technical Discipline

Water Resources Engineering

Firm Capabilities

SGM provides a wide range of water resource engineering services including new water rights adjudications, water rights transfers, water rights exchanges, augmentation plans, annual water accounting, expert witness testimony in Colorado Water Court proceedings and analysis of water demands, historical water use, firm yield and stream depletion. Our Water Resources Engineering team has extensive experience with municipal water supply planning and development including surface water, groundwater, and riverbank filtration supplies; water conservation planning and implementation; and hydrologic evaluation and modeling. We have planned, permitted and designed new reservoirs and dams. Our team has devised and implemented source water monitoring programs, including those targeting emerging organic contaminants and oil & gas industry chemicals.

Project Experience

Water Resources Master Plan / Town of Buena Vista

Rich Landreth, Public Works Director, 719-395-6898

- Developed a Water Resource Master Plan addressing water demands, system storage and infrastructure, water supply sources, water rights, watershed protection, and recommended actions for development of future supplies and infrastructure to meet growth needs

Key Personnel

Louis Meyer, PE / Water & Wastewater / 33 years of experience
Warren Swanson, PE / Drinking Water / 17 years of experience
Joe McElroy, PE / Water Resources / 18 years of experience
Dan Cokley, PE / Development Services / 22 years of experience
Angie Fowler, PE / Design Engineer / 16 years of experience

Water Rights Decree Engineering / Sunlight Mountain Resort / Glenwood Springs

Tom Jankowski, General Manager, 970-945-7491

- Performed all water rights engineering for a new water right and plan for augmentation (decreed in 2008). Worked with water attorneys to negotiate stipulations with twelve objectors. Provided Expert Witness testimony in District Court, Water Division 5

Annual Water Reporting & Accounting / Mid-Valley Metropolitan District

Bill Reynolds, Executive Director, 970-927-4077

- Develop and maintain annual water rights accounting sheets submitted to Division 5 Engineer for annual accounting

Alluvial Wellfield Development / Town of Basalt

Robi Darcy / Water Quality Specialist / (970) 927-9013

- Performed alternatives assessment of well sites identified in Town's Master Plan to select preferred locations. Permitted, designed and constructed four water supply wells, which form the backbone of the Town's water supply system

Western Hillside Reservoir and Dam / Vail Resorts

Bill Kennedy / Vail Resorts / (970) 754-2564

- Planning, survey, design, permitting, coordination, and construction management of 125 acre-foot snowmaking reservoir for the Bachelor Gulch development

Land Development

Firm Capabilities

SGM's Development Team coordinates and provides full-service capabilities to residential, commercial and industrial projects. These services include all stages of development ranging from conceptual planning, due diligence, survey, engineering design, structural design, land use entitlement process, permitting, construction administration to operations, in some cases. Sample projects include Residential Subdivisions, Commercial Developments, Industrial Parks, Golf Courses, Ski Resorts (on mountain and base areas) and Re-development.

Project Experience

Glenwood Springs FirstBank / FirstBank Holding Company

Adam Snyder, Vice President - Real Estate, 303-235-1324

- Conceptual planning/survey/site civil/structural design of a 5000 sf banking facility with attached drive–thru facility; successfully lead design team/owner through City's Major Development Review process
- Developed land plan that preserved large portion of site for future development
- State Highway Access Code permitting and traffic engineering for primary and shared access
- Construction administration and certification of infrastructure

MRI Site Redevelopment/ MRI

Don Van DeVander, Owner, 970-319-8420

- Full-service civil engineering support for design and Limited Impact Review of Waste Transfer/Recycle Center on 35 acre industrial zoned parcel. Work included site design, drainage, traffic, and structural engineering
- Managed team of environmental, geotechnical, and acoustic sub-consultants and compiled technical data and supporting information for this complex and highly scrutinized application
- Successfully collaborated with owner and attorney to win County approval for this highly beneficial project that received extensive, vocal opposition from the neighboring public

Key Personnel

Dave Kotz, PE / Senior Engineer / 22 years of experience
Dan Cokley, PE / Development Sector Leader / 24 years of experience
Jeff Simonson, PE, CFM / Senior Engineer / 28 years of experience
John Partch, PE / Structural Engineer / 20 years of experience
Ron Mittleider / AutoCad Team Leader / 30 Years of experience

Stoney River Assisted Living / Evergreen Senior Housing, LLC

Bill Henry, Owner's Representative, 303-670-8281

- Site civil, survey and structural design for two Major Development Reviews and Minor Subdivision of 6 acre parcel adjacent to 27th St and Midland roundabout and Roaring Fork River
- Facilities consist of 76,400 sf assisted living , 20,000 sf memory care and 11,000 sf nursing/rehabilitation buildings along with appurtenant water, sewer, drainage and utility infrastructure

SGM Qualifications by Technical Discipline

Construction Engineering

Firm Capabilities

SGM's staff experience and knowledge-base of the high standards set by Colorado's western slope communities helps to define acceptable construction management practices and to deliver superior outcomes. Our methods of enhancing construction services practices include:

- *Quality of Work:* Our construction team includes individuals with a wide range of education and knowledge. We continue to learn daily from performance of jobsite services and support training of our personnel on new and innovative ideas and methods
- *Cost Control:* Financial goals and budgets are crucial given today's economic challenges. Our team remains cognizant of owner budgets and works closely with staff to define possible cost savings, to find potential problems that may lead to unexpected impacts, and to review contractor change order requests to assure fair compensation without overstated costs
- *Schedule:* Meeting project milestones is always important and can differentiate between a successful and unsuccessful project. Our construction team remains mindful of scheduling goals, working closely with the contractor to understand their schedules and to foresee upcoming strategic events that are crucial in meeting these goals. Delays do occur and we work diligently to define potential delays and to provide recommendations to minimize impacts
- *Safety:* Safety is important to any successful project – not only worker safety on the project but also for those passing around or through the project limits. Our staff closely monitors safety aspects of a project and immediately notifies the contractor of unsafe conditions

Project Experience

City of Rifle Regional Wastewater Reclamation Facility / City of Rifle

Dick Deussen, Utility Director, 970-665-6557

- Provided permitting, design and construction management of new 2.0 MGD wastewater treatment facility

Key Personnel

Blaine Wright / Construction Manager / 35 years of experience
Dave Shepard / Construction Tech II / 16 years of experience
Bruce Gray / Construction Tech II / 20 years of experience

9th Street and Main Street (SH 6 & 24) Roundabout / Silt, CO

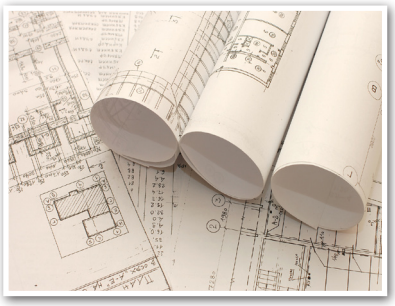
Gerry Pace, Director of Public Works, 970-876-2353

- Provided full time construction oversight and management. The project began construction in the summer of 2008 and received praise in three FHWA quality assurance inspections during construction

US Highway 50 Enhancements Project / Salida, CO

Dara McDonald, Community Development Director, 719-439-4555

- Provided survey, design engineering plans and specifications as well as construction management for the City which adopted a Highway Corridor Improvement Plan that addressed improved pedestrian safety in the US 50 corridor



Bid & Construction Phase Services

Firm Capabilities

SGM consistently manages and oversees its projects from conceptual design phase through construction including preliminary planning, detailed design, bid phase services and completed construction. Teams throughout SGM's organization regularly move projects from detailed design phase into bid services. Our bid and construction phase capabilities include developing project specification manuals, coordinating bid advertising, managing bidder questions, conducting pre-bid meetings, issuing addenda, hosting bid openings and completing contract documentation. Our organization is fully aligned with Engineers Joint Contract Documents Committee (EJCDC) standard construction documentation standards. We conduct bid phase services for a wide range of projects, including large, multi-disciplined public works facilities to small intake diversion rehabilitation projects. SGM's is experienced, proficient and well-equipped to conduct bid phase services for a wide range of projects that can be tailored to fit every client's needs.

Project Experience

Beaver Creek WTP Intake Improvements Projects / City of Rifle

Charlie Stephens, Former Utility Director for the City of Rifle
Director of Utilities, City of Liberty, Missouri, 816-260-3964

- Conducted complete detailed design and bid phase services for upgrade of the existing raw water intake structure on Beaver Creek

Glenwood Springs Wastewater Treatment Facility / City of Glenwood Springs

Mike McDill, Former City Engineer for the City of Glenwood Springs
Deputy Director of Utility Operations,
City of Aspen, 970-429-1994

- Provided complete engineering services from design, management, bid and construction oversite for the $28.5M Glenwood Springs WWTF improvement and relocation project

Long-Term Development Design and Construction / River Valley Ranch Master Association

Ian Hause, River Valley Ranch Community Manager 970-963-6300

- Design, bid and construction services for the full development, including numerous debris flow analysis and mitigation projects, master drainage, irrigation and water quality planning, residential drainage and transportation and utility construction.

Mesa Verde Water Treatment Plant Improvements / National Park Service, Mesa Verde National Park

Stan White, Park Buildings & Utilities Superintendent, 970-529-5093

- Design, bid and conducted on-site startup services and troubleshooting for the new 0.5 MGD water treatment plant

Key Personnel

Chad Paulson, PE / Senior Engineer/ 17 years of experience
Dave Kotz, PE / Senior Engineer / 22 years of experience
Chris Lehrman, PE / Project Manager / 9 years of experience
Shannon Ullmann, PE / Design Engineer / 11 years of experience
Brandyn Bair, PE / Design Engineer / 10 years of experience
Blaine Wright / Construction Manager / 35 years of experience

SGM Qualifications by Technical Discipline

e² CLEAN ENERGY SOLUTIONS Team

Firm Capabilities

The e2 Clean Energy Solutions Team capabilities of SGM involve LEED ®, energy management, and commissioning services. More specifically our energy management and audit services include utility data tracking and analysis, facility audits, diversification of energy supply portfolio, renewable energy project assessment, GHG emissions inventories, strategic GHG management plans, funding mechanism analysis, facility modernization, environmental management systems and implementation, utility rate structure, alternative fuel research, and internal and external communication of energy solutions. Our commissioning services include commissioning of new buildings, recommissioning of existing buildings, and retrocommissioning of HVAC and control systems. Optional services include implementation plans, performance operation and maintenance plans, and computer modeling for system loads and utility rebates.

Project Experience

Aspen Skiing Company/ Aspen, CO

Chris & Mark Vogele, Construction Manager, 970-923-8759

- Facility Assessment of 20 facilities, including on-mountain restaurants, garages, shops, and ASC's main office building
- Assessment included evaluation of all building components, such as structural, mechanical, electrical, energy performance, durability, and construction disciplines
- Deliverables included recommended improvements with costs and estimated remaining useful life of buildings and systems

Alpine Bank / Western Colorado

David Miller, Electronic Banking & Green Team, 970-254-2753

John Evans, Facilities Management, 970-625-7286

- Facility Assessment of 24 bank location facilities, Rifle Central Operations building, and Grand Junction's Main high-rise office building
- Assessment included evaluation of all building components, such as HVAC, electrical, and water systems. Scope of work included energy performance, implementation plans, preventative maintenance plans, and equipment logs
- Deliverables included recommended improvements with costs and simple paybacks

Key Personnel

Dan Richardson, CEM / Senior Energy Consultant / 17 years of experience
Mike Suhrbier / Energy Auditor / 10 years of experience
Tony Haschke, EI, CEM, CBCP, CLEP / Mechanical Engineer / 32 years of experience

Mechanical Engineering

Firm Capabilities

The Mechanical Engineering Team covers design, analysis, computer modeling and maintenance of mechanical and control systems. We offer LEED ®, energy management and commissioning services. More specifically our services include designs of fuel efficient mechanical systems and controls, energy management, facility audits, diversification of energy supply portfolio, renewable energy project assessment, GHG emissions inventories, strategic GHG management plans, funding mechanism analysis, facility modernization, environmental management systems and implementation, utility rate structure, alternative fuel research, and internal and external communication of energy solutions.

Project Experience

Glenwood Springs Wastewater Treatment Plant / City of Glenwood Springs

Mike McDill, Former City Engineer for the City of Glenwood Springs, Deputy Director of Utility Operations, City of Aspen, 970-429-1994

- LEED ® coordination and commissioning oversight of the Pump Station and Administration/RAS/WAS buildings
- Ground Source Heat Pump HVAC system design oversight with computer modeling for heating and cooling loads to ensure precise system sizing
- Planning for a 60 kW photovoltaic array for the Pump Station

Key Personnel

Tony Haschke, EI, CEM, CBCP, CLEP / Mechanical Engineer / 31 years of experience

Grand Avenue Pedestrian Bridge / City of Glenwood Springs

Mike McDill, Former City Engineer for the City of Glenwood Springs, Deputy Director of Utility Operations, City of Aspen, 970-429-1994

- Feasibility study for a snowmelt system for the pedestrian bridge
- Coordinated effort with the Hot Springs Pool to utilize their effluent for the heat source of the snowmelt system
- Water Source Heat Pump snowmelt system design oversight

New Castle Public Works / Town of New Castle

John Wenzel, Public Works Director, 970-989-0002

- LEED ® coordination of the Administration and Garage/Shop buildings
- Air cooled heat pump HVAC design
- Project development of a 70 kW photovoltaic array, with no capital expenditure required

SGM Qualifications by Technical Discipline

GIS / Mapping

Firm Capabilities

SGM's GIS/Mapping services and tools help you achieve improved efficiency by effectively planning and managing your infrastructure, operations and administrative functions, noticeably improving your overall financial, managerial and maintenance positions. For example, centralizing existing mapping and data along with utilizing GPS field collection of infrastructures provides a record location and description of assets that forms a valuable planning tool. Together, these tools allow you to locate assets in an emergency, under snow cover or for general maintenance. SGM tailors GIS/Mapping tools to match your specific needs, circumstances and budget, whether supplementing existing data or implementing a new system.

Key Personnel

Rusty Jones, PLS / GIS Leader / 28 years of experience
Ron Mittleider / AutoCAD Manager / 36 years of experience

Consulting Services for Asset Management and Valuation

- Review current operations
- Review current mapping
- Recommend GIS / Mapping solutions

Data Conversion

- Convert AutoCAD data and tabular data
- Centralize and organize platform for data

Data Analysis

- Prepare analysis reports
- Analyze asset information
- Create analysis maps

Data Collection/Asset Inventory

- Perform GIS/GPS field collection
- Design coordinate system for higher accuracy and seamless data integration

Mapping

- Centralize mapping software platform
- Create custom interactive maps
- Produce map books

Surveying Services

Firm Capabilities

SGM Survey is a full service land survey team. The notable experience of our staff includes five licensed professional surveyors with more than 140 years of combined experience. This experience encompasses boundary and right-of-way surveys, Public Lands System surveys, preparation of subdivision maps to local government standards, design surveys, construction layout for commercial, private and public entities, due diligence surveys for engineering projects, professional testimony, GPS Control surveys, population of GIS data bases, topographic and ALTA/ACSM boundary surveys. Our surveyors have worked on projects for the Colorado Department of Transportation, Department of Defense, the Bureau of Land Management and the United States Forest Service as well as numerous local agencies. We have also worked in a Plat/Plan review capacity for the Town of Buena Vista, the City of Salida and others. We utilize Trimble Robotic Surveying Instruments and Trimble GPS Receivers for field data collection and AutoCad Civil 3D and Land Desktop 2008 software.

Key Personnel

Stephen Ehlers, PLS / Survey Manager / 32 years of experience
Barry Giles, PLS / Land Surveyor / 34 years of experience
David Cooper, PLS / Land Surveyor / 35 years of experience
Rusty Jones, PLS / Land Surveyor / 28 years of experience
Jeremy Garland, PLS / Land Surveyor / 14 years of experience

We provide innovative, practical solutions to make our clients successful while ensuring the health, safety and welfare of our neighbors. We develop and maintain lasting client relationships and are committed to our local communities.

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