



To: Mayor & Board of Trustees

From: Tom Boni, Acting Town Manager

Date: June 13, 2017

Re: SGM Proposal

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DEPARTMENT: Engineering

REQUEST: The purpose of this request is for approval of the attached SGM proposal to provide services to implement a Construction Manager At-Risk (CMAR) bidding and contracting process for the Lower Basin Water Treatment Plant (LBWTP). Staff has had several meetings to research and discuss this project delivery method and believes this is the proper approach to pursue.

RECOMMENDED ACTION: Approve Recommendation

DISCUSSION: Warren Swanson, President of SGM discussed the CMAR process with the Trustees during the May 23, 2017 meeting. This method will provide the Town the opportunity to select a contracting firm based on qualifications, project approach, value engineering and cost as opposed to almost entirely on cost when using the design-bid-build (DBB) method. In addition, a guaranteed maximum price (GMP) for the plant will be obtained 2-3 months earlier (September) than the traditional DBB (November/December).

The Town will benefit by knowing the maximum cost of the plant sooner, which can then be used to finalize rates and fees, and before months of resources are spent in public outreach assuming only ranges of possible costs for the plant. Cost savings may also be realized through pursuit of CMAR-proposed value engineering items.

Potential disadvantages of the CMAR approach include fees paid to SGM to facilitate the CMAR process, compensation of the CMAR firm for pre-construction services evaluating cost-saving measures, Town staff and attorney time to become more familiar with the CMAR contract and processes (an investment staff believes would provide value beyond just that realized for this project), and possible added contingencies to the GMP due to providing a GMP well ahead of the 2018 construction start date (though the CMAR contract can include provisions for the Town to capture savings associated with unused contingency funds).

BUDGET / FISCAL IMPACT:

The estimated fee for SGM to implement the CMAR bidding and contracting process is \$33,000.

COMMUNITY INPUT: No community input was solicited. Staff believes this recommendation is in the best interests of the Town.

ATTACHMENTS:

SGM Proposal

Resume for Mark E. Alpert

PREPARED BY:

Frederick E. Tobias, P.E., Town Engineer

APPROVED BY: Tom Boni, Acting Town Manager

June 7, 2017

Dusty Walls  
Public Works Director  
Town of Eagle  
1050 Chambers Avenue  
P.O. Box 609  
Eagle, Colorado 81631

**RE: Town of Eagle Lower Basin Water Treatment Plant – SGM Proposal for Services Related to a Construction Manager At-Risk Project Delivery Approach**

Dear Mr. Walls,

SGM is committed to helping the Town make the LBWTP as successful a project and as smooth an experience as possible. As you know, we have expressed concerns about the potential for the following set of evolving circumstances to impact project delivery:

- **Treatment plant construction market.** We are aware of water and wastewater treatment plant projects of similar size and complexity to the LBWTP, which have bid within the last 6 months in Breckenridge, Durango, and Snowmass where Engineer cost opinions, some of which were developed with significant contractor input, fell short of the lowest contractor bid price by large margins. In the current market, actual project construction cost is very difficult to know with any certainty prior to a bid opening.
- **Plant financing mechanisms.** If the Town would like to pursue financing through the new federal WIFIA program, it will need to invest significant money (tens of thousands of dollars) in developing the application, and potentially even more resources (possibly hundreds of thousands of dollars) in application processing fees. It is in the Town's best interest to better understand actual project construction costs before submitting a WIFIA application so that it can make well-informed decisions about the project's direction first. Continuing along the current traditional design-bid-build project delivery path may not allow that actual cost to be known well enough in advance to make WIFIA a wise choice for the Town.
- **Board and community expectations.** The Town may be about to invest significant time, energy and political capital in a public outreach process regarding the LBWTP and its tie to the Town's future. SGM recognizes that the visioning and strategic planning process Town leaders have embarked upon and the discussion of how the LBWTP fits into that vision and strategy have high value in their own right. However, if the Town wishes to be able to communicate a firm cost impact number, or at least a tight range, to its water customers in this process, or if support for the project by Town Trustee members is tied to a firm cost impact expectation, then we highly recommend having an actual hard bid or guaranteed maximum price (GMP) from a contractor who would perform the work.

The situation we want to avoid is a surprise on bid opening day which could make Town staff, Trustees and the community wonder how they got to that point and regret the investment of time, energy and money that it took to get there. With this in mind, we are bringing to you and the Town a proposed alternative approach to deliver the Lower Basin Water Treatment Plant (LBWTP) project. We offer that utilizing the collaborative Construction Manager At-Risk (CMAR) delivery method on the LBWTP project is worth your consideration because of its significant advantages in the overall project context. Before we present those merits, we want to first provide some background on CMAR and integrated project delivery (IPD) models more generally.

### **Integrated Project Delivery and CMAR**

The use of IPD methods has been steadily increasing for water and wastewater projects in recent years. Though their application is relatively new in Western Colorado, we have seen industry group estimates claiming that nationwide more than \$5B per year of water/wastewater infrastructure is being constructed using IPD methods currently. There are a number of IPD methods regularly applied in the water/wastewater industry, including CMAR, progressive design-build (PDB), and fixed-price design-build (FPDB). Each method has its own advantages and disadvantages and niche applications. However, the currently advanced stage of design completion on this project suggests the CMAR method as the most appropriate IPD method to consider here.

CMAR is a “collaborative” or “integrated” project delivery method in which the owner (the Town in this case) retains a CMAR firm under a separate contract as the engineering firm (SGM). Design remains the responsibility of the engineer and construction is the primary responsibility of the CMAR firm. The contractor in a CMAR project, however, typically provides significant constructability review, value engineering, risk management, scheduling and cost estimating input during the design phase to assist the Engineer and Owner in implementing an optimal solution. In a typical CMAR project, the CMAR firm is brought on-board at the 30% design stage, or earlier. The CMAR firm serves as a construction manager (CM) and as a general contractor (GC) during construction.

In a traditional design-bid-build approach, a contractor is more often than not selected almost entirely on cost. CMAR provides the Owner with the opportunity to select a contracting firm based on qualifications, project approach, value engineering ideas, and cost considerations. In a typical CMAR project in which the contractor is hired when the design is at a 30% level, or less, there is insufficient information for bidding contractors to provide GMPs or firm construction cost bids. Cost considerations in a CMAR procurement process typically include labor rates, overhead and profit markups, and fee proposals for pre-construction services the CMAR is asked to provide. In the case of the LBWTP project, where a CMAR firm would be hired at the 90% design stage, the opportunity for value engineering input is more limited; however, the Town would be able to require the submission of a guaranteed maximum price (GMP) bid, value engineering ideas with estimated cost savings, and qualifications.

It is important to note that initially the Town would be contracting with the CMAR firm to provide only preconstruction services. Once the design is progressed to the 100% level, the Town will be able to execute a construction contract with the CMAR firm (after financing is in place), or bid the project out competitively.

CMAR procurement documents give proposing CMAR firms a clear understanding of the Town's expectations and priorities as well as background as to why the Town is selecting CMAR project delivery. The RPQ/RFP documents will solicit input from the proposing firms regarding cost-saving options, thus initiating collaboration.

### **CMAR Benefits for LBWTP Project Delivery**

In the context of the LBWTP project a CMAR delivery method has the following merits presented in what we believe is descending order of priority for this project:

- The Town will have a GMP for construction in its hands two to three months sooner with a CMAR approach than it would receive a fixed price bid with the current design-bid-build (DBB) path. This could mean a GMP by August instead of a fixed price bid in October/November. This means the Town will understand the maximum price it would pay for the plant's construction before a WIFIA application would have to be submitted and before additional months of resources are invested in reaching out to the public to develop an understanding of, and support for, the project and the vision for the Town that it supports.
- If the lowest GMP of a well-qualified CMAR firm is significantly above the Town's cost threshold, a value engineering process can be implemented at 90% design instead of 100% design, which means two to three months earlier. This would help keep the project on-schedule for a 2018 construction start even if the Town decides to pursue CMAR-suggested design changes to achieve overall project cost savings. It will also limit the expenditure of effort and money to bring elements of the design from 90% to 100% completion that ultimately get targeted for elimination or significant changes via the value engineering process.
- Along with construction cost GMPs, the CMAR procurement process will solicit value engineering proposals (with estimated cost savings), project approach and qualifications data. The procurement documents also will solicit from the CMAR bidders a proposed cost-sharing split to be applied to the margin between the GMP submitted by the CMAR firm (as adjusted due to any cost savings associated with implementation of any value-engineering ideas pursued by the Town) and the final cost of construction. If the CMAR firm is able to deliver the project at a cost less than the final GMP, savings would be shared according to the proposed split. Note that the CMAR firm is responsible for any costs of construction exceeding the GMP. The Town will be in a position to make a well-informed "best value" selection and hire not just a contractor, but a true project collaborator for whom there are clear contract incentives to produce a best value result.
- Because the CMAR firm and SGM will have the opportunity to discuss the design in detail before it is completed, there will be a greater opportunity to find and discuss any discrepancies in the

design documents. This is likely to limit the number of change order requests during construction, which is a typical characteristic of projects delivered with IPD methods. CMAR delivery typically enhances collaboration and communication between the owner, engineer and contractor.

- By having a GMP earlier in the process, the Town will be generally in a better position to smoothly manage project financing application and acquisition processes.
- Bringing a CMAR firm on-board prior to construction will provide the Town with the opportunity to work with CMAR early to understand project schedule issues, potentially allocate risks more efficiently to achieve cost reductions, and coordinate on implementation of related projects, such as the finished water line connection between the plant and the water distribution system.

### **CMAR Project Delivery Method Costs and Potential Disadvantages**

Though IPD methods are reported to generally reduce overall project costs because of their collaborative nature and the added value of integrating contractor input into the design process, there are risks and costs of a CMAR process for this project to consider, including:

- There will be a cost for the CMAR firm's pre-construction services. In this case, because the project is already at a 90% design level, we will be able to ask bidding CMAR firms to provide a lot of the input with their bid that they might otherwise be providing for a fee if they were involved earlier in the design. However, the Town will need to compensate the CMAR firm for its time spent on the pre-construction services scope, which we currently envision to include:
  - Working with SGM and the Town to further evaluate the merits and implications of any of the cost-saving measures it included in its proposal that the Town and SGM are interested in exploring further. Because we cannot predict prior to the CMAR procurement process the extent to which there will be high-value cost-saving measures proposed, we may choose to compensate the CMAR firm on a T&M basis for this activity. Of course, it is highly likely that the Town and SGM will only choose to further evaluate ideas that have a chance to generate significant construction cost savings for the Town.
  - Consulting with the Town and SGM on any schedule, permitting, risk, constructability or other issues and ideas identified during the bidding process.

One potential way to handle CMAR pre-construction fees for this project, since we are at 90% design and the CMAR's pre-construction services scope is therefore quite limited, is to require that the CMAR roll pre-construction costs into the construction cost GMP; however, if the Town and the CMAR are unable to reach an agreement on a final GMP, the Town would reimburse the CMAR for those pre-construction costs incurred.

- There will be incremental costs (i.e. above those associated with proceeding with the traditional design-bid-build approach) for the additional professional services rendered by SGM to facilitate the CMAR procurement process. We have identified the SGM scope and budget associated with

these below.

- Town staff and the Town attorney may not be familiar with CMAR contracts or the CMAR contracting process, and thus, there may be incremental time and costs associated with getting up to speed on those to the extent necessary.
- SGM and the Town need to acquire an updated scope and firm cost commitment for supply of the plant's membrane filtration system from GE Water & Process Technologies, which is in the process of being acquired by Suez. Since this system will likely carry a price tag in the range of \$1.5M to \$2M, it may be important to acquire an agreed-upon price for this equipment so that CMAR bidders can include that figure in their submitted GMPs. The implication is that we'll have to get this underway sooner than we otherwise would in the case of a design-bid-build process. It does not mean the Town will need to make a commitment to purchase the equipment before a construction contract is signed.
- By providing GMP bids further ahead of a 2018 construction start date, the bidding CMAR firms will have a little more exposure to volatility in costs than they might if they were providing bids later in the fall under a design-bid-build approach. So, they might build into their GMPs some additional contingencies. It is difficult to estimate the impact of this. Of course, if cost increases for labor, materials, and/or equipment do not materialize, the CMAR contracting approach provides a mechanism for the Town to share in any savings.

### **SGM's Team and Integrated Project Delivery**

Though SGM has engaged in CMAR projects in the past, including the recent and very successful 300,000-gallon Mountain Star water storage tank project for Eagle River Water and Sanitation District (Jason Cowles, 970-477-5111, was the District's PM on that project), IPD is still quite new to our Western Colorado clients and SGM. Therefore, we propose to enlist the IPD consulting services of Mark Alpert, PE with Integrated Delivery Solutions. Mark will provide review and input to SGM and educate Town staff and board, as needed, on planning, procuring, and managing the CMAR project delivery method. Mark is a recognized national expert in the IPD arena, which he has worked in for over 20 years. Mark currently runs his own IPD consultancy out of Denver, Integrated Delivery Solutions, and serves as the Executive Director of the Water Design-Build Council (WDBC). Mark directly influenced the successful development and delivery of more than 75 design-build projects for CH2M HILL. Mark's extensive experience and expertise with IPD delivery will be an asset to the Town on this project.

SGM's Theresa Weidmann, PE, who managed the Mountain Star water storage tank CMAR project noted above and is SGM's IPD-related services leader, will lead SGM's CMAR procurement-phase efforts for this proposed project. Ryan Loebach, PE, who has been SGM's lead designer on the LBWTP project, will support Theresa during the CMAR procurement phase and will lead SGM's pre-construction-phase interactions with the CMAR firm.

## PROPOSED SCOPE OF WORK

The scope of work presented below presents the additional services required from SGM to implement a CMAR bidding and contracting process versus a traditional construction contractor bidding and contracting process. The scope includes coordinating with the Town and the CMAR firm prior to actual construction on project constructability, scheduling, permitting, and risk management issues. It also includes a preliminary evaluation of CMAR-proposed value engineering concepts. This scope does not include any services during construction, nor does it include engineering time that may be required to perform *detailed* evaluations of contractor-proposed value engineering concepts or to implement individual design changes as a result of decisions to pursue one or more of those. We exclude this from the scope and budget because we cannot forecast what those will be.

### Task 1 – Procurement-Phase Services

The success of this project will begin with a well-planned procurement process. As a first step, SGM will work with the Town to establish goals and objectives for the construction project and CMAR procurement process. This will form the foundation for establishing the CMAR RFP. We anticipate selecting the CMAR firm based on a best value combination of qualifications and cost. We envision selection criteria to potentially include:

- The guaranteed maximum price (GMP) for construction
- Proposed value-engineering concepts and estimated cost savings for each
- Proposed percentage split between the Town and the CMAR firm of construction cost savings if the final construction cost is less than the GMP
- Hourly rates of key CMAR staff members and overhead and profit markups.
- Fee proposal for pre-construction services
- Experience of CMAR firm and proposed LBWTP project staff with similar water/wastewater treatment plant projects
- Experience of CMAR firm and proposed staff with IPD/CMAR approaches
- Assessment of potential constructability, schedule, permitting or other project implementation and cost risk factors and ideas for managing these
- Proposed project schedule
- Ideas for enhancing collaboration with Town's staff and SGM
- Proposed project approach, including identification of work to be self-performed versus sub-contracted and process for procuring subcontract work
- Description of CMAR's proposed quality management plan
- Proposed equipment manufacturers

The SGM team proposes to provide the following under Task 1:

- Provide additional work required to prepare the 90% design documents as a bid-ready package for CMAR proposers to use as basis for developing their GMP submittals.

- Work with Town staff to establish goals and objectives for the construction project and the procurement process, as well as final CMAR selection criteria, as a basis for developing the CMAR RFP documents.
- Prepare draft CMAR RFP documents, including CMAR Agreement document
- Coordinate Town staff and attorney review and input on draft documents
- Prepare final CMAR RFP and Agreement documents
- Administer the bidding process (already included in current scope of services for design-bid-build)
- Review and evaluate proposals with Town staff
- Coordinate and lead interviews, if needed, for up to three proposers. At least two of the interviews shall be scheduled to be back-to-back.
- Recommend a CMAR firm to the Town for selection (already included in current scope for DBB)
- Assist Town in negotiating a final GMP and contract with selected CMAR firm.

## Task 2 – Pre-Construction Services

Following execution of a contract with the selected CMAR firm to provide pre-construction services, SGM will meet with the Town and CMAR firm to review and discuss additional ideas and concerns of the CMAR firm as they may relate to construction schedule, risk management, permitting, etc. SGM will also work with the Town and the CMAR to review the substance, merits, costs and other implications associated with the CMAR firm's value engineering proposals. This scope does not include detailed evaluation of how CMAR-proposed value engineering ideas could be implemented or making changes to the project design to implement them. SGM would be performing preliminary evaluations to develop a short list of the VE ideas the Town should evaluate in more detail or should incorporate into the final design. We would then provide estimates to the Town of the level of effort to pursue those and seek authorization before proceeding.

## Scope Exclusions

The fee proposed below is associated with the scope defined above under Tasks 1 and 2. The fee does not cover any other services the Town may wish for SGM to provide, such as participation in more than three interviews with CMAR proposers and any services required to support a re-bidding process, produce independent cost estimates for vetting of Contractor-proposed value engineering items, or re-design elements of the project to implement Contractor-proposed value engineering items the Town determines it would like to pursue for construction cost savings.

## PROJECT FEES

SGM proposes to complete the scope of work defined above for a not-to-exceed fee of **\$33,000**. If interviews are not required to select the recommended CMAR firm, our fee drops to \$30,000. The table below provides a Task-level cost summary.

Proposed Fee Breakdown					
Task	SGM Labor Hours	SGM Labor Fees	Reimbursable Expenses	Subconsultant Fees	Total Fees
01 - Procurement	159	\$20,200	\$150	\$6,900	\$27,250
02 – Pre-Construction	37	\$4,750	\$100	\$900	\$5,750
Total	196	\$24,950	\$250	\$7,800	\$33,000

Changes in scope requested by the Town or due to circumstances beyond SGM’s control may require additional budget. SGM will bring any out-of-scope efforts to the Town’s attention as they arise and seek authorization to proceed in advance of performing out-of-scope tasks.

**SCHEDULE**

SGM anticipates the following completion timeline for this effort:

- Receive a notice to proceed for CMAR approach from Town June 27, 2017
- Complete CMAR RFP and begin advertisement/solicitation period Aug. 3, 2017
- Conduct pre-bid meeting/site walkthrough Aug. 14, 2017
- Receive CMAR proposals **(including construction cost GMPs)\*** **Sep. 8, 2017**
- Complete review and evaluation of CMAR proposals Sep. 22, 2017
- Complete CMAR interviews and recommend selected CMAR firm Sep. 29, 2017
- Complete Pre-Construction phase services (evaluation of VE items) Oct. 27, 2017

*\*As of this date, the Town would be able to have a significant increase in confidence in the anticipated cost of construction of the LBWTP.*

If we receive a Notice to Proceed prior to June 27, 2017, the dates above will be able to be moved up.

We look forward to the opportunity to discuss this proposal with you further as needed. Please do not hesitate to call me at 970-384-9051 with any questions you may have. If the Town elects to go forward with this work, please complete the signature block on the following page and return an executed copy of this to me as SGM’s Notice to Proceed and the Town’s agreement to engage SGM to provide the services outlined above for the proposed fees.

Sincerely,

**SGM**



Warren Swanson, PE  
LBWTP Project Principal In-Charge  
SGM President

Agreed to and Accepted by:

**TOWN OF EAGLE**

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

## MARK E. ALPERT

10201 Mountain Maple Drive, Highlands Ranch, Colorado 80129  
303-810-9008/mark.alpert@integrateddeliverysolutions.com

### EDUCATION AND PROFESSIONAL QUALIFICATIONS

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**LEHIGH UNIVERSITY**, Bethlehem, PA  
Bachelor of Science in Civil Engineering  
**PENNSYLVANIA STATE UNIVERSITY**, State College, PA  
Master of Engineering: Environmental Engineering  
**UNIVERSITY OF MICHIGAN**, Ann Arbor, MI  
Executive Leadership Development Program  
**DESIGN BUILD INSTITUTE OF AMERICA (DBIA)**  
Designated Design Build Professional  
Brunelleschi Lifetime Achievement Award 2009  
**PROFESSIONAL ENGINEER**, Maryland, New Jersey and New York

### EXPERIENCE

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#### **INTEGRATED DELIVERY SOLUTIONS**

President

Highlands Ranch, Colorado  
November 2014 – Present

Advise Public and Private Project Owners as well as Engineering, Construction, and Technology companies on the strategy, management, business operations, market development, procurement models, and new business acquisition. IDS business focus is on infrastructure development for transportation, water and energy. Clients may also include public and private sector owners. IDS also provides Expert Witness services upon request.

#### **WATER DESIGN BUILD COUNCIL**

Executive Director

December 2014 to Present

The Water Design Build Council is an association of companies that perform both construction, and integrated design and construction within the same organization. The organization currently has 11 full members and 14 advisor members. The mission of the Council is to evolve best practices for successful implementation of water projects through utilization of collaborative delivery methods supported by research, education and training, and ongoing market communication.

#### **CH2M HILL**

Senior Vice President – Water Business Group

Boston, Ma / Parsippany, NJ / Denver, Co  
12/86-4/89; 1/93-11/14

- Public and Private Water business EPC/Design Build, DBO, and BOOT offerings for client groups including cities, special authorities, US Government, Oil and Gas, Chemicals, Water for Power, Water for Mining and other major private sector clients.
- Created the Design Build(DB) and Construction business within CH2M Hill in 1993 that encompassed >35% of firm wide revenues
- Led the Water Group Design Build business for over 10 years with responsibility for execution of over \$2.5B in contracts since 1995 and resulted in the highest profit Design Build/EPC business unit within CH2M Hill
- Brought CH2M Hill into the DBO marketplace in late 1999 where CH2M Hill now delivers the most significant DBO Water and Wastewater Facilities in North America. The projects are located in Seattle, Washington; Spokane, Washington; San Diego County, California; Woodland Davis, California; Pima County, Arizona; Clovis, California; Ave Maria, Florida; and Traverse City, Michigan, and several US Government sites
- Developed the strategy and tactical plan for CH2M Hill engaging in the Biosolids Management marketplace in North America.
- Work with key clients in over 40 states, Canadian provinces, and in the major metropolitan areas of the US and Canada
- Executive Board Member on numerous joint ventures encompassing EPC and DB projects in North America

## **MARK E. ALPERT**

10201 Mountain Maple Drive, Highlands Ranch, Colorado 80129  
303-810-9008/mark.alpert@integrateddeliverysolutions.com

**METCALF & EDDY / AIR AND WATER TECHNOLOGIES** Silver Springs, Md / Somerville, NJ/Boston, MA  
Senior Vice President 1/78-10/83; 5/89-1/93

- Senior Executive for AWT Capital, the project development unit that established unique businesses ventures and projects deploying emerging technologies and project finance structures
- Led special purpose companies, joint ventures and various projects including solution creation, pricing, and prime contract negotiations through interaction with public and elected officials
- Responsible for “turn around” and contract renegotiation of a 25 year “Own Operate” project in Baltimore that had been losing money for 7 years, resulting in capital improvements and a profitable business going forward
- Established regional office in the Mid-Atlantic States serving public and private sector clients with significant growth in engineering assignments in a 4 state area

**WHEELABRATOR TECHNOLOGIES – SIGNAL CLEAN WATER** Hampton, NH  
Vice President and Technical Director 11/83-11/86

- Led market development for Water Business throughout North America
- Project Developer for “Own Operate” projects in Alabama, Florida, Arizona, California, New England and New Jersey
- Worked with Project Finance and Legal Group to structure projects in brief window (1981 – 1986 ) on “PPP” marketplace, at the time referred to as Privatization, with specific financial incentives offered by the US Government including Accelerated 5 Year Depreciation and a 10% directed investment tax credit after full commercial operation of projects

**WASHINGTON, DC COUNCIL OF GOVERNMENTS** Washington, DC  
Director of Point Source Programs 8/75-12/77

- Manager of point source program for the DC area.
- Responsible for facility site selection, standards development consistent with the new emerging water quality and effluent requirements for all wastewater treatment plants discharging into the river basins within the Washington, DC metropolitan area
- Supported regional inter-local agreement negotiations that set the basis of cost and capacity sharing on wastewater treatment, and deployment of regional solutions for disposal of biological residuals

**STATE OF MARYLAND** 3/71-8/72; 10/73-7/75  
Field Project Engineer

- Worked in several Maryland environmental agencies
- Responsibilities included permit writing; compliance monitoring and enforcement; water quality planning
- Held public meetings on permits and river basin standards consistent with the Federal Clean Water Act and related Maryland regulations

### **PROFESSIONAL AFFILIATIONS**

- Executive Director of the Water Design Build Council (WDBC) – an association of major engineering/construction firms performing Construction management at Risk (CMAR), Design Build, and Design Build Operate services for clients in North America. WDBC members include the North American engineering, construction and technology firms working in the public and private sector water market
- Member of the Water Environment Federation, American Water Works Association, American Society of Civil Engineers, and the Design Build Institute of America
- Advisory Board Member for the Penn State University Civil Engineering Department

### **COMMUNITY ACTIVITIES**

- Support fund raising and strategic planning for a Denver metropolitan area education organization supporting young students who have an interest in science and math as well as potentially pursuing an engineering education

## **MARK E. ALPERT**

10201 Mountain Maple Drive, Highlands Ranch, Colorado 80129

303-810-9008/mark.alpert@integrateddeliverysolutions.com

- Fund raiser for former high school – Baltimore Polytechnic Institute
- Past Chair of the Board – South Metro Denver Chamber of Commerce
- Chair of the Board – STEM School and Academy, a K-12 Charter school – Highlands Ranch, Colorado
- Chair of the 1<sup>st</sup> Colorado STEM Summit - 2015

### **MILITARY SERVICE**

- Maryland US Army National Guard – September 1970-September 1973 – Honorably discharged