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KLEINSCHMIDT FOCUS HELPS SUSTAIN GROWTH THROUGH PANDEMIC; COMPLETES FIRST ACQUISITION IN R2

Since 1966, **Kleinschmidt Associates** has performed engineering, regulatory and environmental consulting for North American energy companies and governmental agencies who strive to protect and enhance the natural environment without compromising performance. Kleinschmidt works at the intersection of regulatory requirements, environmental science, and engineering solutions to achieve client objectives.

Kleinschmidt services are provided to power, energy, water, and government clients. Kleinschmidt specializes in hydropower and water resource engineering, FERC licensing/relicensing, dam safety, fisheries engineering, hydrology and hydraulics, dam decommissioning and removal, and habitat analysis and restoration, bringing energy, water, and the environment into balance so future generations will thrive.

Jon Christensen, Chief Executive Officer. *A former technical leader and project manager, Mr. Christensen now leads the company's pursuit of its Strategic Plan. He focuses primarily on Kleinschmidt's core purpose of providing opportunities for the professional and personal growth of our employees. Under his leadership, we have developed what we call the technical heart of Kleinschmidt. Focusing on the development of staff enriches the technical skills that are at the heart of our organization's success. Our highly engaged technical staff excel in turn at providing our clients with what they need most - practical solutions to their most complex problems.*

Kelly Larimer, Chief Technical Officer. *Ms. Larimer has been with Kleinschmidt since 2014 and has more than 20 years of industry experience that ranges from strategic regulatory planning, land use and environmental science, project management of large capital projects and Federal Energy Regulatory Commission (FERC) licensing and compliance activities. In her most recent role, she provided long-term strategic planning and operational management for Kleinschmidt's Science, Regulatory, and Modeling & GIST Division. She now leads Kleinschmidt's strategic initiatives and staff to advance our technical expertise and recognition as an industry leader in the use of technology across all company service areas.*

EBJ: How has business been for Kleinschmidt over the past couple of years?

Kleinschmidt: The last two years were unprecedented and lucky for several reasons. Fortunately, the pandemic had limited impact on our work or workplace. With core values supporting employee flexibility and empowerment, 20% of our employee population worked remotely before the pandemic shutdown. As such, we were already familiar with the social and management aspects of remote work. Additionally, our niche supports critical services, so we saw only a minor slowdown in workload. While this was our greatest obstacle – like it was for most in our industry – we were fortunate.

During the pandemic, we managed to complete our first acquisition, increasing our size by about 15%. In turn, the regional leverage and strengthened service lines from adding **R2 Resource Consultants** to the Kleinschmidt team helped fuel significant organic growth, adding about 1/3 to our staff over the last two years.

We are fond of saying that we worked in the renewable energy industry before it was "cool" focusing on hydroelectric projects initially, and the environmental issues surrounding dams and other river structures. Today, our industry is enjoying the most pronounced tailwinds that we have seen in decades, with industries and now even public policy favoring renewable energy sources and creating opportunities for companies who are deeply rooted with an existing client base that tends to be skeptical of new entrants to the market. We have recently expanded our permitting capabilities into Offshore Wind and Tidal Energy projects – renewable energy growth areas identified in previous strategic plans.

Our biggest area of innovation lies in the use of technology to collect and analyze data and reliance on 3D design technologies to create more tangible solutions. A couple of the more exciting projects include using novel sensing arrays to track fish movement using massive data sets, advances in hydraulic modeling, and 3D design of multiple pumped storage hydroelectric projects. The fish tracking used sensors that collected tens of thousands of fish movement datapoints and used software to analyze movement – issues that historically require hand-tracking individual fish.

Our flow modeling capabilities took a huge step forward when we hired Chris Goodell, the inventor of McBreach – a Monte Carlo based model that simulates dam failure modes with a more rigorous statistical approach than traditional models use.

The use of 3D design software for complex engineering projects improves design efficiencies and helps owners demonstrate the unique design elements, logistical challenges and project features to resource agencies, regulatory stakeholders, and financiers, frequently improving collaboration and reducing approval times. We have embraced technology in ways that help us create practical, cost-effective solutions for complex problems.

EBJ: What changes have you experienced on the following markets over the past couple of years and what do you see coming in 2022?

Dam Safety Regulations and Financial Assurances

FERC has proposed revisions to its Part 12 dam safety regulations in response to the 2017 spillway incident at the Oroville Dam in California, with proposed modifications largely complete before the May 2020 dam failures in central Michigan of the Edenville and Sanford dams.

The proposed measures provide for a two-tiered inspection process which maintains the current five-year interval between inspections, but alternates between "comprehensive assessments," which are more in-depth than the current inspections, and "periodic inspections," which are slightly narrower in scope than the current inspections.

Revisions to the process for evaluating the independent consultants that perform Part 12 inspections ensure that the inspection team possesses the specific expertise necessary for the project. The proposed rules would codify existing guidance that requires licensees of one or more high or significant hazard potential dams to have an Owner's Dam Safety Program to raise licensee awareness and planning to address potential dam safety issues.

Furthermore, in response to the Michigan failures, FERC launched a public comment period in January 2021, to consider additional measures for licensees to provide financial assurance for projects that can pose public safety hazards in the event of a dam failure or breach. FERC's January 2021 Notice sought comment on three potential options to ensure that hydroelectric licensees have sufficient financial resources to carry out their license requirements and maintain their projects in safe condition: bonds; a trust, escrow, or remediation fund; and insurance policies. Comments on FERC's Notice were due 60 days after its issuance.

FERC has not acted on the Notice or comments received; however, two recent actions have been made by FERC to insert financial assurances into two licensing proceedings. One was issued in an original license for a small hydro facility to be constructed and operated in California, the other a license transfer of a small hydro facility from one entity to another.

Both actions included a new license article reserving its authority to require financial assurance measures and requiring the agreement to the terms of the license, including the new financial assurance article. Industry professionals are keeping close tabs on the development of financial assurance measures, which may potentially curtail the development of new hydroelectric projects and impact the transfer of facilities if such requirements are enacted and enforced.

Furthermore, FERC is currently seeking comments on proposed Risk-Informed Decision-Making (RIDM). RIDM is a method of dam safety evaluation that uses the likelihood of loading, system response given the loading, and consequences of failure to estimate risk. This risk estimate is proposed to be used to inform decisions regarding dam safety investments. The goal is to improve licensee and regulators understanding of the safety of the dam and safety vulnerabilities that may have not been recognized using standards-based evaluation techniques.

Understanding the level of effort, expertise, and costs associated with such measures will be important to monitor and plan for, in collaboration with our clients and industry partners. A limiting factor is the pool of technical expertise and experience needed to comply with increasingly stringent dam safety measures.

Water Infrastructure Engineering

We see a continued focus on addressing aging infrastructure issues, compounded often with resiliency concerns due to climate change and environmental effects (drought, floods, fires) and seismic hazards. There is also renewed interest in new hydropower developments including traditional, pumped storage hydropower, and low-head hydropower to provide balance and ramping for variable renewable projects (solar and wind).

Dam Decommissioning

Feasibility studies to understand the long-term cost/benefit scenario due to dam rehabilitation, regulatory, and other potential compliance requirements (including fisheries impacts).

Fisheries Engineering

There has been a continued increase in funding of fisheries and fisheries engineering projects due to threatened or endangered species. These projects may include fish hatchery, fish passage over dams, culvert replacements to improve stream con-

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nectivity, and dam decommissioning and removal.

Water Resource Engineering and Habitat Restoration

River and stream habitat restoration to improve water quality to mitigate impacts to fisheries including dissolved oxygen enhancements and water temperature increases from climate change. Floodplain and watershed restoration projects are also key in water management objectives, including but not limited to improvements of water conveyance and aquifer recharge. Projects can consist of reconnection of side channel habitats, wetland restoration and construction, levee and dike setbacks, and related floodplain restoration activities.

EBJ: In which ways is your environmental practice preparing for 2022?

Continuing to advance technology and innovation initiatives

In alignment with our first Strategic Plan Goal, Advancing Technology, and Innovation at KA, we initiated the Technology and Innovation Committee (TIC) in early 2021. The multi-disciplinary committee consists of several people from diverse backgrounds and skill sets, and the TIC solicits proposals from Kleinschmidt staff to support a variety of technology and innovation initiatives. We aim to fully develop and operationalize these technologies as standard tools and techniques in 2022, which will enable staff to complete our work more efficiently, accurately, and provide our clients with desired, high-quality work products.

Currently, the Technology Committee has 17 proposals in the idea tracker, which are managed by committee members and project proponents on the Hub, our internal SharePoint site. Seven of the projects have been funded and are in progress, and the others are in various stages of review. By prioritizing technology and innovation as part of our culture and purpose, we aim define our vision and success for the future by leveraging the use of tools and technology to enhance the work we conduct for our clients.

Employee and client engagement - support and customer service

Thought leadership, marketing, and industry participation are key business development tactics for our technical leaders and Principal Consultants. We have people in current leadership roles in a handful of industry organizations. With a new cohort of Principal consultants advancing through the ranks at Kleinschmidt, our goal is to have active leadership roles as board members, committee participants, and conference planning teams with all of our core industry groups (i.e., NHA, USSD, AFS, ASDSO). Moreover, we aim to expand staff participation opportunities and leadership roles in additional industry groups and organizations that can help us grow into desired niche markets and provide recruitment opportunities.

EBJ: How is competition within the environmental industry evolving and how are you adapting to these changes?

Kleinschmidt: If you keep up with industry news, you already know that M&A activity has grown by at least 30% this year, after increasing by almost 50% last year. That means a significantly greater portion of projects are being completed by mega-firms that offer complicated and comprehensive services. And we see so many gigantic projects getting released that can feed these firms. Our competitive advantage lies in mid-sized projects where clients have unique or complicated problems that are better served by a mid-sized firm with deep industry-specific experience.

As part of the 'great resignation' our mid-size company has focused on our culture, providing employees an opportunity to work at a firm that is more devoted to our purpose than to financial results, and a workplace where an individual can have a meaningful impact on the entire organization. To combat resignations from our company, we have aggressively increased our pay and benefit practices, and doubled down on our flexible work-from-anywhere environment. This approach also conveniently allows us to attract talent from large companies while minimizing departures.

External to the company, we have long focused on strong client relationships, preferring to develop close working relationships with several clients who value our services, rather than attempting to maximize revenue. We provide niche services like hydropower and fisheries science and engineering in river systems. These service areas are difficult for staff to master without devoting decades of effort to their understanding. In turn, the level of expertise we develop among staff (over time, of course) creates a significant barrier to entry against companies that seek to enter our industry.

EBJ: Are you doing any modifications to fixed price contracts that you previously had in place due to inflation? What impact could those fixed price contracts are having in your company?

Kleinschmidt: We do not have plans for modifying any existing fixed price contracts due to inflation. We typically use fixed price contracts for shorter-term projects, but the few longer-term fixed price contracts we have include escalators based on a federal index.

EBJ: In which ways are your subcontractors changing their fees?

Kleinschmidt: We are experiencing a general increase in the cost of services across the board, with the continued trend towards more fixed price contracts.

EBJ: In which ways is cybersecurity impacting the environmental industry, particularly on the type of work that you do?

Kleinschmidt: Cybersecurity is a hot topic of interest for any business, and it's been a big area of focus for us as we are aware of the implications. That focus and concern hasn't come without its challenges. The threat landscape changes on a weekly basis so keeping up takes time and energy for a small team. The nature of the Environmental Consulting industry is to help our clients through creativity and flexibility at a quick pace. We realize that there isn't a cybersecurity program that is full proof, but we put great effort into delivering for our employees and clients while minimizing our risk as much as possible.

Kleinschmidt Associates

Company Facts: 220+ employees, 12 offices in US and Canada, Employee Owned

Client Base: Power Utilities, Independent Power and Energy Developers, Government and Non-Government Organizations, and Water Utilities

Social Impact: Philanthropy Committee, JEDI Council for Justice, Equity, Diversity & Inclusion, team with subcontractors from economically and socially diverse segment workforce including Native American Owned, Women Owned, Minority Owned and Disabled Veteran Owned.

In addition to the general business sector concerns over cyber security, we work indirectly with the federal government, through subcontracts. The CMMC certification has become the level of expectation for companies contracting with the Federal government. The language over the past 2 years in regard to the CMMC has ebbed and flowed and the expectations for a company in our position isn't entirely clear. Our goal is to minimize our risk to our users, network, and data but that is interpreted in different ways by different entities. We strive to make cyber security a strength to our business and not a reason why we don't get work, but we worry that our current position isn't enough to clear some standards.

Lastly, our goal is providing practical solutions for our clients. Our creative and thoughtful staff do an amazing job of checking that box but sometimes those propositions can expose us to a higher cybersecurity risk. This has required IT to be part of the conversation, in places that we might not have been in the past. It's an indirect side effect of the importance of cyber security in our business world and emphasizes the relationship that IT has with the business. Our posture towards our firm continues to fill the traditional role that IT has offered but extends into areas of concern where IT traditionally hasn't had input or influence. That pivot in approach takes time, understanding, and effort to get all parties aligned and thinking in the right direction.

EBJ: Tell us about the acquisition of R2 Resource Consultants.

Kleinschmidt: Our primary industries are narrowly focused. As such, the client base consists of a handful of large utilities, some agencies, and a few independent power producers. So, no surprise that through technical conferences, projects and stakeholder interaction, our senior staff in the region have known and worked near R2 leaders for many years. Because of our mutual respect, it turned out that we both regarded the other under the category of "if we wanted to join another company, this company would make an excellent choice." When we discovered this mutual interest at a conference, the process began in earnest.

Kleinschmidt was able to offer the R2 team a slightly larger organization. One where we have enough size to support many of the less enjoyable aspects of business operations, but where we remain small enough to move quickly, without the bureaucracy that stifles the entrepreneurial spirit. We brought a strong eastern presence to a team that was already a fixture of technical excellence in the pacific northwest and bolstered the project management and marketing systems that most small-business owners perform in their "spare time."

R2 offered Kleinschmidt a chance to nearly triple in size in the pacific northwest, while adding key capabilities to our existing skills. R2's deep resume of fisheries engineering (fish passage, hatcheries, etc.), habitat restoration and modeling (instream flow studies, habitat design) added depth and seniority in the region, as well as throughout our service area.

Our two companies work in the same industry, so clients know staff from both companies well enough to support the combination. With client support, and the recognition that we enjoyed similar cultures, we felt the most practical way to merge our talent was to fully integrate the two companies. This provided the marketing and management synergy that R2 was looking for and the increased opportunities and depth that Kleinschmidt desired. The combination of R2 and Kleinschmidt provides our clients with an even deeper niche of expertise than either firm had prior to the integration. □

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