Professional

Engineering

Services

Engineering Design Services for Salt Barn Feasibility Study& Construction Documents

RFP# 67-2015

Proposal for

Lexington-Fayette Urban County Government

January 12, 2016

STRAND ASSOCIATES®

Firm Submitting Proposal: Strand Associates, Inc.

Complete Address: 1525 Bull Lea Road, Suite 100, Lexington, KY 40511
Street City Zip

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January 12, 2016

Mr. Todd Slatin, Purchasing Director
Lexington-Fayette Urban County Government
Room 338, Government Center
200 East Main Street, 3rd Floor
Lexington, KY 40507

Re: Request for Proposals for RFP#67-2015 Engineering Design Services for Salt Barn Feasibility Study & Construction Documents

Dear Mr. Slatin:

Thank you for the opportunity to submit this proposal for the above referenced project. Selecting the Strand Team brings an exclusive perspective to the Salt Barn Feasibility Study and Construction Documents Project based on our previous design of the Salt Barn on Athens-Boonesboro Road in 2008. Our Project Team members have experience working on this project and together to successfully deliver projects for LFUCG and offer relevant experience that match the project needs.

Thank you in advance for your consideration and we look forward to the opportunity to continue our service on behalf of the Lexington-Fayette Urban County Government for this important project.

Sincerely,

STRAND ASSOCIATES, INC.®

Michael A. Woolum, P.E., P.L.S.
Vice President

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Executive Summary

Executive Summary

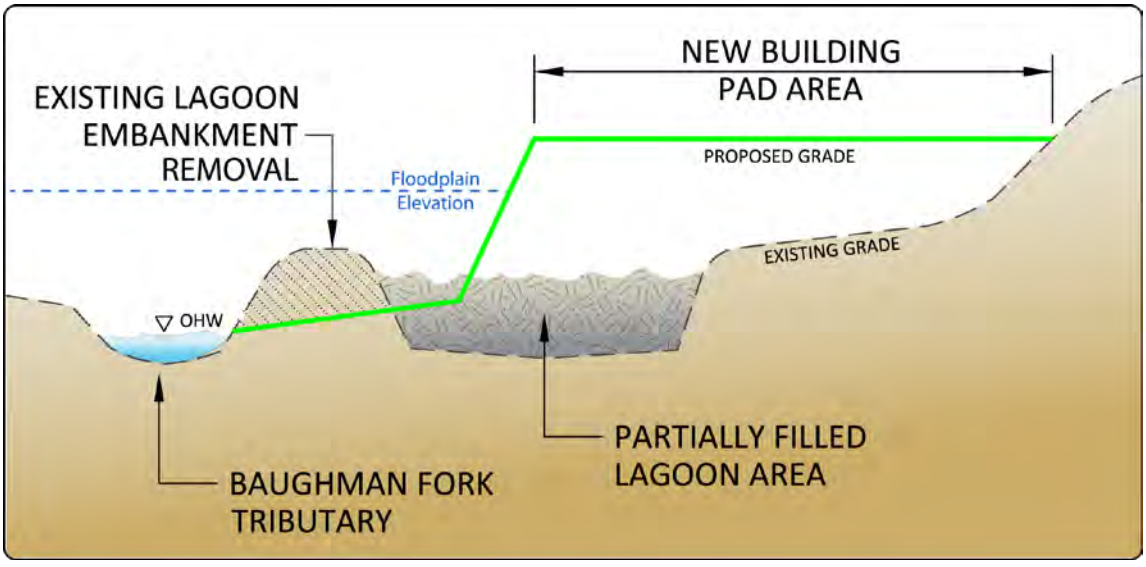
Strand's Proven Track Record with Salt Barn Facilities Leads to an Optimal Approach in Meeting All Required Project Needs

Through Strand's long standing history in supporting public works related needs for municipalities throughout the Midwest, we have developed an extensive resume involving salt barn related facilities that is specifically relevant to this project. This experience allows us to efficiently share our unparalleled insight and most effectively represent Lexington-Fayette Urban County Government's (LFUCG's) interests for this highly specialized facility project. To this end we believe the following characteristics make our firm uniquely qualified to fulfill this commitment:

Early Action FEMA Floodplain Analysis Facilitates Timely Go - No Go Decision Making for This Site

To address site development limitations with the significant floodplain encumbrance on this site, it will first be necessary to conduct a floodplain overview evaluation to determine if potential enhancements are possible by improving existing stream channel conveyance. As depicted on the Exhibit below, the existing 100-year floodplain extents nearly preclude development of this site. This is due in large part to the significant upstream watershed and channel restrictions resulting from the Cutters Hill Court bridge structure and the adjacent lagoon embankment that restricts stream flow and flood storage in the low lying area. Strand's modelling approach is designed to outline the proper balance of channel storage restoration needed to support the fill limits necessary to establish a viable building pad for this project.

Based on the outcome of this study, an early go - no go decision can be made for subsequent efforts on this site. If adequate buildable area can be reclaimed, Strand brings capable experience in delivering FEMA LOMR's as attested to on our recent Legacy Trail and Southland Christian Church projects.



Strand's Facility Planning and Programming Approach Integrates Our Knowledge of Salt Handling Facilities with Input from LFUCG's Operations and Maintenance Staff

Strand will work closely with LFUCG to identify critical design concerns.

As a full service multi-disciplinary engineering firm, Strand offers significant related experience with salt handling facilities that will assist LFUCG in making well informed planning and design decisions. Our experience with salt barn design and construction includes an array of facility types from wooden barn type structures to composite concrete and wooden dome structures. In facilitating the building programming element for the project, Strand's team will engage LFUCG Operations and Maintenance staff to identify critical design issues and concerns. Special considerations such as lighting and structure design details will be determined from this interactive stakeholder involvement process. As an example, Strand's previously completed composite dome structure in Des Plaines, Illinois included a concrete foundation ring wall to address operational concerns for surcharge loading and equipment impact. We will work closely with LFUCG's project team to identify critical concerns that will help shape the facility design approach.

Illinois Tollway Salt Storage Facilities Maintenance Yards M-11 & M-12.

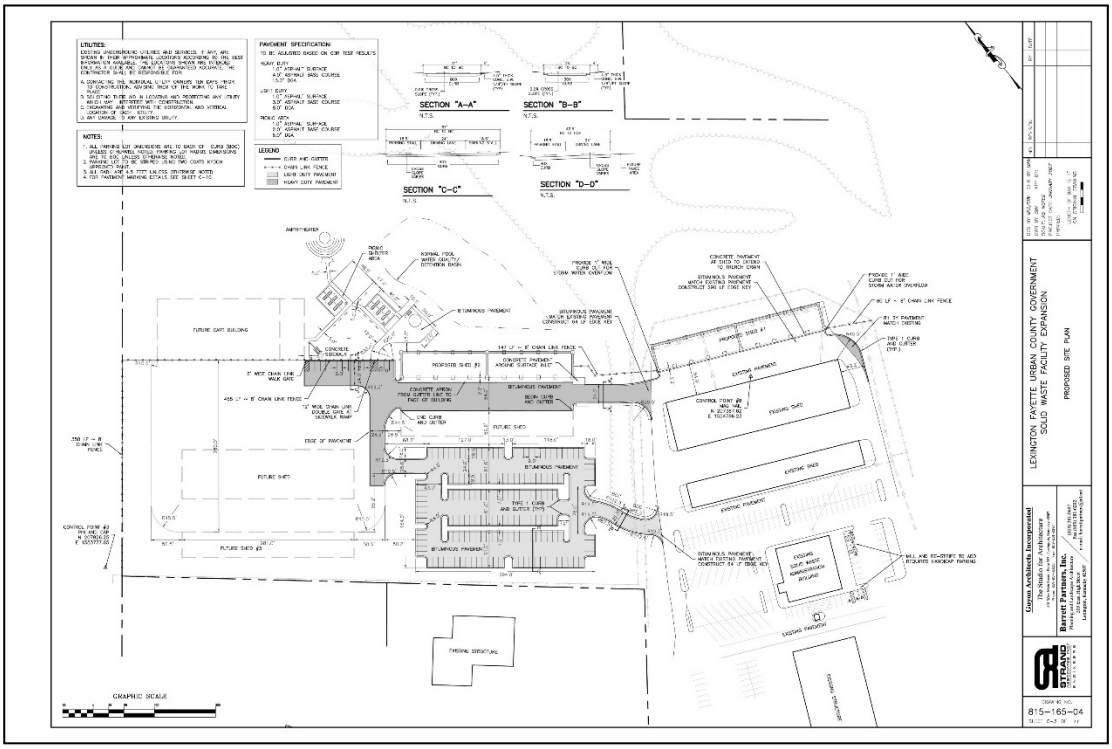
Des Plaines Salt Dome Storage and Deicing Facility.

Our Team's Site Design Experience Provides Requisite Understanding for Development of a Well-Integrated Layout that Accommodates Long-Term Needs

Our site design approach will allow flexibility for future facility needs.

Strand's in-house planning professionals recognize that effective long-term facility performance is driven by sound site planning decisions beginning in the conceptual stage of project development. As such, our site planning approach will rely on planning input from LFUCG's internal stakeholders in determining short-term and long-term facility needs. Integration of key design elements such as the need for vehicle storage and employee parking coupled with facility component design and operational requirements will be essential in developing a functional and cohesive site plan. Likewise, input on potential future expansion or upgrades will also be essential in developing a flexible and adaptable site plan that can meet both near-term and long-term needs. As an example, providing for seamless expandability of surface parking without the need for extensive site or drainage related improvements will maximize value to the client. LFUCG's ongoing expansion at the Division of Waste Management site represents an excellent example of Strand's planning approach in efficiently meeting both short-term and long-term needs. Our

extensive background in site planning will help facilitate development of alternatives that maximize efficiency of operation while remaining flexible for the future needs of this project.



LFUCG Solid Waste Facility Expansion – Phased Implementation Approach.

Familiarity with Environmental Requirements Results in Regulatory Compliance for Proposed Facility Improvements

Compliance specialist will work with LFUCG to address required permits and operational plans.

As a consulting engineering firm originally founded in the environmental engineering field, Strand recognizes the importance of environmental compliance both during and after construction is complete. Our project team includes an environmental compliance specialist who will guide required permitting activities and assist in developing post-construction operational plans. DBE subconsultant firm, Third Rock Consultants, LLC has committed Jennifer Shelby, P.E., CPESC to help facilitate this all important aspect of facility permitting and operations. Combined with Strand's resources, our staff is knowledgeable and well-versed in permitting with KDOW, USACE and US EPA and will provide the required assistance to fulfill these agency requirements. In addition, we routinely prepare stormwater pollution prevention plans, ground water protection plans and spill prevention containment control plans for a variety of industrial clients throughout the country. Our specialists in this area will outline required permitting and operating plans early in the process and work with LFUCG to establish critical timelines and develop all required documents for environmental permitting approval and facility operation.

Green Infrastructure Design Approach Provides "Optional" Low Cost Community-Wide Environmental Benefits

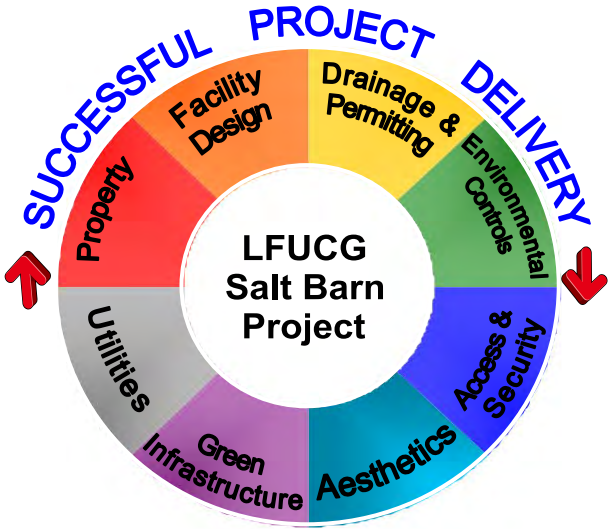
Strand's approach outlines "optional" green infrastructure opportunities that will promote environmental stewardship.

Bio Swale filtration area.

In response to national trends, application of green infrastructure design techniques have gained immense popularity as a means of promoting environmental stewardship. Our project team includes, Chris Rust, P.E., a seasoned designer in this field whose background and experience will offer excellent insight into green infrastructure improvement opportunities. Our project approach includes a stand-alone component to identify practicable green infrastructure opportunities tailored specifically for this project. From interpretive environmental educational opportunities to infiltration areas and vegetative buffers, our approach will outline opportunities for LFUCG's potential consideration in the final design for the project that will offer tangible return on investment.

Strand's Multi-Disciplinary Project Team Leads to a Well-Integrated Plan and Turn-Key Project Delivery

In-house turn-key project delivery provides maximum value.

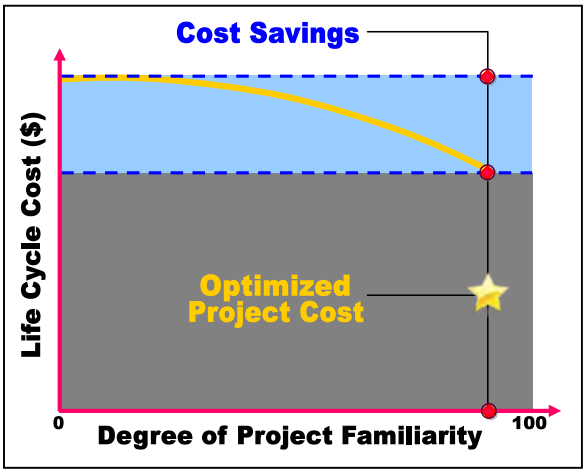


Strand's approach to project delivery includes experienced engineering professionals in all key disciplines integral to the success of this project. Our project team is also composed of knowledgeable staff who are familiar with relevant salt barn and ancillary facility design and operational issues, specific to the unique needs of this project. For each critical performance area, we also offer staff resources with relevant knowledge of all key project design issues as outlined in the project delivery graphic to the immediate right. This turn-key capability packaged with Strand's salt barn design and construction experience provides maximum value to LFUCG.

Our Specific Knowledge of Salt Handling Facility Design and Operational Issues will Help Optimize Life Cycle Cost

Past salt barn experience leads to cost saving project design enhancements.

Our project team's familiarity with design and operation of salt handling facilities, provides invaluable insight that will help optimize design decisions that will have a lasting effect on overall project performance. Our credits include design of the previous facility for LFUCG that was not ultimately implemented. Strand's work related history has consistently demonstrated that prior consultant experience with project design and operational considerations will result in value added cost savings from sound decision-making advice as illustrated in the graph to the right. We believe the insight and design recommendations we offer will lead to reduced long-term project costs while promoting a safe and efficient environment for the end user. This claim is supported by Strand's previous experience with a number of salt barn facility projects throughout the Midwest. Strand's experience with these projects has resulted in extensive insight into a variety of critical project considerations. As an example, properly reinforced wall system designs can extend useful life and simplify building maintenance. We will share our knowledge gained from past project experiences to help LFUCG develop a cost effective program that considers life cycle costs.



1. Estimated Cost of Services

Estimated Cost

Project Fee Reflects the Integration of Necessary Services that Result in Efficient Project Delivery

The project team and project approach have been specifically developed to meet the intent of the Request for Proposal (RFP). We believe this team and approach will provide the best solution to meet the City's goal of providing a new Salt Barn Storage Facility, while maintaining a cost effective project budget.

Our estimated lump-sum fees for completing services as detailed in the RFP and as described in our Project Approach is shown below. The fees are broken down into the main tasks as listed in the RFP and a lump sum fee is shown for each task. Our subconsultant fees are included in the main design tasks. Please note that the only geotechnical engineering services are included on our fees as it is not yet feasible to estimate field testing and equipment which may be required.

Our fee includes FEMA Services which were not detailed in the project RFP, but which we believe will be an integral scope item for this project site. Please note that should a FEMA CLOMR and LOMR be required there are additional permit application fees which are noted below.

Strand's fee reflects our full understanding of the project requirements.

Task	Description	Fee
1	Technical Memorandum	$64,700
2	Final Design	$59,000
3	Bidding Services	$5,000
4	Construction Related Services	$16,000
	SubTotal Fee	**$144,700**
5.	FEMA Services*	$21,500**
	Total Fee	**$166,200**
	Add Alternate: RPR Hourly Rate	**$90/HR**

**** Additional Service not detailed in RFP***

*****Does not include CLOMR Application Fee of $6,750 or LOMR Application Fee of $8,250***

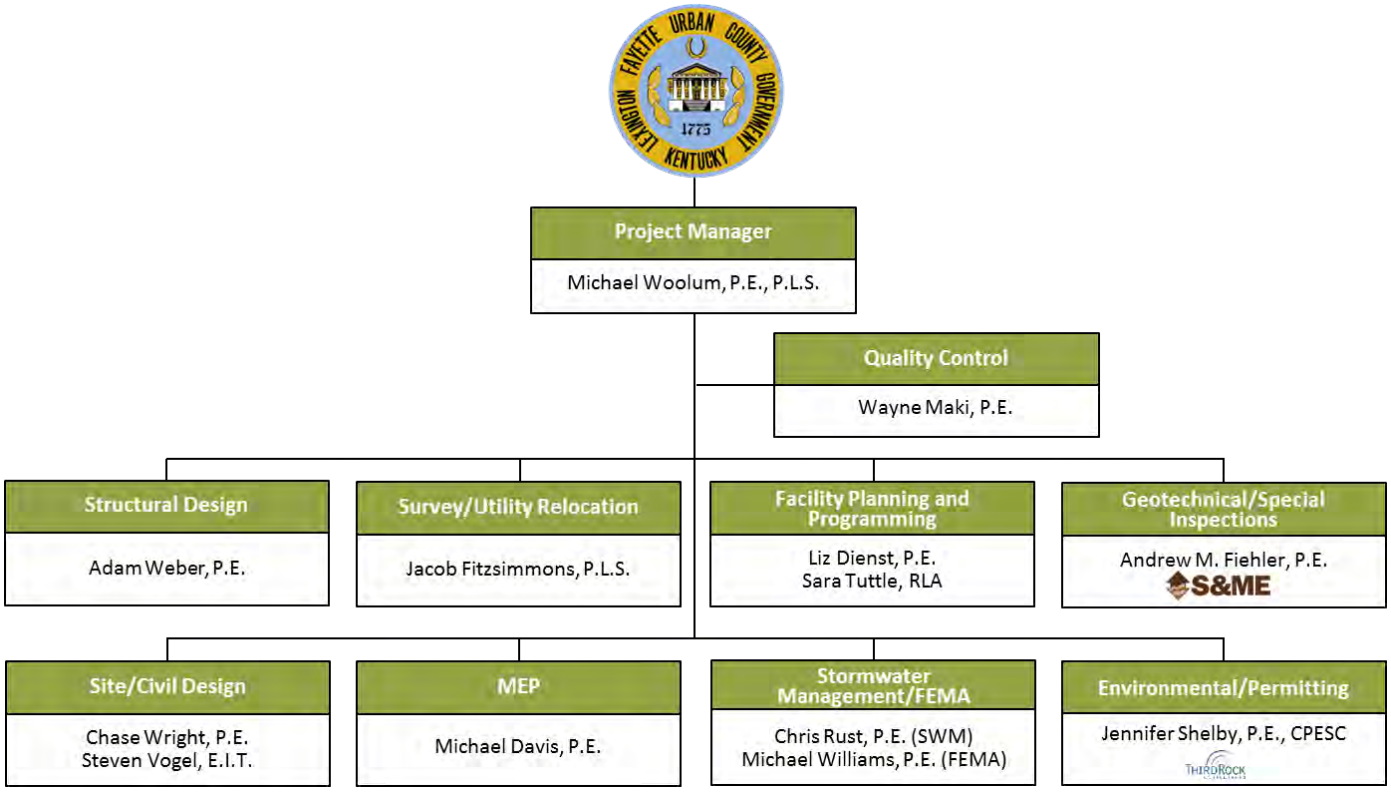
2. Specialized Experience

Specialized Experience

Experienced Full Service Project Team Results in a Well-Coordinated and Successful Cost-Effective Project

Our Team has the requisite credentials and capabilities, and is committed to the successful completion of this project.

Our Project Team was carefully chosen to provide all the necessary technical expertise required to successfully complete the project. Our comprehensive Project Team is comprised of staff from six disciplines, all of which will have a portion of the project to complete in order for Strand to successfully deliver the project. Each Team Member has experience relevant to the successful completion of the project. Several of our team members worked on the previous design of the Salt Barn for LFUCG, giving them specific insight and background into the needs of this facility. Following is a short introduction of each Team Member, accompanied by resumes for each Team Member.



QUALIFICATIONS OF KEY PROJECT TEAM MEMBERS

Michael Woolum, P.E., P.L.S. – Project Manager

Mike will serve as **Project Manager** for this project. In this role, Mike will provide oversight and direction to the project team. Mike has 31 years of diverse experience including planning and design projects such as mixed use developments; recreational facilities; roadways; dams; stormwater management; wastewater collection; treatment and pumping facilities; and water treatment and distribution systems design. He has relevant experience in water resources with emphasis in stormwater and floodplain management, which have included project management and technical support roles for completion of FEMA CLOMRs, LOMRs and related watershed master planning initiatives. He was the Quality Control Reviewer for the Salt Barn design project we completed for LFUCG.

Sara Tuttle, RLA – Facility Planning and Programming

Sara will be leading the **Facility Planning and Programming Services and Landscape Architecture Services** for the project. With 36 years of experience in planning and Landscape Architecture, Sara is well equipped to work with LFUCG to develop the most efficient layout of the site. Her experience includes land planning and governmental approval activities for institutional, residential, commercial, mixed-use and professional office/industrial projects. She performed landscape architecture and planning tasks on the previous Salt Barn project with LFUCG.

Elizabeth Dienst, P.E. – Facility Planning and Programming

Liz will be involved in the **Facility Planning and Programming Services** on the project. Liz is a graduate of the University of Dayton and is a licensed professional engineer with 14 years of experience. From our Lexington, KY office, Liz has a variety of project management (PM) experiences covering municipal, water, wastewater, and structural design and construction administration projects. Liz's design capabilities include structural design, architectural related tasks, waterline and sanitary sewer line design. Through her design experience she has been involved in many facility planning and programming tasks. She currently serves as the PM for the Contract Administration of the Truck Shed project with the Division of Waste Management and was formerly the PM of the site construction for Waste Management.

Chase Wright, P.E. – Site/Civil Designer

Chase will be on our **site/civil design** team for the project. He is a graduate of the University of Kentucky and has 7 years of experience in municipal and transportation engineering. Chase has Site Development experience on new construction, redevelopment, and demolition projects, including detailed and mass grading analysis, building and site demolition, utility coordination, parking lot design and turning radii studies, green infrastructure improvements, drainage analysis and design, sanitary sewer design, erosion control, and pavement marking and signage. Chase has a variety of experience working with LFUCG including the Downtown Street Scape Project, the Distillery District Report Project, and more recently the Town Branch Trail and Legacy Trail projects.

Steven Vogel, E.I.T. – Site/Civil Designer

Steve will be on our **site/civil design** team for the project. He is a graduate of the University of Kentucky and has 5 years of applied experience on a variety of project types. For Valvoline Corporate Headquarters, Steve lead the design team for the site civil design including plat and development plan submittal, hydrologic modeling and storm water management design with floodplain impact mitigation, roadway and site grading, utility coordination, and city, state, and federal permitting coordination. Steve has also completed several other commercial and industrial site designs including urban intersection redevelopment, improved ADA accessibility, floodplain impact management, and retrofitting existing site utilities.

Chris Rust, P.E. – Stormwater Management

Chris will be responsible for **stormwater management services**. Chris has a master's in civil engineering from the University of Louisville and has 10 years of experience as a stormwater and water resource engineer. His experience has included a variety of floodplain studies, a blend of project management, stormwater modeling, planning and technical design. Chris has extensive experience with stormwater management projects that have focused on floodplain studies.

Michael Williams, P.E. – FEMA

Mike will be responsible for **FEMA-related services**. Mike is a graduate of Iowa State and has more than 15 years of experience with stormwater management, including hydrologic/hydraulic modeling, watershed planning and management, streambank restoration and design, stormwater detention basin design and rehabilitation, and design of Best Management Practice (BMP) measures. He has developed stormwater management plans using programs such as XP-SWMM (1D and 2D), StormCAD, HEC-HMS, HydroCAD, and HEC RAS. Mike has been involved in projects in the Lexington area including the Distillery District and Southland Christian Church LOMR.

Wayne Maki, P.E. – Quality Control

Wayne will provide **Quality Control Review Services** specific to the Salt Barn facilities. Wayne is a profession al engineer with 30 years of experience. He has his masters in civil engineering and has a background including project management and structural design for projects such as municipal buildings, industrial buildings, commercial buildings, municipal water and wastewater facilities. He has specific past experience on design of Salt Barn structures and sites.

Adam Weber, P.E. – Structural Design

Adam will be the **Structural Design Engineer** for the project. He is a graduate of the Rose Hulman Institute of Technology and has 16 years of experience in structural design practice and his experience includes municipal buildings, industrial buildings, municipal water and wastewater structures and a wide array of transportation structures in several states including KY, OH, WI, and IL. Adam was the previous project manager for the Salt Barn design project we completed for LFUCG which gives him exceptional knowledge of the types of Salt Barn structures and ancillary structures LFUCG will need for this project.

Michael Davis, P.E. – MEP

Mike will serve as **MEP Engineer** for this project. In this role, Mike will complete the mechanical, electrical, and plumbing engineering design. Mike is a graduate of the University of Kentucky and a licensed professional engineer with 31 years of project experience. He has served LFUCG for many years on projects including the Truck Sheds and site for Division of Waste Management, Town Branch/West Hickman WWTP Utility Dual Feed Project, the WWTP Electrical/SCADA Improvements project, and the pump station condition assessment. He specifically has designed the cold weather engine block plugs for the Division of Waste Management.

Jacob Fitzsimmons, P.L.S. – Survey/Utility Relocation

Jake will perform **site survey and utility relocation** for the project. He is a graduate of Purdue University with over 7 years of survey experience. His survey experience includes topographic and route surveys, calculating boundaries for metes and bounds, subdivided lots, and ALTA surveys; performing calculations and field work for construction and house staking.

Subconsultant Participation

Our Project Team is supported by the added technical resources provided by **S&ME** for geotechnical engineering and **Third Rock Consultants, LLC** for environmental consulting services. Strand is no stranger to teaming with Third Rock and S&ME, having collaborated with their firms on past similar projects. Third Rock provides our Team with DBE subcontracting opportunities to meet LFUCG's 10% participation goal.

Michael A. Woolum, P.E., PLS

Vice President

AREAS OF EXPERTISE

- Project Management
- Facilities Master Planning
- Wastewater Collection and Conveyance Systems
- Stormwater Modeling and Design
- Roadway and Land Development
- Pumping Station Design

PROFESSIONAL EXPERIENCE

Mike is a licensed Professional Engineer and Land Surveyor who serves as Vice President while being actively engaged in all aspects of the firm's operations. Mike is responsible for overall project control and management of technical services. Mike remains actively involved on projects and offers significant experience in project management and general civil and site engineering design relative to both public works and private projects. His diverse experience includes planning and design projects such as mixed use developments; recreational facilities; roadways; dams; stormwater management; wastewater collection; treatment and pumping facilities; and water treatment and distribution systems design. Mike has also been involved in a number of planning and feasibility studies for land development, dams, water supply, and wastewater related projects.

Public Involvement expectations have risen significantly over the last 18 years for many of our projects. Mike is consistently included in all facets of public involvement for a variety of project types including facilities planning, capital construction projects and planning and zoning related matters. In this capacity, Mike has excelled as both a seasoned presenter and accomplished listener, which are equally important character traits for consensus focused discussions. On one notable project, Mike participated in 43 public meetings, calling upon a variety of skills to achieve buy-in for the project objective.

Land Development experience includes a number of notable projects involving a blend of technical expertise with sensitivity to adjacent surroundings and public concerns. Mike has been actively engaged on almost every high profile Strand land development project where critical development issues have required a careful planning and design approach in addressing the concerns of the public and local decision-makers. His involvement on major in-fill and redevelopment projects such as Wellington, the Coldstream Research Park, and numerous projects within LFUCG's Expansion Area 2C are excellent examples of projects that required a sensitive design approach in addressing existing infrastructure and environmental issues.

Stormwater Master Planning experience includes hydrologic and hydraulic analysis for large urban watersheds and development of capital improvement plans for flood abatement and water quality enhancement. Urban stormwater design experience includes large-scale conveyance systems, stormwater detention facilities and integrated water quality best management practices and floodplain management assistance to local community participants in the FEMA National Flood Insurance Program.

Facilities Master Planning for Lexington-Fayette Urban County Government's Sewerage Facilities. In his role on this most important project, Mike served as Project Manager and principal author for Lexington's 201 Facilities Plan Update. The plan calls for system improvements and upgrades to nearly all facets of Lexington's sewer system while taking into consideration the future growth issues currently facing this community. Recommendations included expansion and upgrade to two existing WWTP's conveyance improvements and a targeted effort towards rehabilitating and upgrading major trunk sewers throughout the 76 square mile service area. Total budgeted improvements identified within the scope of this facilities planning document totaled $180 million. The project involved significant input in

YEARS OF EXPERIENCE

31

YEARS WITH FIRM

31

EDUCATION

B.S. Civil Engineering – University of Kentucky, Lexington, 1983

REGISTRATION

Professional Engineer in Kentucky – No. 15347

Professional Land Surveyor in Kentucky – No. 2937

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Michael A. Woolum, P.E., PLS

Vice President

public forums in building consensus and outlining the alternatives and recommendations of the plan.

Public Works Projects – Responsible for the design of improvements to the Millersburg, Kentucky wastewater treatment plant and, in a joint venture, preparation of a comprehensive plan to provide public water service to residents of six southeastern Kentucky counties. This Regional Water Supply Plan calls for phased implementation of approximately $98 million of treatment and storage improvements including nearly 900 miles of distribution and transmission line extensions and upgrades. This project employed the use of optimization modeling techniques to determine the location for the proposed regional treatment plant that would most efficiently serve the study area.

PUBLICATIONS/PRESENTATIONS
(Partial Listing)

- Designing Green Workshop," Sanitation District No. 1 of Northern Kentucky, Fort Wright, Kentucky, 2008
- "Legacy Trail – Connecting Lexington's Past, Present, and Future" Southeastern Association of State
- Highway and Transportation Officials Annual Conference, Louisville, Kentucky, 2011

CONTINUING EDUCATION AND SEMINARS

- Confined Space Awareness Training – Confined Space Regulation and Equipment Familiarization Course – Received information and training requirements as set forth in Subpart J-Fall Protection, 29 CFR Part 1910.146 – April 2004
- Four-Hour Fall Protection Training – Fall Protection Regulation and Equipment Familiarization Course – Received information and training requirements as set forth in Subpart M-Fall Protection, 29 CFR Parts 1910 and 1926 specifically part 1926.503 – April 2004

PROFESSIONAL AFFILIATIONS

- Kentucky Association of Professional Surveyors
- Kentucky Society of Professional Engineers
- National Society of Professional Engineers
- American Society of Civil Engineers
- Society of American Military Engineers
- Association of State Dam Safety Officials

Sara E. Tuttle, RLA

AREAS OF EXPERTISE

- Coordination of Planning and Design for Institutional Development
- Coordination of Planning and Design for Residential Development
- Coordination of Planning and Design for Mixed-Use Development

PROFESSIONAL EXPERIENCE

Sara, a Registered Landscape Architect, coordinates land planning and governmental approval activities for institutional, residential, commercial, mixed-use and professional office/industrial projects. As a landscape architect, Sara also provides planning and design services for amenity and landscaping packages that complete and enhance our diverse resume of land development and municipal projects. Landscape Architect providing landscape design support for public and private sector clients including preparation of planting and amenity plans, site restoration designs and development of green stabilization strategies for challenging project environments.

Project Manager for the development of the University of Kentucky's Coldstream Research Campus and head of the project team of six consultants for that project. In addition to project management, contract administration and professional landscape design services for the 1,000-acre development, Sara has also been instrumental in site planning for many of the buildings within the overall campus and the Kentucky Technology Center.

Provided Planning and Regulatory Assistance in evaluating infill/redevelopment policies for the Lexington-Fayette Urban County Government while providing assistance in selecting and drafting redevelopment plans for high-profile infill sites within the downtown urban core.

Land Planner for the Master Plan and property acquisition services for Fayette County Public Schools' proposed Agri-Science Center to be located on a property to be acquired from the Federal correctional Medical Center on Leestown Road in Lexington. This project has involved dealing with requirements of local, state, and federal agencies.

Land Planner for the Master Plan for the Lafayette High School Athletic Campus for Fayette County Public Schools in order to effectively site the new football/soccer/track and stadium facilities while accommodating Lafayette's existing athletic facilities as well as system wide maintenance services.

Land Planner and Facilitator for the redevelopment of two tobacco warehouse blocks adjacent to the proposed Newtown Pike Extension project. The mixed-use infill development, currently under construction, will provide housing near the University of Kentucky and retail services for downtown residents. The project also included an extensive public involvement in the development of alternatives requiring numerous presentations.

Consultant to Kentucky Medical Services Foundation for site analysis and land acquisition services.

Landscape Architect for Omni Architects at the University of Louisville's Belknap Research Campus, Healthcare Management, Homewood Suites Hotel, Pepp Club, Kentucky Basketball Academy and Wellington Suites.

Land Planner and Facilitator for adaptive reuse and redevelopment of the 500-acre Continental Steel Superfund Site, Kokomo, Indiana. The project also included an extensive public involvement campaign in the development of alternatives requiring numerous presentations and feedback forums.

YEARS OF EXPERIENCE

36

YEARS WITH FIRM

36

EDUCATION

B.S. Political Science – University of Kentucky, Lexington, 1974

B.S. Landscape Architecture – University of Kentucky, Lexington, 1979

REGISTRATION

Registered Landscape Architect in Kentucky

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Sara E. Tuttle, RLA

Landscape Architect and Lead Planner for assessment and evaluation of industrial alternatives for Pike County, Indiana Growth Council.

Landscape Architect and Land Planner for numerous planned residential developments in Central Kentucky ranging in size from 2 acres to 750 acres. Provided consulting services related to Planning and Zoning approvals.

Consultant to the Lexington Developers Council on land development issues and has provided expert testimony in land-use cases.

Landscape Designer for Dominion Homes including entrance walls, boulevard plantings, decorative fencing, and lighting design for upscale residential communities.

PROFESSIONAL AFFILIATIONS

- 2008 – LFUCG Mayor's 2040 Visioning Team
- 2005 – 2006 – LFUCG Subdivision Regulations Update Committee
- 1993 – 1996 – Kentucky Board of Registration for Landscape Architects
- 1993 – 2001 – Judge, Homebuilders Association of Lexington "Project of the Year" competition
- 1995 – 1996 – LFUCG Expansion Area Master Plan Committee
- 1986 – 1988 – LFUCG Comprehensive Plan Update Committee
- 1985 – 1988 – Lexington-Fayette Urban County Government Environmental Commission
- 1984 – Leadership Lexington

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Elizabeth A. Dienst, P.E.

AREAS OF EXPERTISE

- Project Management
- Structural Design of Commercial Buildings
- Structural Design of Wastewater Treatment Facilities
- Structural Design of Educational and Industrial Buildings
- Structural Design of Water Supply
- Structural Design of Retaining Structures

PROFESSIONAL EXPERIENCE

Elizabeth is a licensed professional engineer in Kentucky with more than 13 years of experience. She has a variety of project management experience covering municipal, water, wastewater, and structural design and construction administration projects. Her project management experience has ranged from small, short-term projects up to multiyear construction administration projects with construction budgets up to $26 million. Elizabeth's design capabilities include structural design, architectural related tasks, water lines and sanitary sewer systems. Her structural project assignments have given her experience with steel framed buildings, reinforced concrete structures of all shapes and sizes, reinforced masonry structures, retaining structures in a variety of materials, and precast structures.

Municipal experience includes project management, structural design, and contract administration for two phases of work for LFUCG Truck Shed project for the Division of Waste Management. Management of design and contract administration for the Eastern State Hospital Relocation site design. Design work at the LFUCG Recycle Center.

Municipal Wastewater experience includes structural design of wastewater treatment facilities utilizing cast-in-place concrete, precast concrete, reinforced masonry, and structural steel for both new facilities and modifications to existing facilities for communities in Kentucky, West Virginia, Ohio, Indiana, and Wisconsin. Construction project management and resident observation experience for wastewater treatment facilities in Kentucky.

Municipal Water experience includes structural design of potable water reservoirs, pumping stations, and water treatment facilities for communities in Kentucky, West Virginia, and Wisconsin. Experience includes hazardous occupancy code review and compliance. Construction project management and resident observation experience for water treatment plant, water storage, and water main projects in Kentucky.

Industrial Building experience includes new facilities as well as modifications to existing structures for food processing plants, distillery buildings and warehouses, and manufacturing warehouses. Facility design and planning for Nestlé USA.

Project Management experience with design and construction administration projects. Successful in managing large or small design teams on site-civil design, facilities design and water and wastewater treatment design projects. Effective manager of construction administration projects of all types and disciplines. Experience includes large and small site-civil contracts, water supply and wastewater treatment facilities and structural facilities.

CONTINUING EDUCATION AND SEMINARS

- Leadership PE Graduate, Class of 2008 – 2009.

PROFESSIONAL AFFILIATIONS

- Kentucky Society of Professional Engineers (President, Bluegrass Chapter)
- National Society of Professional Engineers

YEARS OF EXPERIENCE

13

YEARS WITH FIRM

13

EDUCATION

B.C.E. Civil Engineering – University of Dayton, Ohio, 2002

REGISTRATION

Professional Engineer in Kentucky

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Chase K. Wright, P.E.

AREAS OF EXPERTISE

- Urban and Rural Highways
- Urban Streetscapes
- Traffic Signalization
- Storm Sewer Systems
- Green Infrastructure
- Wastewater Collection and Conveyance Systems

PROFESSIONAL EXPERIENCE

Project Management experience on planning, design, and construction contract administration projects. Chase has a variety of project management experience on transportation and municipal projects. Project management responsibilities include being a team leader for a specific task to providing overall project management. His project management experiences range from quick turnaround planning studies working with several staff to $26 million in construction with large project teams and multiple sub-consultants. His diverse design experience helps to provide a holistic understanding of project challenges to better develop the right project solutions.

Transportation planning experience on urban and rural highways, urban streetscapes, city streets, and pedestrian paths. Planning experience includes review of existing conditions and improvements to roadway geometrics, inclusion of pedestrian and bicycle accommodations, evaluation of alternative improvements, review of maintenance of traffic considerations, data collection for traffic analysis and trip generation, identification of utility and right-of-way impacts, public involvement, preliminary quantity calculations, and preparation of opinions of probable construction costs.

Transportation design experience on urban and rural highways, urban streetscapes, city streets, and pedestrian paths. Design experience includes roadway realignment, drainage evaluations and improvements, detailed grading analysis for urban streetscapes and ADA compliance, erosion control, sidewalk design adjacent to state highways, signing and pavement markings, traffic signalization upgrades and replacements, maintenance of traffic, roundabouts, railroads, utility coordination, special provisions, quantity calculations, FHWA grant administration, and preparation of opinion of probable construction costs.

Infrastructure and Utility Design experience includes planning, design, and rehabilitation of storm and sanitary sewers, interactive involvement with utility companies for planning and design of water, electric, gas, telephone, and fiber-optic systems and relocation designs for storm, sanitary, water, and overhead electric distribution lines.

Site Development experience on new construction, redevelopment, and demolition projects. Site development experience includes detailed and mass grading analysis, building and site demolition, utility coordination, coordination with landscape architects and architects, coordination with governing agencies, public involvement, parking lot design and turning radii studies, green infrastructure improvements, drainage analysis and design, sanitary sewer design, erosion control, pavement marking and signage, specification development, quantity calculations, and preparation of opinion of probable construction costs.

Wastewater Collection and Conveyance experience for evaluation of existing facilities, relocation projects, and system extension projects. Wastewater collection and conveyance experience includes evaluation of existing pump station of force mains, planning studies for growth and service areas, relocation of existing gravity and force mains for roadway improvement projects, new sanitary sewer design for providing sewer service for previously unsewered areas, governing agency coordination, specification development, quantity calculations,

YEARS OF EXPERIENCE

8

YEARS WITH FIRM

7

EDUCATION

B.S. Civil Engineering – University of Kentucky, 2007

REGISTRATION

Professional Engineer in Kentucky

STRAND ASSOCIATES®

Chase K. Wright, P.E.

and preparation of opinion of probable construction costs.

Construction Contract Administration experience includes urban streetscapes with storm and sanitary sewer construction and utility coordination, water, electrical, and sanitary utility relocation projects and wastewater collection and conveyance systems. Including KIA funding assistance, field design modifications, facilitate progress meetings, coordinate with utility owners, review pay requests, evaluate contractor change orders, and shop drawing review.

Field experience includes assistance with urban streetscape projects, including field meetings and working with the project team and the contractor to resolve conflicts in the field. Field experience also includes construction observation for a roadway project that involved asphalt sampling, concrete testing, storm sewer installation, and material records.

PUBLICATIONS/PRESENTATIONS

- "Designing for Tomorrow's Urban Environments" Southeastern Association of State Highway and Transportation Officials Annual Conference, Louisville, Kentucky, 2011

PROFESSIONAL AFFILIATIONS

- Kentucky Society of Professional Engineers, Bluegrass Chapter, Banquet Chapter Director

Steven B. Vogel, E.I.T.

AREAS OF EXPERTISE

- Residential and Commercial Site Design and Plan Preparation
- Hydrologic Modeling
- Sanitary Sewer Hydraulics and Design
- Water Supply Hydraulic Modeling and Design
- Storm Sewer Hydraulic Modeling and Design
- Project Management

PROFESSIONAL EXPERIENCE

Valvoline Corporate Headquarters – Lead engineer and design team manager for the site civil design including plat and development plan submittal, hydrologic modeling and storm water management design with floodplain impact mitigation, roadway and site grading, utility coordination, and city, state, and federal permitting coordination.

Lexington Mall Properties Out Lot Redevelopment – Design for site including the layout of multiple commercial sites and design of the associated grading, utilities, and storm sewers. Work also included the development and submittal of the Letter of Map Revision to FEMA.

Liberty Road at Winchester Road Intersection Improvements – Local and state road intersection redesign including retrofitting existing parking entrances, storm sewer inlets, as well as the evaluation of vehicle turning movements, pedestrian access routes and utility coordination in and urban environment.

Lexington Rd Pump Station Improvements – Involved in the design for the replacement of an existing pump station and force main. Work included pump selection, force main design, construction sequencing and closure plan, utility layout, and site grading.

Shelbourne Plaza, Lexington, Kentucky – Involved in the study of existing storm sewer and sanitary sewer conditions looking at the feasibility of development on the site. The study included a researched history of the conveyance systems in the area with field and video confirmation. Also developed initial construction plans incorporating the development into the existing systems as well as the encroachment permit for South Broadway.

Solid Waste Facility Expansion, Lexington, Kentucky – Involved in the completion of the construction plans required for the update to the initial submittal. Update included road design, grading, wet pond design, and storm sewer design.

Emerald Ridge and Diamond Ridge, Indianapolis, Indiana – Developed the drainage study which involved analysis of existing drainage patterns and prediction of future runoff patterns for the subdivisions. Also assisted in layout and sizing of storm water pipes and structures, pond grading, flood protection, overflow swales, and control structures for pond routing.

CONTINUING EDUCATION AND SEMINARS

- Confined Space Awareness Training – Confined Space Regulation and Equipment Familiarization Course – Received information and training requirements as set forth in Subpart J-Fall Protection, 29 CFR Part 1910.146-December 2005
- Four-Hour Fall Protection Training – Fall Protection Regulation and Equipment Familiarization Course – Received information and training requirements as set forth in subpart M-Fall Protection, 29 CFR Parts 1910 and 1926 specifically part 1926.503 training requirements – December 2005

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers

YEARS OF EXPERIENCE

10

YEARS WITH FIRM

4

EDUCATION

M.S. Secondary Education – University of Kentucky, Lexington, 2011

B.S. Civil Engineering – University of Kentucky, Lexington, 2005

REGISTRATION

Engineer-in-Training in Kentucky

STRAND ASSOCIATES®

Christopher J. Rust, P.E.

AREAS OF EXPERTISE

- Stormwater Management Planning
- Green Infrastructure / BMP Design
- Hydraulic and Hydrologic Modeling
- MS4 Regulatory Compliance
- Storm System Infrastructure Design
- Watershed Master Planning

PROFESSIONAL EXPERIENCE

Chris has 10 years of experience as a stormwater and water resource engineer, which has included a variety of floodplain studies. His stormwater experience has included a blend of project management, stormwater modeling, planning and technical design. Chris has extensive experience with stormwater management projects that have focused on floodplain studies. Examples of Chris's previous experience relevant to this project include the following.

Floodplain Review Assistance – Bullitt County Fiscal Court, Shepherdsville, Kentucky – As project manager and project engineer, Chris provided assistance to the Bullitt County Fiscal Court in reviewing proposed floodplain mapping changes developed by FEMA. The analysis included detailed summaries of impacted properties as a result of the proposed floodplain changes, including financial implications to homeowner's and the County. Chris also coordinated with the County to identify preliminary potential mitigation alternatives.

Waterworks Tributary Floodplain Study – City of Newport, Kentucky – As a project engineer for the proposed Waterworks Stormwater Control Facility, Chris provided assistance with field investigations and reconnaissance of the Waterworks Tributary and larger Woodlawn Creek Watershed for this $1.2 million flood control project. Using XPSWMM, hydrologic and hydraulic analysis of the 2,500-acre watershed was conducted to evaluate benefits of the completed 45 acre-foot impoundment. The model was utilized by the City as a tool to facilitate corrective changes to the 2013 DFIRM Mapping issued for the downstream area.

Paddy's Run CSO Basin Evaluation – Louisville and Jefferson County MSD, Louisville, Kentucky – As project manager and project engineer, Chris lead an evaluation of the potential flood reduction benefits provided by a variety of green infrastructure projects within the Paddy's Run combined sewer overflow basin for MSD. Several hundred properties in this location of MSD's service area are prone to flooding during large rainfall events, and the green infrastructure projects are intended to provide both a flood reduction and CSO volume reduction benefit.

Stormwater Management Planning and Design – Sanitation District No. 1 of Northern Kentucky – As a lead design engineer, Chris has assisted SD1 with the development of numerous stormwater programs and projects to achieve compliance with the MS4 permit. He played a key role in the creation of SD1's BMP Manual and revised stormwater regulations. Chris was also the lead design engineer for numerous green infrastructure stormwater management projects that included bioretention basins, planter boxes, bioswales, and reforestation. Several of the projects are highly visible to demonstrate SD1's commitment to innovative stormwater management.

MS4 Compliance Assistance – Multiple Clients in Kentucky – As a design engineer, Chris has assisted numerous clients in Kentucky to achieve regulatory compliance with the MS4 permit. This has included assistance with the development of stormwater ordinances for Morehead, KY, assistance with a BMP Manual for Georgetown, KY, assistance with a monitoring plan for Paducah, KY, and assistance with stormwater ordinances for Frankfort, KY.

YEARS OF EXPERIENCE

10

YEARS WITH FIRM

10

EDUCATION

M. Eng. Civil Engineering – University of Louisville, Kentucky, 2006

B.S. Civil Engineering – University of Louisville, Kentucky, 2005

REGISTRATION

Professional Engineer in Ohio and Kentucky

PROFESSIONAL AFFILIATIONS

Kentucky Society of Professional Engineers (currently serving as President Elect of Northern KY chapter)

STRAND ASSOCIATES®

Michael A. Williams, P.E.

AREAS OF EXPERTISE

- Hydrologic and Hydraulic Modeling
- Stormwater Conveyance and Storage Design
- Pollutant Loading and Management
- Stormwater Management Planning
- Municipal Engineering
- Utility Engineering

PROFESSIONAL EXPERIENCE

Stormwater experience includes hydraulic and hydrologic modeling, storm sewer and detention basin design, streambank stabilization/restoration, flood plain analysis, pollutant loading and management modeling, and construction observation.

Southland Christian Church, Lexington, Kentucky – This project utilized HEC-RAS to perform a hydraulic analysis of West Hickman Creek and Idle Hour Tributary to support the submittal for a FEMA CLOMR and two subsequent LOMRs. Site work included reclamation of underutilized shallow pond areas adjacent to Richmond Road and modifications to conveyance channels to improve hydraulics and remove several potential out lots from the 100-year floodplain.

Lick Run Valley Conveyance System Planning and Design, Metropolitan Sewer District of Greater Cincinnati, Ohio – Mike assisted with modeling for the Lick Run Valley Conveyance concept development, master planning, and design efforts. The project used the HEC-HMS program to generate the hydrology, hydrographs, and XPSWMM for the design of storm sewer and channel conveyance. The project includes 55,000 feet of storm sewer and restoration of the historic Lick Run channel. Mike led the water quality analysis for the project. Using WinSLAMM, Mike incorporated proposed bioinfiltration basins, treatment devices, a forebay, and an online pond into the watershed model to determine the percent reduction in total suspended solids.

Bee Branch Channel Restoration, City of Dubuque, Iowa – Mike completed the modeling and hydraulic analysis for the planning and design of the Bee Branch stream used daylighting project. He used XPSWMM-2D and HEC-HMS models to analyze and design the open channel concept. The channel analysis and design included a levee, downstream detention basin, levee control structure, operating protocols, and five bridges.

Sawyer Creek Watershed Analysis, City of Oshkosh, Wisconsin – Mike completed the stormwater modeling and hydraulic analysis of the 15.7-square-mile Sawyer Creek Watershed. The modeling effort for this project assisted in selecting and developing three separate projects within the City of Oshkosh. Mike used HEC-HMS, HEC-RAS, and XPSWMM models to analyze each project alternative including several regional detention basins and streambank restoration. Next Generation Radar (NEXRAD) Rainfall Data was used to help calibrate the existing condition models.

Campbell Creek Watershed Analysis, City of Oshkosh, Wisconsin – Mike completed the hydrologic and hydraulic analysis for this project that included using XPSWMM and XPSWMM-2D to analyze the existing drainage system and analyze alternatives, including storm sewer upsizing and new detention basins.

Rapid Run Sustainable Watershed Evaluation, Metropolitan Sewer District of Greater Cincinnati, Ohio – Mike was the lead modeling engineer for this watershed evaluation to reduce CSOs and provide flooding relief for homeowners. The project used HydroCad to generate hydrology and pond design and XPSWMM for the design of storm sewer and channel conveyance. The project included the preliminary design of 19,400 feet of storm sewer and 4,300 feet of open channel.

YEARS OF EXPERIENCE

15

YEARS WITH FIRM

15

EDUCATION

B.S. Civil/Environmental Engineering – Iowa State University, Ames, 2000

REGISTRATION

Professional Engineer in Wisconsin

STRAND ASSOCIATES®

Wayne D. Maki, P.E.

AREAS OF EXPERTISE

- Project Management of Multidisciplined Design Teams
- Water Treatment and Wastewater Treatment Facilities
- Industrial, Municipal, and Commercial Buildings

PROFESSIONAL EXPERIENCE

Project Management experience has emphasized leadership of multidisciplined building design teams in a wide variety of project settings, both as primary consultant and subconsultant.

Design Engineering expertise includes structural design of new facilities and rehabilitation and remodeling of existing structures; water and wastewater treatment plant design, including reservoirs, tanks, process and administrative buildings; and miscellaneous structures including telecommunications sites, a waterfront plaza, spill containments, and fire-resistant construction.

Municipal Building experience includes structural design, rehabilitation, and remodeling of new and existing administration and other public works buildings; evaluation and planning related to existing public buildings, and preparation of specifications and project coordination for municipal salt storage facilities.

Industrial Building experience includes structural design for new facilities and modifications for existing facilities for several industrial clients. Evaluation of existing structures for installation of new cranes, hoists, or HVAC equipment has been an area of emphasis.

Commercial Building experience includes structural design of a new four-story office building for a national charity organization, a live-work grocery store/retail complex, and an operations and office building for a telecommunications company.

Municipal Wastewater experience includes structural design of wastewater treatment plant facilities for communities such as Columbus, Indiana, and Deerfield, Illinois.

Municipal Water experience includes structural design of potable water reservoirs, water pumping stations, and water treatment facilities for a number of communities including LeMont, and Rockford, Illinois; Whitewater, and Waupun, Wisconsin, and Guthrie, Kentucky.

School Design experience includes structural design for additions and a new K-5 school.

Multiple project settings, including primary consultant, subconsultant to A/E firms, conventionally bid construction, design-build, and negotiated construction.

PROFESSIONAL AFFILIATIONS

- American Institute of Steel Construction
- American Concrete Institute
- Tau Beta Pi
- Chi Epsilon

YEARS OF EXPERIENCE

30

YEARS WITH FIRM

20

EDUCATION

M.S. Civil Engineering – University of Illinois, 1995

B.S. Civil Engineering – University of Illinois, 1986

REGISTRATION

Professional Engineer in Wisconsin

STRAND ASSOCIATES®

Adam D. Weber, P.E.

AREAS OF EXPERTISE

- Structural Design of Bridges and Transportation Structures
- Structural Design of Municipal and Industrial Buildings
- Structural Design of Retaining Structures
- Structural Design of Underground Utility Structures
- Structural Design of Wastewater and Water Treatment Facilities
- Project Management

PROFESSIONAL EXPERIENCE

Adam's consulting experience is in the field of structural engineering with emphasis on bridge and hydraulic structure design, wastewater and potable water treatment plants, retaining structures, and industrial facilities.

Project Management experience includes the Legacy Trail Feasibility Study, Legacy Trail Phases 1 and 2 Design, Appomattox Road Culvert Replacement project, and the Salt Barn Site and Facility Design for the Lexington-Fayette Urban County Government. Adam has also managed several potable water reservoir projects for the Frankfort Plant Board and a large sanitary sewer line extension construction project for the Jessamine-South Elkhorn Water District.

Municipal Building experience includes structural design, rehabilitation, and construction related services of new and existing public works buildings; quality control of site improvements at an existing public works facility; and planning, preparation of contract documents, and project coordination for a municipal salt storage facility.

Industrial Building experience includes structural design for new facilities and modifications to existing facilities for several industrial clients including Dial, GM, and Quaker-Tropicana-Gatorade. Design work includes the use of structural design software and modeling of structures using 3-D frame and plate analysis programs.

Municipal Wastewater experience includes structural design of wastewater treatment plant facilities and pumping stations utilizing cast-in-place concrete, precast concrete, masonry, and structural steel for communities in Kentucky, Indiana, Illinois, Ohio, Wisconsin, West Virginia, Mississippi, and Alabama. Design work includes finite element modeling of plates, tanks, and slabs.

Municipal Water experience includes structural design of water treatment plant facilities, pumping stations, potable water reservoirs and chemical feed buildings for communities in Kentucky, Ohio, and Wisconsin. Inspection experience includes structural inspections and recommendations for in-ground water storage reservoirs in Kentucky and Ohio.

Bridge Design experience includes field survey, planning, inspection, preliminary and final design, and preparation of plans, specifications, and estimates for single and multi-span bridges, box culverts, three-sided bridges, pedestrian bridges, retaining walls, sign bridges, and other transportation structures. Design work also includes development of aesthetic details and specifications for architectural surface treatments and custom railings. Bridges designed for municipal, city, county, state trunk highway, and tollway systems in Kentucky, Ohio, Illinois, and Wisconsin, which includes new design, replacements, rehabilitation, and widening.

CONTINUING EDUCATION AND SEMINARS

- ODOT Bridge Inspection Certification as a Program Manager and Team Leader

PROFESSIONAL AFFILIATIONS

- Kentucky Society of Professional Engineers
- American Institute of Steel Construction

YEARS OF EXPERIENCE

15

YEARS WITH FIRM

15

EDUCATION

B.S. Civil Engineering (Emphasis on Structural Engineering) – Rose-Hulman Institute of Technology, Terre Haute, Indiana, 2000

Minor in Environmental Engineering – Rose-Hulman Institute of Technology, Terre Haute, Indiana, 2000

REGISTRATION

Professional Engineer in Kentucky, Mississippi, and Ohio

STRAND ASSOCIATES®

Michael L. Davis, P.E.

Senior Associate

AREAS OF EXPERTISE

- Electrical Distribution
- Instrumentation and Control
- Site Utilities
- Sewer System Rehabilitation
- Traffic Signalization and Roadway Lighting

PROFESSIONAL EXPERIENCE

Sanitary Sewer Modeling experience includes project management for study and modeling of sanitary sewers within three major water sheds within Fayette County. Activities include setting modeling guidelines, developing field investigation techniques, and reviewing results to make recommendations for system improvements.

Site Utilities experience includes design and construction-phase services in support of municipal and commercial projects. Municipal project responsibilities included design and coordination with utility companies to provide appropriate services for water, sanitary sewer, natural gas, and electric services.

Sewer System Rehabilitation experience includes project management and design to rehabilitate sewer systems using a variety of rehabilitation methods including pipe bursting, slip-lining, and cured-in-place lining, in addition to traditional excavation types of repairs. Responsibilities include project planning, evaluation of existing pipe conditions, applying the different rehabilitation strategies and construction administration.

Wastewater Treatment Facilities experience includes project management and design for treatment plants up to 3 mgd. Responsibilities include management during the design, bidding, and construction administration phases of the project.

Electrical Instrumentation and Control experience includes design and construction-phase services for numerous projects including water and wastewater treatment plants, pumping stations, commercial office buildings, signals and lighting. Projects include distribution systems with voltages ranging from 120/240 volts to 12,470 volts. Instrumentation control experience includes PC-based SCADA systems with up to 60 remote sites, and PLC-based control systems and treatment process monitoring/control equipment to provide plant automatic control.

Pumping Station experience includes project management and design experience for wastewater pumping stations and force mains. Pump station sizes range from 35 to 15,000 gpm. Force mains range in diameter up to 30 inches, and lengths up to 24,000 feet.

Estill County Water District, Irvine, Kentucky – Supervised design and implementation of rural water main extensions.

Lexington-Fayette Urban County Government – South Limestone, West Main Street, Vine Street, and East Main Street Streetscape Design, Lexington, Kentucky – Streetscape design project includes signal replacement, signing, sidewalk, delivery zones, on-street parking, pedestrian amenities, and landscaping. Led efforts for the electrical design for lighting and signal, including photometrics.

Kentucky American Water – Owenton, Kentucky – Design of 30 mgd water booster pumping station, including mechanical, electrical, and SCADA systems.

Paintsville Utilities, Paintsville, Kentucky – Project Manager for 4 mgd membrane filtration water treatment plant design project that included a 24-inch raw water and finished water transmission main and 500,000-gallon elevated storage tank.

YEARS OF EXPERIENCE

32

YEARS WITH FIRM

32

EDUCATION

B. S. Electrical Engineering – University of Kentucky, Lexington, 1984

REGISTRATION

Professional Engineer in Kentucky, Alabama, and Mississippi

STRAND ASSOCIATES®

Michael L. Davis, P.E.

Senior Associate

PROFESSIONAL AFFILIATIONS

- Kentucky Society of Professional Engineers
- National Society of Professional Engineers
- Society of American Military Engineers, Huntington Post
- American Council of Engineering Companies

CONTINUING EDUCATION AND SEMINARS

- Confined Space Awareness Training – Confined Space Regulation and Equipment Familiarization Course – Received information and training requirements as set forth in Subpart J–Fall Protection, 29 CFR Part 1910.146 – April 2004
- Four-Hour Fall Protection Training – Fall Protection Regulation and Equipment Familiarization Course – Received information and training requirements as set forth in Subpart M–Fall Protection, 29 CFR Parts 1910 and 1926 specifically part 1926.503 – April 2004

STRAND ASSOCIATES®

Jacob E. Fitzsimmons, P.L.S.

AREAS OF EXPERTISE

- Boundary, Topographic and ALTA Surveys
- Subdivision Design/Layout
- Construction Staking

PROFESSIONAL EXPERIENCE

Field experience includes topographic and route surveys, calculating boundaries for metes and bounds, subdivided lots, and ALTA surveys; performing calculations and field work for construction and house staking.

Right of Way Engineering

- Klondike and Lindberg Road – Tippecanoe County Commissioners, Indiana
- Bridge 228 – Jackson County Commissioners, Indiana
- Bridge 26 – Bartholomew County Commissioners, Indiana
- Carr Hill Road – City of Columbus, Indiana
- INDOT-S.R. 16 – Huntington County, Indiana
- INDOT-S.R. 16 – Wabash County, Indiana
- C.R. 800S – Steuben/DeKalb Counties – Steuben County Commissioners, Indiana
- INDOT-US 24 – Allen County, Indiana
- INDOT-S.R. 15 – Kosciusko County, Indiana
- INDOT-S.R. 332 – Delaware County, Indiana
- Star Hill Road – Clark County Commissioners, Indiana
- Rocky Ford Road – Bartholomew County Commissioners, Indiana

Right of Way Management

- INDOT – US 31 & CR 400S – Bartholomew County, Indiana
- INDOT – US 31 over Quade Ditch – Jackson County, Indiana
- INDOT – US 31 over Sand Creek – Bartholomew and Jackson Counties, Indiana
- Klondike & Lindberg Road – Tippecanoe County Commissioners, Indiana

Field Survey

- Grand Avenue Phase II – City of Connersville, Indiana
- INDOT-S.R. 37/Bluff Creek Bridge Rehabilitation – Johnson County, Indiana
- Michigan Road WWTP – Clay Township Regional Waste District, Indiana
- INDOT-S.R. 124 – Peru, Indiana – Miami County, Indiana
- Stormwater Project – Town of Wolcott, Indiana – White County, Indiana
- Bridge No. 30 Replacement – Ohio County, Indiana – Ohio County Commissioners, Indiana
- INDOT-S.R. 33 Bridge Rehabilitation – Benton, Indiana, Elkhart County, Indiana
- Lawrenceburg Conservancy District – Stormwater Mod. Topo – Lawrenceburg, Indiana, Dearborn County, Indiana
- Bartholomew County Public Library – Columbus, Indiana
- Columbus Regional Hospital – East Parking Lot – Columbus, Indiana
- Garrett WWTP – City of Garrett, Indiana
- Tipton WWTP – City of Tipton, Indiana
- SR 64 and Tunnel Hill Intersection – Floyd County Commissioners – Floyd County, Indiana
- INDOT SR 156/Fisk Creek Bridge – Switzerland County, Indiana
- INDOT SR 56/Green Valley Creek Bridge – Switzerland County, Indiana
- Kentucky Transportation Cabinet – KY 2160 Bridge – Allen County, Kentucky

Design

- Huntington Landfill Partial Closure – City of Huntington, Indiana
- 16th Street Trail Extension – Town of Ferdinand, Indiana
- Cherry Street Improvements – City of Columbus, Indiana
- Columbus Outdoor Athletic Complex Street Improvement – City of Columbus, Indiana

YEARS OF EXPERIENCE

11

YEARS WITH FIRM

7

EDUCATION

Land Surveying – Purdue University, Calumet, Indiana

A.S. Design Technology/Architecture – Ivy Tech CC, Muncie, Indiana, 2006

REGISTRATION

Professional Land Surveyor in Indiana

STRAND ASSOCIATES®

Jacob E. Fitzsimmons, P.L.S.

- Columbus Regional Hospital – East Parking Lot – Columbus, Indiana
- Lick Run – MSD of Greater Cincinnati – Cincinnati, Ohio

Office experience includes creating plat of survey, survey location reports, ALTA surveys; preparing legal descriptions for boundaries and easements; and drafting for wastewater structures.

- Fair Oaks Mall ALTA Survey – New Fiar Oaks Owners
- Parkview Town Homes ALTA Survey – Parkview Townhouse Limited Partnership
- Oxford Square Replat – Columbus, Indiana – Parkview Townhouse Limited Partnership
- SR 64 and Tunnel Hill Road LCRS – Floyd County Commissioners – Floyd County, Indiana

PROFESSIONAL AFFILIATIONS

- Indiana Society of Professional Land Surveyors

- National Society of Professional Surveyors

Project Role:
Project Geotechnical Engineer

Company:
S&ME, Lexington, Kentucky

Education
Bachelor of Science in Geological Engineering, University of Missouri – Rolla, 2000

Years of Experience:
Has 14 years of engineering experience

Professional Certifications:
- Professional Engineer – Kentucky #23,977

ANDREW M. FIEHLER, P.E.
STAFF GEOTECHNICAL ENGINEER

In June 2000, Mr. Fiehler joined S&ME, Inc. as a Staff Engineer. Since that time, Mr. Fiehler has acquired his license to practice Professional Engineering in the Commonwealth of Kentucky, and has progressed from Staff Engineer to Project Engineer / Project Manager. Mr. Fiehler has successfully completed formal training in Project Management and Loss Prevention as well as ASFE's Fundamentals of Professional Practice course.

Mr. Fiehler brings 14 years of hands-on experience in geotechnical, construction materials testing, and forensic geotechnical engineering. He has experience on projects throughout Kentucky, Indiana, Ohio, Virginia, North Carolina and Tennessee. His experience encompasses most geotechnical and construction aspects of manufacturing, educational, institutional and municipal building sites, as well as water tanks and towers, treatment plants, cellular towers, slope stability evaluations, dams, bridges and highways. His specific responsibilities have included design, coordination and performance of subsurface explorations, construction monitoring and observation, laboratory testing programs, data compilation and analysis, geotechnical engineering analysis and design, preparation of engineering reports and proposals and project management of geotechnical engineering and construction monitoring projects. Mr. Fiehler has also participated in several forensic geotechnical and materials testing projects.

KEY PROJECTS AND ASSIGNMENTS

Man-O-War Boulevard
Lexington, Kentucky
Mr. Fiehler served as the project engineer / project manager of the geotechnical exploration, laboratory testing, stability evaluation and construction monitoring of a ¼ mile section of Man-O-War Boulevard adjacent to the Polo Club subdivision. The development of the Polo Club subdivision, and requisite stormwater detention basins, required re-grading Man-O-War Boulevard to serve as the detention basin dam for the subdivision. Also included in the project was construction of a three-barrel box culvert with a semi-circular weir structure.

U of L - Shelby Campus Roadway
Louisville, Kentucky
Mr. Fiehler served as the project engineer / project manager for the geotechnical exploration for the realignment of the main University of Louisville Shelby Campus roadway and two side roads. The exploration included exploration of the new alignment, evaluation of the existing pavement and several Karst features at the project site.

Dolwick Connector
Florence, Kentucky
Mr. Fiehler performed stability analysis of numerous sections of the proposed roadway construction of the realignment of the intersection of I-75 and I-275. The new roadway alignment also included a frontage road. The stability evaluation included evaluation of soil slopes, mechanically stabilized slopes and tie-back retaining walls.

Pikeville/Pike County Airport
Pikeville, Kentucky
Mr. Fiehler has served as the project engineer / project manager for several projects at the airport including a new T-hangar, taxi-way extension and roadway relocation, runway side slope stabilization, and runway pavement exploration. The Pike County Airport is situated along ridge tops that have been strip mined and reclaimed with mine spoil materials. FAA regulations required that the taxi-ways be extended to close a gap in the existing taxi-way. The taxi-way extension required relocating a roadway adjacent to the airport. Construction of the new roadway alignment and taxi-way extension will include a two-tiered MSE slope over 1000 feet long. Mr. Fiehler performed the slope stability analysis for the taxi-way extension/road relocation project as well as for two slope failures adjacent to the secondary runway. Repair of the secondary runway slopes will include construction of MSE slopes of about 200 feet and 700 feet in length.

Pikeville/Pike County Airport – Pavement Evaluation
Pikeville, Kentucky
Mr. Fiehler was the project engineer / manager for the evaluation of the existing main runway at the airport. The runway has experienced differential settlement since its original construction resulting in an undulating runway surface. Mr. Fiehler oversaw the exploration and laboratory testing, performed the analysis and developed the remediation recommendations for the runway.

Pikeville/Pike County Airport-Slide Corrections
Pikeville, Kentucky
Mr. Fiehler was one of the project engineers in responsible charge of designing two SierraScape™ Mechanically Stabilized Earth retaining walls on a reclaimed mine spoil site that has been developed as a regional airport. The retaining walls were designed to accommodate the repair of landslides that have affected the runway and safety zone adjacent to the runway. Repair of the secondary runway slopes will include construction of MSE slopes of about 200 feet and 700 feet in length.

Western Regional Conveyance Tunnel
Burlington, Kentucky
Mr. Fiehler assisted with installation of borehole extensometers and tape extensometer anchors in the 6-mile long bored tunnel and access shafts.

Mr. Fiehler performed a slope stability analysis of the cut slope at the tunnel entrance and assisted with the post-construction condition surveys of the structures within the construction corridor.

Cracker Barrel Old Country Stores
Kentucky and Indiana
Mr. Fiehler has served as the project engineer / project manager for numerous Cracker Barrel sites in Kentucky and Indiana. He has overseen the geotechnical exploration, laboratory testing, and report preparation as well as overseeing construction materials testing during construction.

O'Charley's Restaurant
Kentucky and Ohio
Mr. Fiehler has served as the project engineer / project manager for several O'Charley's sites in Kentucky and Ohio. He has overseen the geotechnical exploration, laboratory testing, and report preparation.

Lowe's Home Improvement Warehouse
Danville and Georgetown, Kentucky
Mr. Fiehler has served as the project engineer / project manager for two Lowe's Home Improvement Warehouse store sites in Kentucky. He has overseen the geotechnical exploration, laboratory testing, and report preparation as well as overseeing construction materials testing during construction.

Sub-Zero / Wolfe
Richmond, Kentucky
Mr. Fiehler served as the project engineer/ project manager for the Sub-Zero/Wolfe Manufacturing plant in Richmond, Kentucky. The project consists of three, 200,000 square foot phases for the facility. The project also included construction of an entry road, pavement areas and a detention pond.

Schlumberger
Inez, Kentucky
Mr. Fiehler served as the project engineer / project manager for the new Schlumberger facility at the Honey Branch Industrial Park near Inez, Kentucky. The project included construction of a combination office/shop building, storage buildings and bulk explosive storage bins. The Honey Branch Industrial Park is situated on a reclaimed coal strip mine. The geotechnical exploration focused on delineating the lateral extent of the strip mine benches.

Kentucky TransPark
Bowling Green, Kentucky
Mr. Fiehler served as the project engineer during the preliminary explorations of the Kentucky TransPark in Bowling Green, Kentucky. The

exploration focused on evaluating the proposed roadways and development lots as well as delineating the Karst features of the region.

Bridge over Ball's Fork/KY80 Stability
Knott County, Kentucky
Mr. Fiehler served as the project engineer for the geotechnical exploration of a proposed bridge extending from KY80, over Ball's Fork, to the Star Fire Mine. The geotechnical exploration also included evaluation of sloughing of the roadway fill material near the proposed north bridge abutment. Mr. Fiehler oversaw the exploration of both the bridge and landslide as well as performed the slope stability evaluation of the slope.

Berea College EcoVillage
Berea, Kentucky
Mr. Fiehler served as the project engineer / project manager of the geotechnical exploration, laboratory testing, and construction monitoring of the Eco Village at Berea College in Berea, Kentucky. The Eco Village is a "Living Classroom" that includes several multi-family housing structures and other support structures all developed with green living in mind. The project also includes on-site biological waste water treatment facilities, solar collectors and numerous other greens/self-sustaining technologies.

Laurel County Elementary
London, Kentucky
Mr. Fiehler served as the project engineer / project manager of the geotechnical exploration, laboratory testing, and construction monitoring of the new Laurel County Elementary School in London, Kentucky. The project included construction of the elementary school, athletic fields and entrance road with a pre-cast single span bridge. The geologic conditions at the project site required rock excavation across the majority of the building pad as well as several deep fills to achieve the final site grades.

Caneyville Elementary
Caneyville, Kentucky
Mr. Fiehler served as the project engineer / project manager of the geotechnical exploration, laboratory testing, and construction monitoring of the new Caneyville Elementary School in Caneyville, Kentucky. The project included construction of the elementary school, athletic fields and entrance road.

KY American Pump Station, Water Tanks and Water Main
Franklin, Scott and Fayette Counties, Kentucky
Mr. Fiehler served as the project engineer / project manager of the geotechnical exploration and laboratory testing of the pump station, water storage tanks and water main route of the new water main being constructed through Franklin, Scott and Fayette Counties. The new pump station and water tanks are located in eastern Franklin County. The pump station

includes several structures which house the control room and pumps for the 30 million gallon per day pump station. At the pump station facility there is also a 2 million gallon water tank with an area set aside for a second water tank. The pump station is tied to the treatment plant by 60-inch diameter ductile iron piping. Mr. Fiehler oversaw the geotechnical exploration and laboratory testing along the piping right-of-way through Franklin, Scott and Fayette Counties. Included in the piping route are tunnel bore crossings beneath a rail road and Interstate I-75 near the Horse Park.

Clay County Water Treatment Plant

Manchester, Kentucky

Mr. Fiehler served as the project engineer / project manager of the geotechnical exploration and laboratory testing for a new water treatment plant in Clay County near Manchester, Kentucky. The new treatment plant will include the control building with integrated oxidation tanks, clarifiers and chemical storage tanks. Settling basins and sludge drying basins will be located adjacent to the treatment building structure.

Water Tanks and Towers

Throughout Kentucky

Mr. Fiehler has served as the project engineer / project manager for numerous water tanks throughout Kentucky, from Caldwell County in the west to Harlan County in the east to Monroe County in the south to Lewis County in the north. The water tanks have varied in style from ground storage tanks to standpipe tanks to multi-leg and pedestal elevated tanks. Tank volumes have ranged from 20,000 gallons to 2,000,000 gallons.

Clinch River Power Plant Expansion

Carbo, Virginia

Mr. Fiehler served as the project engineer / project manager for the exploration, laboratory testing, and stability analysis of the substation expansion at the Clinch River Power Plant in Carbo, Virginia. The expansion of the substation requires a sidehill fill to expand the surface area of the existing substation. The sidehill fill will vary in thickness from 1 to 25 feet thick. The hillside is approximately 50 feet tall from substation yard elevation at the top to the chiller tower access road at the bottom.

Hayswood Hospital

Maysville, Kentucky

Mr. Fiehler served as the project engineer / project manager for the geotechnical exploration, laboratory testing and stability analysis of the hillside behind the abandoned Hayswood Hospital in downtown Maysville, Kentucky prior to its demolition. The 4-stories of the existing hospital were notched into the hillside on the rear of the hospital. The hillside extended uphill behind the hospital an additional 40 feet above the roof of

the hospital. Prior to demolition of the hospital, Mr. Fiehler evaluated the stability of the hillside to determine if stabilization of the hillside would be required once the hospital was demolished.

Dale Hollow Lake State Park Addition
Dale Hollow State Park, Kentucky
Mr. Fiehler served as the project engineer / project manager for the expansion of the Dale Hollow State Park Lodge to include a convention center, the associated support facilities and new access roadway.

Mason County Health Department/Government Center
Maysville, Kentucky
Mr. Fiehler served as the project engineer / project manager for the exploration, laboratory testing, site seismic evaluation and construction testing of the new Mason County Health Department / Government Center facility. The new three-story structure is located in downtown Maysville, Kentucky in the Ohio River floodplain. The deep, soft, sandy alluvial soils at the project site, coupled with the encountered previously placed fill materials, required the use of auger cast piles to support the structure.

Whitley County Judicial Center
Williamsburg, Kentucky
Mr. Fiehler served as the project engineer / project manager for the exploration and laboratory testing for the Whitley County Judicial Center in Williamsburg, Kentucky. The proposed three-story structure is located adjacent to the Cumberland River. The project site was occupied by five existing structures prior to development of the judicial center. The existing fill materials and the soft, wet, sandy alluvial soils of the floodplain required the use of rock bearing drilled shafts to support the building.

Bowling Green Minor League Baseball Stadium
Bowling Green, Kentucky
Mr. Fiehler served as the project engineer / project manager for the exploration and laboratory testing for the new Minor League Baseball Stadium and parking garage in Bowling Green, Kentucky. The baseball stadium development includes a courtyard/entry area, clubhouse/locker rooms, and stadium seating with corporate boxes. The stadium will serve as the corner piece of the nine block downtown redevelopment project which includes the KY Southern Performing Arts Center, Convention Center, retail stores and apartment buildings.

McAlpine Lock Rock Core
Louisville, Kentucky
Mr. Fiehler was on-site during the coring of the old lock and bedrock prior to construction of the new 1200-foot lock at the McAlpine Lock facility.

Mr. Fiehler was responsible for logging the recovered core of the existing lock and bedrock prior to installation of tensioning cables and demolition of the old lock.

Mine Spoil Extensometers

Perry and Letcher Counties, Kentucky

Mr. Fiehler served as the project engineer in charge of installing and monitoring of extensometers installed to monitor the long term settlement/consolidation of mine spoil materials. The extensometer data was used to evaluate the potential settlement of proposed industrial parks. Dr. Wayne A. Karem, PhD. utilized the extensometer data in his doctoral thesis involving the long term stability of reclaimed mine spoil sites.

Scott Fork Fill Site

Pike County, Kentucky

Mr. Fiehler served as the project engineer / project manager for the evaluation of a 40-acre highway waste site. The highway waste fill extended to depths of over 200 feet. Data obtained during the geotechnical exploration of the subject site was used in conjunction with the mine spoil extensometer data obtained from several reclaimed strip mine project sites to evaluate the potential settlement in relation to the proposed construction.

East Kentucky Power Cooperative

Various sites throughout Kentucky

Mr. Fiehler has served as the project engineer / project manager for numerous East Kentucky Power Cooperative (EKP) substation, switching stations, and transmission line projects throughout Kentucky. The projects generally entail a geotechnical exploration prior to development or expansion of a substation or switching station. Mr. Fiehler has also overseen the geotechnical exploration and foundation design for several EKP transmission line support structure projects.

Pikeville and South Williamson Levees/Floodwall Evaluations

Pikeville and South Williamson, Kentucky

Mr. Fiehler has served as the project engineer / project manager for the geotechnical evaluations of the FEMA mandated levee and floodwall evaluations in Pikeville and South Williamson, Kentucky. The existing levees and floodwalls required stability analysis, seepage analysis and consolidation analysis to meet the FEMA certification process. Mr. Fiehler also directed the field exploration which included drilling borings through the levees (two of which also serve as the roadway fill for US Highway 23), and adjacent to the levees and floodwalls.

Jennifer Shelby, PE, CPESC
Water Resources Engineer

Years Experience - 15

Education

- Ph.D. Candidate Biological Engineering, North Carolina State University
- M.S. Biological Engineering, North Carolina State University, 2002
- B.S. Biosystems and Agricultural Engineering, University of Kentucky, 1998

Professional Registrations & Licenses

- Professional Engineer, Kentucky, #25763
- Professional Engineer, Tennessee, #112264
- Professional Engineer, Illinois, #62.063125
- Certified Professional in Erosion and Sediment Control (CPESC), #4006, 2007

Professional Memberships and Honors

- Kentucky Society of Professional Engineers
- American Society of Agricultural and Biological Engineers
- Kentucky Leadership PE Class of 2008-2009

Specialized Training

- Stream Restoration Design Training, Canadian Rivers Institute, University of New Brunswick, Dr. Robert Newberry, 2014
- Levels I-IV of Rosgen Training (River Restoration and Natural Channel Design, River Assessment and Monitoring, River Morphology and Applications, Applied Fluvial Geomorphology), Wildland Hydrology, Dr. Dave Rosgen, 2007-2008
- RIVERmorph Stream Restoration Software Training, RIVERmorph, LLC/ Wildland Hydrology, 2008
- FLOWSED/POWERSED Sediment Transport Modeling Training. RIVERmorph, LLC/ Wildland Hydrology, 2008
- Stream Restoration, Dr. Greg Jennings, PE, North Carolina State University, 2003
- Stream Restoration in the Southeast: Innovations for Ecology, NCSU Stream Restoration Program, Wilmington, NC, 2012
- Stream Restoration in the Southeast: Advancing the Science and Practice, NCSU Stream Restoration Program, Asheville, NC, 2008
- Stream Restoration in the Southeast: Accomplishments and Opportunities, NCSU Stream Restoration Institute, Charlotte, NC, 2006
- Watershed-Based Planning Workshop, Kentucky Waterways Alliance, 2006
- Stream Ecosystem Restoration Training, River Institute, Ohio, 2006

Professional Experience/Areas of Expertise

Jennifer has dedicated her career to the enhancement of environmental quality, including nonpoint source pollution and stormwater management, watershed-scale assessment of hydrology and water-quality, green stormwater infrastructure planning and design, environmental permitting, and stream and wetland restoration. Having worked in Kentucky, Tennessee, and North Carolina, she is experienced with developing and implementing watershed-scale monitoring schemes and assessing the data produced, as well as designing and constructing large-scale stream and wetland restorations. Her role as a water resources engineer also includes management of environmental projects.

Municipal Stormwater Program Consulting

Jennifer has worked extensively as part of a team of consults to provide technical expertise to Lexington-Fayette Urban County Government (LFUCG) for implementation of their municipal stormwater program and compliance with Consent Decree / MS4 permit requirements. Jennifer has specialized experience assimilating vast amounts of varied water quality data and presenting it to technical and non-technical audiences. She has used appropriate statistical and graphical analyses to extract valuable conclusions from LFUCG's stormwater monitoring program data for each of Lexington's seven watersheds. Jennifer authored and implemented a protocol that considers 13 indicators to determine the success of the LFUCG stormwater monitoring program, indicate if the conditions of the MS4 permit have been satisfied, and reveal whether current monitoring practices are sufficient to evaluate pollutant levels from stormwater runoff to the MS4.

Watershed Assessment and Water Quality

Jennifer has worked both in Kentucky and North Carolina on watershed-scale monitoring projects. Jennifer was part of a team of Third Rock engineers, planners, and ecologists that prepared a Watershed Plan for the highly urbanized Wolf Run watershed for Lexington-Fayette Urban County Government (LFUCG). This effort included extensive review of existing watershed data, planning a monitoring scheme to collect additional data, and ultimately analyzing the data to support the development of an action plan for remediation projects within the watershed. Jennifer lead efforts to assess stream hydrogeomorphic condition and rate of stream change as a way to characterize the effects of hydromodification within the Wolf Run watershed. Permanent cross-sections, longitudinal profiles, and substrate analysis were established at nine monitoring stations throughout the watershed and were used to evaluate how the stream is physically changing, particularly under the modified flow regime of this highly urbanized watershed.

Jennifer also had an integral role in planning and implementing watershed-scale monitoring schemes in the Corbin City Reservoir (Laurel River) and Herrington Lake (Dix River) watersheds in central Kentucky. These projects included field assessments and monitoring of streams across the entire watershed for physical and biological characteristics, flow, water quality (nutrients, pathogens, sediment), and water chemistry (pH, conductivity, temperature, dissolved oxygen). Following field data collection, extensive data analyses were performed to determine and rank water pollution sources and recommend solutions to protect and remediate valuable water resources. Following the monitoring of the Corbin City Reservoir watershed, Jennifer and colleagues authored a Watershed Plan based on EPA criteria for the Kentucky Division of Water. Jennifer also contributed to the production of a nutrient TMDL for Clarks Run and Hanging Fork, streams within a developed portion of the watershed. This included the use of the QUAL2K water quality model for predicting in-stream dissolved oxygen concentration given the pollutant loading and in-stream processes.

Stormwater BMP Planning and Design

Jennifer provided services related to BMP planning, evaluating stream restoration opportunities, and assessing feasibility of those opportunities for a proposed redevelopment of a formerly industrial and commercial area of downtown Lexington into an arts and entertainment district (Distillery District). The project included developing BMPs and restoration activities to improve the quality of a degraded stream, Town Branch, running through the district.

Jennifer has experience in design and construction oversight for "green" stormwater best management practices, including bioretention areas, water quality swales, and stormwater wetlands. For example, Jennifer designed and oversaw construction and planting of an approximately 1-acre stormwater wetland using an EPA 319(h) grant for reducing nonpoint source pollution. The stormwater wetland, within Levi Jackson State Park, treats stormwater from an

adjacent parking lot and roadway, provides an aesthetically pleasing buffer of native species for the adjacent Little Laurel River, and offers opportunities for community education.

Stream Restoration

Jennifer's areas of expertise related to stream enhancement and restoration include: field stream geomorphology and stability assessments; natural channel design utilizing Rosgen and other methods; hydrologic and hydraulic modeling to support restoration design; modeling sediment transport to support restoration design; preparation of construction plans and supporting documents; preparation of sediment and erosion control plans; and preparation of federal, state, and local permit applications. Since 2006, Jennifer has performed stream restoration design on five projects for Kentucky Department of Fish and Wildlife Resources projects funded by the state fee in lieu of (FILO) program. These projects include stream geomorphological data collection, natural channel design, 401 and 404 permit application preparation, mitigation plan preparation for the USACE, construction oversight, and post-construction monitoring. Recently, Jennifer performed restoration design and construction oversight for over 7,000 feet of perennial and headwater stream in Boyd County, Kentucky. Currently, Jennifer is involved in the design of more than 16,000 feet of perennial and headwater stream in Casey County, Kentucky. She is also currently leading the design of nearly 30,000 feet of perennial and headwater stream within Lake Barkley State Resort Park in Trigg County, including stream reaches with the State Park Golf Course.

Jennifer's experience also includes completing the necessary assessments and documentation to obtain environmental permits (typically Section 401 and 404 permits) in a timely manner, including identifying necessary permits, coordinating with permitting agencies, completing necessary field assessments, preparing permit applications, and producing thorough mitigation or restoration plans.

Wetland Restoration

Jennifer has been involved in a recent stream and wetland restoration effort on a site bisected by Whitley Branch in London, Kentucky for the City of London using an EPA 319(h) grant to reduce nonpoint source pollution. The project also includes enhancement of Whitley Branch to facilitate a connection to the adjacent floodplain and enhance wetland hydrology and functions throughout the approximately 80-acre site. Background hydrology data was collected on a continuous basis within site to support the restoration design. The design included excavation of niche wetland habitats and creation of surface microtopography to enhance wetland hydrology on the site. The design also includes a site-specific, native planting plan to achieve site stability and longterm function.

Jennifer led design, construction, and hydrology monitoring of a large parcel of prior-converted farmland near Boston, Kentucky. The project included the design, construction, planting (native species), and monitoring of approximately 39-acres of bottomland hardwood and emergent wetlands within a 70-acre site. Background hydrology data was collected on a continuous basis across the site to support the restoration design. The design included enhancement of overbank flooding, placement of berms along low-lying areas and the creation of surface microtopography to enhance wetland hydrology on the site.

Jennifer was also instrumental in the design, construction, and hydrology and water quality monitoring of a 375-acre parcel of prior-converted farmland in North Carolina. The parcel was converted back to wetlands and included stream restoration and creation. This restoration included the elimination of enhanced drainage by filling field ditches and creating an improved stream system, riparian corridor, and floodplain wetlands. The design included 1,900 feet of freshwater stream and over 4,500 feet of tidal creek with significant floodplain wetlands (marsh).

Capacity to Perform Work

Capacity of Project Team Meets LFUCG's Scheduled Objective

Our Team has availability and is committed to delivering a quality project for LFUCG.

Our staff is available to start immediately and rapidly complete the Technical Memo and then move into design. This is demonstrated through our firm-wide scheduling system, which confirms our staff availability. Based on the effort required for the project, we have projected the man-hours for key team members for the schedule you provided, and compared the required number of hours to the available hours, considering current staff commitments. Our project team has the availability to comfortably meet your project requirements at all points throughout the project.

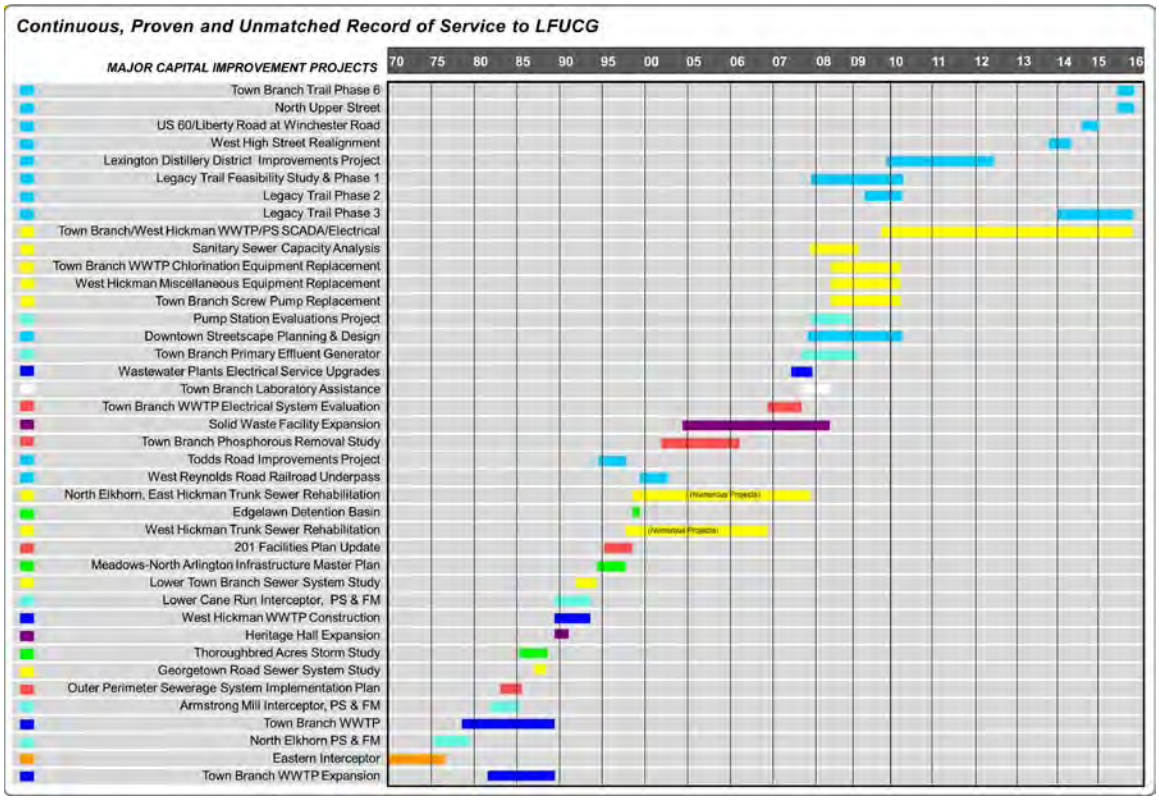
We have also conferred with Third Rock Consultants, LLC and S&ME and they indicate their assigned personnel are available to meet the schedule and workload anticipated for this project. In addition to the Strand project team identified, Strand also has availability of other staff members including engineers, technical, and administrative support personnel that would be available to assist on this project if the need arises.

Past Record of Performance

Our Proven Service and Commitment to LFUCG Demonstrates Our Ability to Serve LFUCG Effectively on this Project

Strand's commitment to LFUCG is demonstrated by a history of successfully completed projects.

Strand has served LFUCG continuously and successfully since 1968. We are proud of our record of performance and the privilege to be of service to the Urban County Government and to the community. Strand has provided a broad range of municipal engineering services to LFUCG from land planning and programming, preliminary design, facility design and site design, to bidding, construction, and post construction services. Members of our project team have been involved with projects with LFUCG for the past 36 years.



Based on direct knowledge of Salt Barn facilities gained during the successful performance of multiple Salt Barn facilities for other communities, coupled with our previous Salt Barn design for LFUCG, Strand brings ***extensive knowledge and experience to the Salt Barn project.***

Our Project Team is structured to meet LFUCG's DBE participation goal utilizing experienced professionals.

Our Project Team Includes a Specialized DBE Consultant that Supplements Strand's Critical Project Expertise While Meeting LFUCG's DBE Goals

We are pleased to have Third Rock Consultants, LLC as part of our project team. Third Rock brings directly applicable engineering expertise to this project and supplements Strand's project staff with environmental engineering design capabilities. They have extensive experience providing environmental design services on similar projects, and have experience necessary to efficiently serve LFUCG.

Following are select project descriptions that are relevant to this project.

Salt Barn Site and Facility Design, Lexington-Fayette Urban County Government – Lexington, KY

Reference:
George Milligan
Project Manager
(859) 258-3402

Project Cost:
$143,500 (Design)

Completion Date:
2009

Strand provided comprehensive professional engineering services to the Lexington-Fayette Urban County Government (LFUCG) for the design of a salt barn site and facility on an 8-acre tract. The existing site was undeveloped with no utilities on-site as well as no access to Athens-Boonesboro Road. The project included a salt storage building, office/maintenance building, salt brine maker, brine storage tanks, parking areas and access road located off of Athens-Boonesboro Road near Interstate 75 in southeast Lexington.

Photo courtesy of Advanced Storage Technology, Inc.

Example of salt storage facility to be constructed.

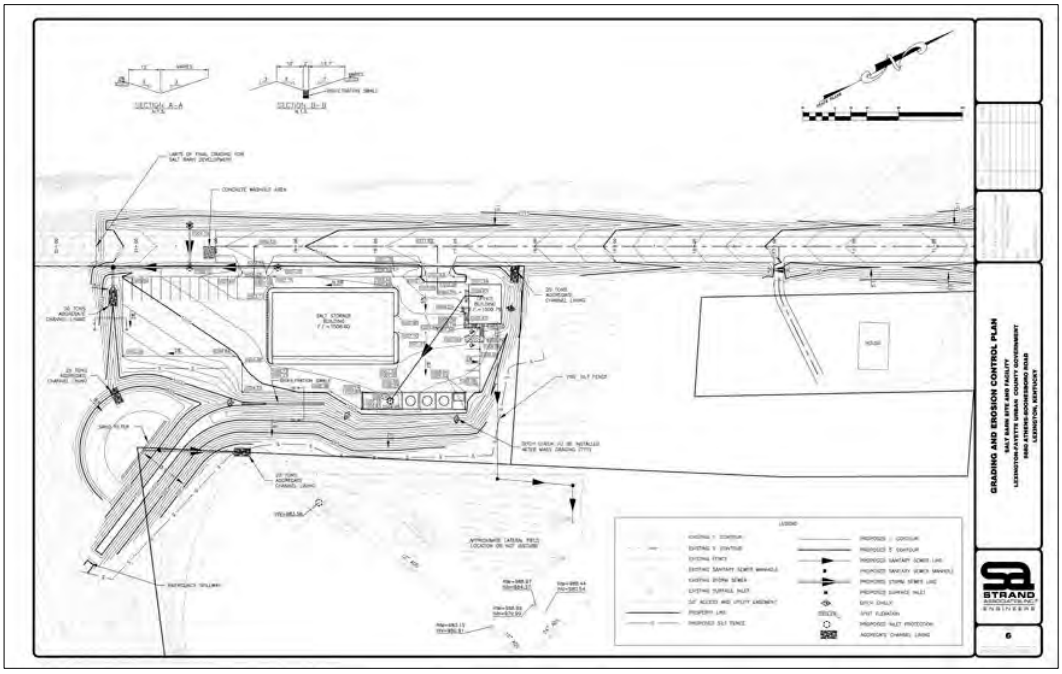
Project Features:

- Salt storage building
- Stormwater modeling
- Utility coordination
- Environmental impact issues and permitting

The scope of services for this project included field surveys, hydraulic analysis, development of preliminary evaluation reports, coordination with regulatory agency submittals and permit applications, and preparation of final design and construction documents.

The goal of this project was to design an access road to the site, a 12,000 sq. ft. salt storage building, a 2,000 sq. ft. office/maintenance building, a salt brine maker, brine storage tanks, and a parking area for equipment and salt spreaders. Design considerations also included accommodations for a future fire station on the unused portion to the rear of the site, green infrastructure where applicable, and stormwater quality and quantity control for the site.

The project was designed and ready for construction but KYTC would not grant an encroachment permit for the entrance road to the site. LFUCG made the decision to not move forward with the project at that site.



Site Grading and Erosion Control Plan.

Salt Storage Facilities Maintenance Yards M-11 & M-12 Illinois Tollway, Upchurch-Group – DeKalb and Dixon County, IL

Reference:
The Upchurch Group
(708) 449-2321
Paul Kovacs, P.E.
Chief Engineer
Illinois Tollway
(630) 241-6800

Project Cost:
$3,900,000

Completion Date:
2006

Strand was retained by the Upchurch Group to prepare plans for improvements at Illinois Tollway Maintenance Yards M-11 (DeKalb) and M-12 (Dixon) on the I-88 Ronald Reagan Memorial Tollway. The existing circular salt domes were replaced with new salt storage buildings. The project scope included pavement milling and a two-inch asphalt overlay of the parking lots along with minor drainage related improvements. A maintenance of traffic plan was also developed for each yard area to address continuous use and access to other active areas of each facility. In addition, minor electrical and lighting improvements were also included in the project scope. This work was originally included in our ORT plans. Because of funding issues, however, the Maintenance Yard improvements had to be pulled out of the ORT plans and repackaged in to a separate contract.

Project Features:

- Two 80’ x 160’ salt barns
- High arch gambrel type structure
- Maintenance of traffic plans
- Site lighting upgrade
- Two 30’ x 160’ lean-to sheds
- Drainage improvements

The selected replacement salt barn structure for each maintenance yard location was a 80’ x 160,’ high-arch gambrel style building with a 30’ x 160’ attached lean-to structure for equipment storage. The project approach called for an expedited performance schedule with all design and construction related work completed within a 6-month timeframe. Total bid price for both salt barn structures including site related improvements was $3,900,000 and the project was completed in 2006.

Sand/Salt Storage and Trench Drain Replacement, City of Madison – Madison, WI

Reference:
Jim Whitney
City of Madison-Architect
(608) 266-4563

Project Fee:
$10,500

Completion Date:
2004

Sand/Salt Storage Facility.

After the City of Madison determined the existing Sycamore Avenue sand/salt storage facility was too small based on the current needs, Strand was selected to assist with expansion plans. The project scope included design for a 50’ x 75’ addition using a pre-engineered treated wood structure with a sloped roof to match the existing facility. Our responsibilities also included surveying, civil/site design, architectural and electrical design to meet required codes and obtain the necessary approvals. We also prepared documents to replace approximately 1,000 lineal feet of trench drain at the City’s East and West side facilities. Strand provided assistance with bidding and was involved throughout the construction phase on behalf of the client. The project was completed in 2004.

Salt Storage Facility, Village of Lindenhurst – Lindenhurst, IL

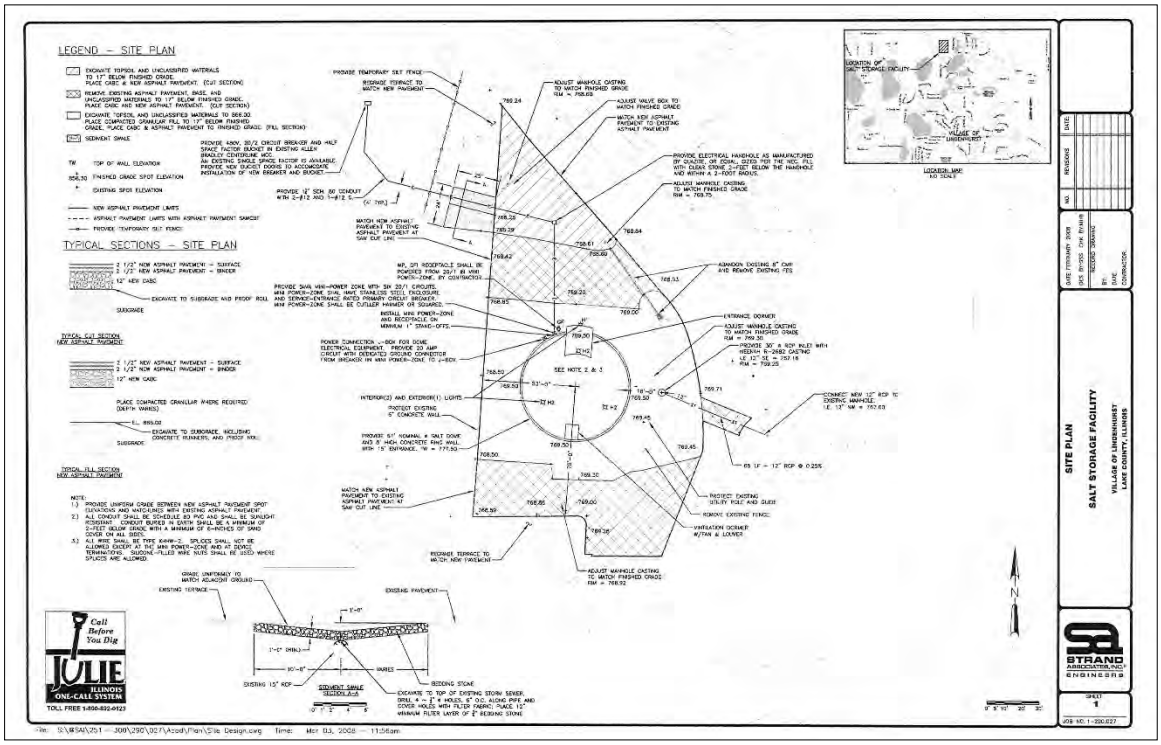
Reference:
Wes Welsh
Director of Public Works
Village of Lindenhurst
(847) 356-8252

Project Fee:
$23,500

Project Cost:
$350,000

Completion Date:
2008

Strand was recently selected by the village of Lindenhurst to provide assistance with design and construction of a new salt storage facility. The proposed facility was a dome type structure in combination with an 8 foot high cast-in-place concrete ring wall. The dome structure has a nominal diameter of 61 feet and includes a standard entrance dormer. The project scope included site civil related elements and electrical service for lighting. The bid price for this project was $350,000.



Salt Storage and Deicing Facility, City of Des Plaines – Des Plaines, IL

Reference:
Matt Dusckett, DPW
City of Des Plaines
(847) 391-5493

Project Fee:
$25,000

Completion Date:
2004

Strand was selected by the City of Des Plaines, Illinois to provide design related services for a newly proposed salt storage facility. We were responsible for the design of a 110-foot-diameter salt storage dome and adjacent deicing material storage facility to provide the required additional storage capacity. The wooden dome structure is supported on a 8-foot-high cast-in-place concrete wall to provide added stability and protection from surcharge loading and equipment impact.

Salt Dome Storage and Deicing Facility.

Salt Storage Facility, Village of Fontana – Fontana, WI

Reference:
Craig Workman, DPW
Village of Fontana
(262) 275-6136

Project Fee:
$23,000

Completion Date:
2004

We designed a custom salt storage building for the Village of Fontana. To accommodate their equipment and to provide storage of salt and salt/sand mixture, we designed a concrete retaining structure with a wood superstructure. Since the site was fenced, we opted to provide an additional 10 feet of length for the structure and eliminated the doors. The costs were comparable but the absence of the doors provided ease of access and eliminated maintenance of the doors, which can be significant due to the presence of the corrosive salt.

ADDITIONAL SALT BARN EXPERIENCE

Salt Barn Storage Facility, Lake Zurich Public Works Department – Lake Zurich, IL

The Lake Zurich Public Works Department had determined they needed a custom structure to accommodate the available site and their equipment. The decision to pursue a custom solution was also driven by the desire to store both salt and a salt/sand mixture.

The project was very challenging due to very poor soil conditions. A layer of peat and soft soils required the structure to be supported on driven pilings. The combination of salt retainage and deep foundations required a complete analysis of a variety of load conditions to assure structure stability.

Salt Dome Storage Facility, Joliet Township – Joliet, IL

Strand was retained by the Joliet Township to design a new salt storage facility to address growing community needs. Through review and evaluation of alternatives it was determined that the owner preferred the functionality of an open-ended dome type facility with a concrete ring-wall retaining structure. Our design services included the concrete ring-wall and specifications of a pre-engineered timber superstructure.

Salt Barn Facility, Village of Whitewater – Whitewater, WI

Strand has provided City Engineering services for the community of Whitewater continuously since 1992. The Public Works Department identified a need and retained Strand to assist with design and construction of a pre-engineered treated wood structure. We assisted them with sizing the proposed salt barn facility and in preparing competitive bidding documents.

ADDITIONAL RELEVANT LOCAL EXPERIENCE

Lexington-Fayette Urban County Government Solid Waste and Site Facility Expansion - Lexington, KY

Reference:
George Milligan
Project Manager
(859258-3402

Project Cost:
$5,200,000

Completion Date:
Ongoing

The Lexington-Fayette Urban County Government (LFUCG) provides trash collection services to a large portion of urban Fayette County. This service requires a large number of personnel, vehicles and equipment. The existing LFUCG Solid Waste Facility is located on Byrd Thurman Drive, and consists of office facilities, employee parking, truck storage sheds and maintenance garages. To keep pace with growing service needs, the LFUCG planned to expand these existing facilities to accommodate more employees and collection vehicles.

LFUCG Solid Waste Facility.

Strand was selected as the prime consultant to provide professional services for expansion of the LFUCG Solid Waste Facility. The scope of services included all phases of development beginning with design and continuing through bidding and construction. In association with a local architect and landscape architect, Strand assembled a multi-faceted project team with expertise in the many disciplines required to address the project's needs. All engineering services, including structural, civil, mechanical, electrical and plumbing were provided by Strand. The project scope included design of a security component that included CCTV monitoring and remote access control for security gates at the facility entrance.

Project Features:

- 10,000 sq ft expansion to Administration building
- 67,000 sq ft truck storage building for 60 collection vehicles
- 24,000 sq ft storage and assembly building
- 158-space employee parking lot
- Closed circuit security system with remote access control

Stormwater management was also a particular concern for this project. Run-off from trash collection vehicles may contain contaminants that contribute to stream degradation. To minimize the impact on the receiving stream, the site design included a water quality basin, supplemented by special structures designed to catch debris, greases, oils and other contaminants before their discharge into the natural receiving stream. The site design reflects LFUCG and Strand's sensitivity to the environment and included an amenity component consisting of two picnic shelters and an amphitheater for employee gatherings.

LFUCG Truck Sheds.

The opinion of probable construction cost for the entire project was $5.2 million. Due to budgetary cutbacks only the site design portion of the project, including utilities and stormwater management was constructed in 2008. Currently, one truck shed is under construction with a second planned for construction next year.

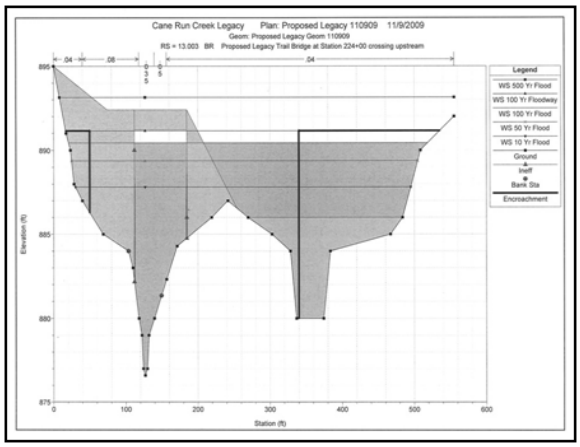
Cane Run (Legacy Trail) LOMR– Lexington-Fayette Urban County Government – (LFUCG) - Lexington, KY

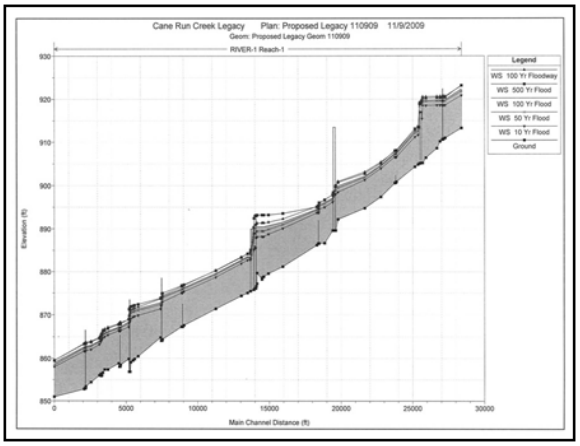
Reference:
Keith Lovan, P.E.
(859) 258-3478

Project Fee:
$42,000

Completion Date:
Submittal –
July 2009

CLOMR Issued –
November 2009





Project Features:

- Agency coordination
- Bridge design and flood plain management
- FEMA Letter of Map Revision
- 8,000 acre watershed
- Section 401/404 permitting
- HEC-RAS hydraulic modeling included 15 bridges

Strand was selected to provide feasibility study planning, design and construction-related services for the Legacy Trail project, Lexington's premier recreational trail. A key focal point of the trail route is Cane Run Creek which offers a unique back drop for this highly anticipated trail project. The project scope included preparation of permit documentation and related submittal materials to LFUCG and FEMA for a Letter of Map Revision (LOMR) due to the adjacent construction of the trail along Cane Run Creek.

Approximately five miles of Cane Run Creek were extensively analyzed for this purpose encompassing a watershed area of some 8,000 acres, from just upstream of Berea Road including the Interstate 64/75 bridge to just upstream of Newtown Pike. Improvements related to the trail alignment which crosses and traverses numerous segments of the creek prompted the a need for the evaluation. From portions of the existing model data provided by FEMA and LFUCG, Strand constructed a duplicate model to best simulate the published flood insurance study results for the stream. Using this model as a base, Strand created a corrected effective model to represent current conditions of the stream, which included corrections to stream roughness coefficients, elevation datum, bridge information, and included additional cross sectional data.

Most notably, Strand's field investigations uncovered a number of undocumented improvements such as bridges and low water crossings that had been constructed subsequent to prior flood mapping for the watershed. These were incorporated into the corrected effective model resulting in numerous changes to the Base Flood Elevations along much of the study segment. Once this corrected effective model was established, a third model, the proposed conditions model, was created to include the proposed features for Legacy Trail. Through effective communications with FEMA, Strand was able to help facilitate an expedited review process and the initial CLOMR approval in only a few short months after the initial submittal. This expedited process allowed for the remainder of the design and bidding for Phases 1 and 2 of the Legacy Trail to commence on schedule in keeping with the critical timelines to construct the trail prior to the upcoming 2010 Alltech FEI World Equestrian Games. The project also included Section 401 and 404 permitting and approvals with KDOW and USACE.

Southland Christian Church, Richmond Road Campus - Lexington, KY

Reference:
Craig Avery
Southland Christian Church
Lexington, KY
(859) 619-8292

Project Cost:
$30,000,000

Completion Date:
On-going

As the largest church in the Lexington area, Southland Christian Church has begun to expand its membership and outreach by means of satellite campuses rather than adding additional space to its home campus. After an extensive search for suitable property, the church purchased 30 acres of the original 49-acre Lexington Mall Property on Richmond Road. The purchase area included the vacant mall building, two existing restaurants sites, and a vacant outparcel. The Home Depot Home Improvement Store, a bank, and a vacant service station occupy other properties within the development, all sharing joint access driveways and parking. Because the highly visible mall building and some outparcels had been vacant for several years, this property had been subject to a great deal of on-going public comment, suggestion, and speculation.

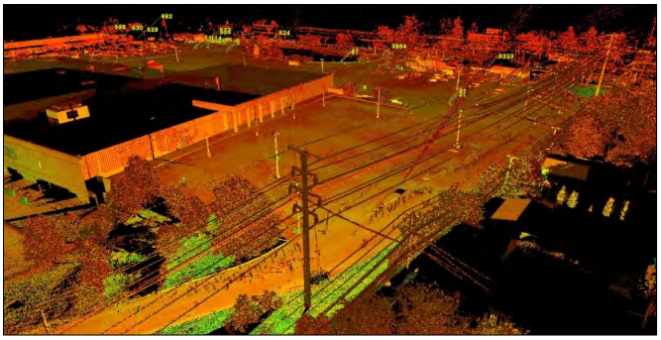
Project Features:

- HD Laser Scan Survey
- Existing Utility Investigation
- ALTA/ACSM Land Title Survey
- Topographic Mapping
- Hydrographic Surveys
- FEMA and Environmental Permitting

Having provided services to both the previous mall owner and Home Depot, Strand was selected to:

- Assist with evaluation of the property's infrastructure and development issues.
- Provide an ALTA survey for property acquisition.
- Assist with obtaining community input, including neighborhood groups and government agencies.
- Provide traffic data and intersection improvement recommendations to accommodate large worship services.
- Prepare conceptual site plan revisions to obtain seller's approval.
- Prepare and file an Amended Final Development Plan.
- Prepare site/civil contract documents for site improvements.
- Assist Owner with stormwater permitting at local state and federal levels, including a FEMA Letter of Map Revision.

The Amended Final Development Plan was approved on an accelerated schedule without opposition and the property acquisition took place approximately three months early. During construction, the project generated widespread public interest and support.



Lexington Mall Site HD Laser Scan.

Strand's role included completion of a comprehensive site topographic survey and ALTA/ACSM land title survey to support redevelopment of this 40-acre site. After years of vacancy, the expansive building and parking lot areas had experienced significant deterioration due to lack of continued maintenance. To optimize design of proposed site improvements, Strand conducted a High Definition (HD) Laser Scan Survey to more accurately depict locations and elevations of existing features. The HD scan survey was used to accurately capture existing site elevations so that new parking islands and site enhancements could be integrated seamlessly with the existing pavement structure. With over 20 acres of parking surface area, this approach minimized the depth of the required asphalt overlay resulting in significant cost savings to the project.

5. Familiarity

Familiarity

Existing Relationships and Detailed Project Understanding are Key Attributes to Achieving Staff and Project Goals

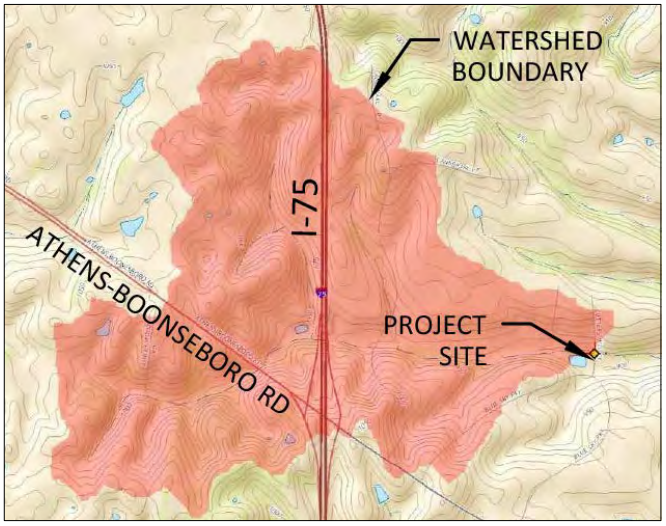
Strand's previous LFUCG Salt Barn project brings unparalleled understanding to new location

The following details our familiarity and approach for this project based on a review of the request for proposals and our recent site visit to inspect the project area. In addition, Strand brings recent applicable experience in assisting LFUCG with planning and design of this same salt barn facility at a previously considered location just south of Blue Sky Industrial Park. The site for the currently proposed salt barn facility is 401 Blue Sky Parkway, which housed a former package wastewater treatment plant and lagoon now under ownership by LFUCG. In recent years the package plant and lagoon have been decommissioned and a pump station installed onsite to convey wastewater to a force main which ultimately discharges into LFUCG's West Hickman trunk sewer system. Our review of this approximately 4 acre site also revealed evidence of readily available access to potable water, electric, telephone and sanitary sewer facilities in addition to the adjacent roadway network for ingress/egress.

Aerial view of Salt Barn Site.

Former lagoon area with randomly placed fill.

During our site visit, it was also noted that the existing lagoon area appeared to have undergone recent fill placement, but possibly as non-engineered fill based on the presence of randomly dumped stockpiles of rock and soil materials. These materials were observed to have been placed in areas where new facilities may require engineered fill for structural support. The site and existing lagoon also lie immediately adjacent to the Baughman Fork tributary of Boone Creek, which is currently documented as a 303d listed impaired stream. This particular stream has a drainage area of 1.33 square miles at the downstream property limit, making stormwater management an important project consideration.



Significant watershed drives planning considerations.

Existing FEMA Floodplain limits site development potential.

Stormwater management considerations are further amplified given the fact that a large portion of the site is currently encumbered with FEMA regulated floodplain. The extent of the existing floodplain appears to be significantly influenced by the Cutters Hill Court roadway embankment and bridge structure which are situated at the downstream property limits. These factors serve to collectively restrict stream flow during heavier rain events, resulting in the potential backup of floodwaters on LFUCG's property. As a result, a detailed floodplain review will be required to determine the suitability of this site for a salt barn facility through planned fill placement and grading alterations designed to reduce the effecive floodplain restriction. In addition to site related considerations, a salt barn facility on its own accord presents certain unique challenges related to environmental management of localized stormwater runoff. This includes implementation of a detailed stormwater management plan to address good housekeeping practices and spill containment for deicing materials stored and batched through routine facility operations. Overall functionality and orientation of the facility for equipment storage, ingress/egress, prevailing weather patterns and queuing of heavy truck traffic for salt deliveries and departures are also essential considerations. Strand is well equipped to tackle these and other challenges this project has to offer due to our skilled project team and our past experience with salt barn structures we have completed for other municipalities.

Existing bridge restricts flow at property limit.

Southland Christian Church project is testimony to Strand's permitting and floodplain modification capabilities.

Our team brings direct familiarity and experience to LFUCG's facility needs and expectations from our previous design efforts related to this same salt barn project for a prior location removed from consideration. This includes working relationships with salt barn and equipment vendors we previously engaged through our prior planning and programming efforts. Our team also brings directly relevant experience to floodplain permitting, most recently with the Lexington Mall - Southland Christian Project, which included Section 401/404 permitting and multiple FEMA Letter of Map Revision's. This proven experience coupled with our Municipal Facilities Engineering-related expertise will be combined to deliver LFUCG, a functional Salt Barn Facility design that meets all pertinent regulatory requirements.

Southland Christian Church Richmond Road Campus LOMR.

PROJECT APPROACH

Project Approach outlines additional required services.

The following project approach outlines our Project Team's strategy to address all required technical elements as detailed in the RFP. This includes additional tasks recommended to address other findings that have been identified through our early due diligence efforts in quantifying the necessary scope of services to support LFUCG's objectives for this project.

Technical Memorandum Preparation

As detailed in the RFP, the project will begin with a kickoff meeting with LFUCG and key internal stakeholders, so that the design team can become better acquainted with project goals and objectives. Concurrently, Strand will begin the onsite survey such that floodplain modeling can be initiated immediately in order to determine the effective buildable area available for improvements to the site. This meeting will also be used to formalize a decision making protocol for the early planning and programming phase for the facility.

Photo courtesy of Advanced Storage Technology, Inc.

Example of salt storage facility to be constructed.

- *Site Survey*

  Site survey work will be the first task to complete on the project. Along with determining right-of way limits, property lines, utility locations, existing easements, and topographic features, the survey will include stream cross sections and elevations of pertinent drainage features. The information related to the creek and drainage will be utilized by the stormwater team to determine the impacts and implications of the project site being within the FEMA floodplain. Therefore obtaining this information right away is critical to informing planning and decision making and keeping the project moving forward.

- *Environmental Overview*

  As the site of a former wastewater treatment plant, our scope includes an initial environmental overview and file examination to understand recent history through the plant's decommissioning phase. The review will be performed by our subconsultant Third Rock Consultants and is aimed at identifying potential needs for any additional site investigations that may be required. It will also help inform the design team of steps taken to demolish the former WWTP and to identify downstream considerations for Baughman Fork, and design protocols for onsite measures to address environmental permitting requirements in response to downstream watershed concerns. The property also includes

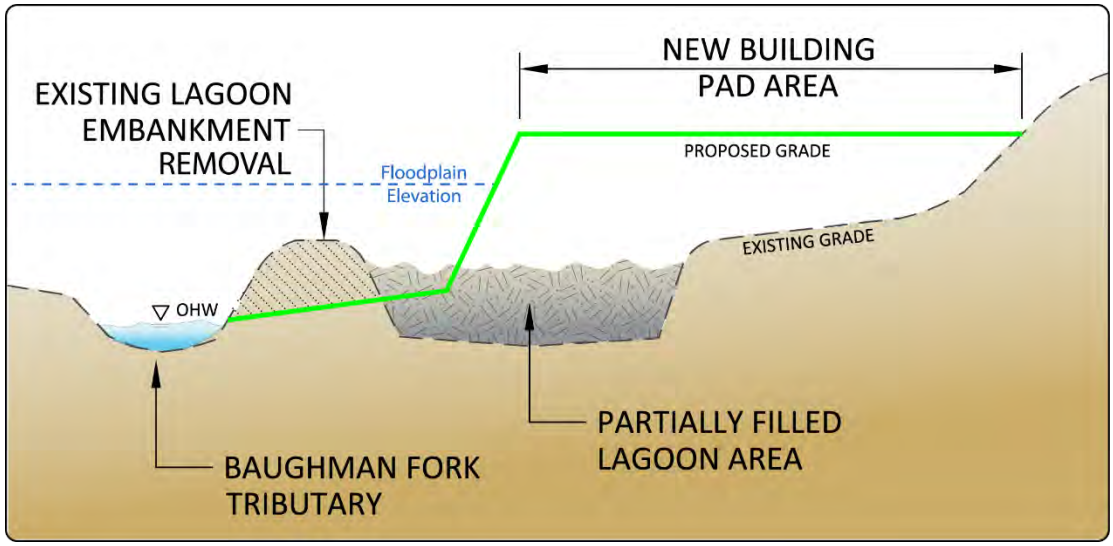
Existing manhole at creek.

limited tree canopy which may be considered potential bat habitat requiring mitigation or a timed removal strategy. This task will culminate with a brief letter report summarizing findings.

- *FEMA Floodplain Analysis*

Early floodplain analysis key to project go-no go decision.

To address site development limitations with the significant floodplain encumbrance on this site, it will first be necessary to conduct a floodplain overview evaluation to determine if potential enhancements are possible by improving existing stream channel conveyance. As depicted on the Exhibit preceding this page, the existing 100-year floodplain extents nearly preclude development of this site. This is due in large part to the significant upstream watershed and channel restriction resulting from the Cutters Hill Court Bridge structure and the adjacent lagoon embankment that restricts stream flow and flood storage in the low lying area. Strand's modelling approach is designed to outline the proper balance of channel storage restoration needed to support the fill limits necessary to establish a viable building pad for this project.



Reallocation of floodplain storage is key to maximizing available buildable area.

Based on the outcome of this study, a go-no go decision can be made for subsequent efforts on this site. Assuming a workable solution can be developed, a Conditional Letter of Map Revision (CLOMR) and Final Letter of Map Revision (LOMR) will be required at subsequent phases of the project unless a waiver of this requirement can be obtained. Typically a FEMA approved CLOMR is required prior to any authorized activity in the floodplain unless otherwise approved by the local community. A final LOMR is routinely required within 6-months of project completion to document successful performance of constructed improvements. Costs for these supplemental services are outlined in the fee proposal section of our response to this RFP. Strand recommends discussion and refinement of this important task with LFUCG's Floodplain Administrator prior to final contracting for this project. This will ensure that all key parties are understanding and in agreement with the requirements necessary to facilitate approval to construct the proposed salt barn facility at this location

PROPOSED SALT BARN SITE

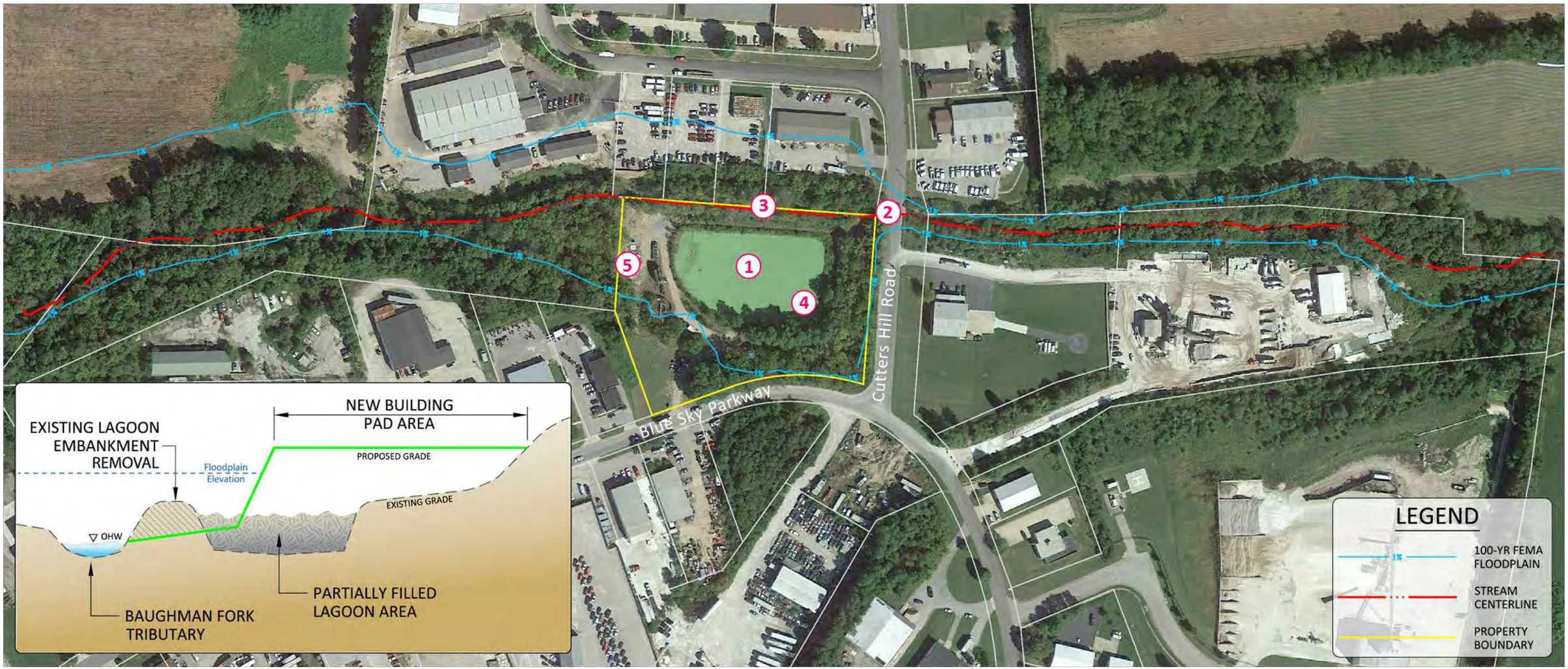
Current Site Conditions at Former Lagoon

Culvert Under Cutters Hill Road

Baughman Fork Tributary

Fill Placement in Lagoon

New Pump Station



- *Geotechnical Engineering Action Plan for Undocumented Fill*

Re-use of existing random rock fill provides cost savings.

Strand's geotechnical subconsultant S&ME visited the project site to assess current conditions with recent fill activities in the decommissioned lagoon area. Based on their visual site review they recommend excavating a series of test pits in the reclaimed lagoon area to evaluate the content of the constituent materials already placed and to determine if the lagoon was in fact de-mucked to bedrock as is reported. Excavation of test pits into the existing material stockpiles should also be performed to evaluate the material content of the stockpiles.

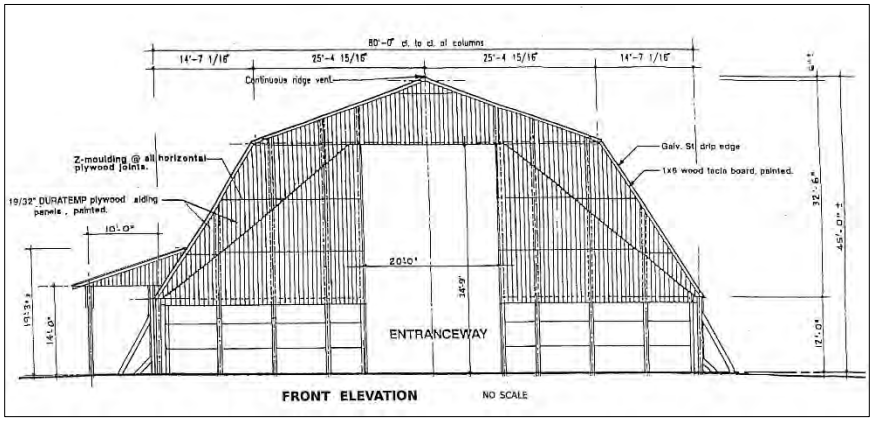
Existing rocky fill to be evaluated for re-use.

At present, our subconsultant anticipates reworking and utilization of the current on-site rocky fill materials to construct the planned site and building pads. Re-working the rocky materials will likely require breaking down the large rock pieces to properly place and compact them as an engineered fill. This process will likely require use of a portable crusher, hoe-ramming, or likely a combination of both methods. Specifications for reworking onsite fill materials will be developed in accordance with S&ME's findings and recommendations from this field investigation.

- *Evaluation of Salt Barn Vendors*

Structure type selection will influence capital cost and long-term O&M considerations.

Strand will rely on its past experience with Salt Barn vendors to research and identify a minimum of three suitable vendors who have successfully completed salt barns within a 500 mile radius of Lexington. Each vendor will be analyzed for the materials of construction, overall layout and size of proposed structure, and vendor specific design standards that both positively and negatively impact the project. Each vendor will be held to design standards that LFUCG and Strand collectively consider to be "must haves" for the final selected structure. Throughout this evaluation Strand's team will facilitate discussions with LFUCG and help identify important design considerations involving building types and selection of foundation, floor and wall systems that have varying implications for long-term operation and maintenance.



Prior experience with salt barn options informs keys to decision-making.

Related factors that could affect structure preference and design include the type of floor and wall systems and their influences on performance under existing site conditions and desired methods of operation. As an example, on the prior LFUCG salt barn design, a preference was noted for an asphalt floor system combined with a wood frame structure and timber reinforced side-walls. Timber structures tend to be more forgiving on equipment and their panel frame construction allows for ease of maintenance and replacement. Selection of this building system alone resulted in a budgeted savings of $266,000 (2008) over traditional reinforced concrete side-walls. Additionally, asphalt floor systems tend to be more resistant to operational issues caused by consolidation of underlying soils where settlement potentially may exist. With fill requirements for this site, a similar preference may evolve after input from our geotechnical subconsultant, S&ME.

Design decisions for other elements such as interior lighting and the roof framing system are functionally critical for successful implementation. The frequently required nighttime work environment and need for understanding of maximum clearances to be anticipated for unloading and equipment operations are absolutes in terms of essential design features. A high arch gambrel roof system offers an efficient means to maximize clearance for a given span length. These factors and others make structure selection the most important project component since it will ultimately have the largest impact on the final site layout and cost. As such, vendor alternatives will be carefully reviewed and evaluated based on LFUCG's specific needs, cost and suitability to the project site. Life cycle cost comparisons will also be performed to aid the decision making process. In addition, expansion potential and upgrade options will also be investigated to develop a flexible and adaptable site plan that can meet both current and future needs.

- *Evaluation of Salt Barn Support Infrastructure*

Strand's prior facility programming efforts will efficiently inform needs for this project.

After consultation with LFUCG on its needs for the support structures at the facility, Strand will research and update available options for brine equipment, tankage, prefabricated office trailers and any other ancillary structures as required. Our team will share selections made by LFUCG staff from the previous salt barn design project and discuss each program element and their applicability to the new facility now under consideration. Cost and space requirements for these facilities in relation to other site program needs will be carefully reviewed with the project budget and any limitations with the site to ensure their effective integration. Ultimately, we believe utilization of Strand's in house knowledge and familiarity with the previous equipment and structure choices will help expedite the process required to finalize the facility program.

Blue Sky PS to be integrated into new site plan.

Additionally, our team is well acquainted with the type of containment structures that are most suitable for the specialized equipment and their ongoing operation. Certain essential utilities will also be required including potable water, sewer, telephone and a minimum 500 amp electrical service. While an overhead pole line is present on the site, our visual inspection suggests a service upgrade and relocation will likely be required. The existing Blue Sky Pump Station is also situated on the subject property and will be carefully considered in site planning for accessibility. To this end Strand will evaluate utility service availability and help facilitate service extensions as needed in conjunction with the project.

- *Stormwater Management and Water Quality*

Site limitations may dictate alternative strategies for stormwater management.

Stormwater analysis will be performed utilizing computer based modeling programs such as Hydro CAD to describe the hydrologic and hydraulic conditions that will result from the proposed improvements to the site. The analysis will consider stormwater quantity control, including potential detention facilities, and recommended soil erosion and sediment control practices. Salt handling and storage best management practices (BMP) will be incorporated to mitigate the environmental impacts to the adjacent stream and locale. These BMPs will also be designed to eliminate, reduce, or control sources such as dust, contaminated runoff, leaks, and spills in accordance with the recommendations of the Salt Institute and all local, state and federal agencies.

Wet Detention Pond

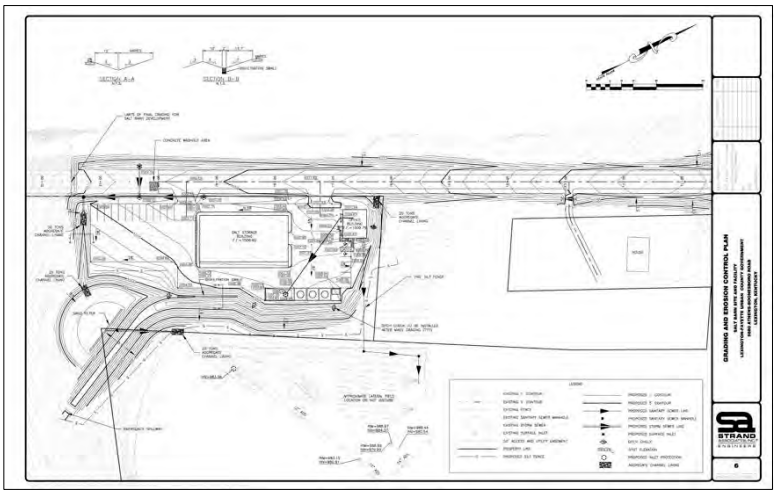
Given the limitations of the site imposed by existing floodplain, several stormwater management options will be considered during the technical memo phase to evaluate constructability, efficiency and effectiveness. We will also investigate green infrastructure opportunities to incorporate sustainable design practices into the project where appropriate. Potential green infrastructure design techniques include, but are not limited to vegetative buffers, natural desalination and infiltration and bioretention basins. Where called for and determined appropriate, salt tolerant water quality plant material and landscaping options will be identified for consideration in the final design phase.

- *Technical Memo Conclusion*

Salt Barn operational requirements will define site planning approach.

Accessibility to barn features keys to efficiency.

Upon conclusion of the individual components of initial facility programming, Strand will develop site plan option(s) that integrate the various project components in a manner that optimizes utilization of the existing site. The layout will be significantly influenced by the supplemental floodplain analysis that will define the buildable area available for improvements. Using information obtained from the site reconnaissance and field survey, we will identify salt storage facility options and develop site layouts including storm water management and other related elements to meet LFUCG's stated project goals. Option(s) will focus on rectangular type structures, however consideration can be given to other alternatives if site limitations or cost saving opportunities warrant the additional comparison. In addition, various office trailer, storage tank, and salt brine maker siting options will be studied to maximize operational efficiencies in the final selected site layout.



Strand Site Grading Plan for previous LFUCG Salt barn project.

The site plan options will also consider flow of traffic throughout the site, vehicle parking, equipment storage and entrance ingress/egress requirements. Strand will meet with Traffic Engineering as required, to discuss any operational considerations and safety requirements for predicted truck queuing requirements for salt deliveries and departures. Incorporated in the site plan options will be concepts for storm water collection, conveyance and management strategies for both quantity and stormwater quality. The resulting Technical Memo will yield option(s) for well integrated design solutions that are responsive to construction and site-related concerns unique to the project location. A final detailed preliminary opinion of probable construction cost will be prepared for the various site layouts and salt barn options, including a life cycle cost comparison of the various salt barn options. This information will be outlined in the ***Technical Memorandum*** deliverable along with a summary of permitting requirements and the responsible parties.

Final Design

- *Site and Structure Plans*

Carefully documented performance specifications will ensure capability of selected structuring and equipment.

After meeting with LFUCG to discuss comments on the Technical Memo and decisions on a preferred site layout, salt barn, and appurtenances, Strand will begin preparation of preliminary construction plans for the project. All plans will be prepared using Civil3D design software. These plans will be submitted to the LFUCG Division of Engineering, Division of Environmental Quality, and Division of Streets, Roads and Forestry. If required, potential needs for temporary construction easements and utility easement acquisition requirements will also be identified during this project phase to provide insight into this critical path item prior to construction. Using LFUCG's and/or Strand's most recent cost data, we will also update the opinion of probable construction cost to reflect any impact resulting from the preliminary design on the overall project budget.

Since the salt barn is expected to be a pre-engineered structure, the structure design will be limited to performance criteria such as length, width, height, openings, etc. that will be shown on the plans with the desired site layout. Similar performance requirements will also be detailed for other pre-manufactured building systems such as office and maintenance type facilities. Other vendor specific equipment and tankage systems are expected to be handled in a similar fashion with an emphasis on spill/rupture containment. Strand will also provide foundation and spill containment structure designs as needed for the selected structures and ancillary facilities. The manufacturer will be responsible for their unique design in accordance with the requirements outlined in the RFP. The preliminary plans and specifications will include all required information and content as well as requirements for submittals, reviews and acceptance of building system and equipment components.

Stormwater management will also be incorporated to control the quality and volume of stormwater runoff from impervious areas of the proposed site. Water quality detention basins/ponds and other appropriate stormwater control facilities will be evaluated and utilized as appropriate on the site. Utility relocations and/or upgrades, including water and electric, will be evaluated for the site and area lighting will be provided for the proposed parking lot and areas within and surrounding the salt barn, office trailer and other required facilities. Potential site security options include security fencing and a centrally monitored CCTV security camera system, similar to the system currently utilized at the Solid Waste Facility.

- *Permits and Utility Coordination*

Letters of project initiation will be sent to all applicable local agencies early in our process. We recognize that continuous contact with the local agencies is important in avoiding surprises during the later stages of project development. To facilitate this process, base maps will be sent to LFUCG and all applicable utility companies to determine locations of existing utilities within the project limits. Potential conflicts with existing overhead power lines and buried water and gas lines will be identified early in the project to prevent delays in the project schedule. To this end we will assist LFUCG with

coordination efforts throughout the duration of the project to address required relocations and to facilitate extension of utility services to the site.

- *Environmental Compliance Plan*

Environmental compliance plan will outline operational practices that mitigate stormwater-related impacts.

Salt storage facilities present a potential for adverse environmental impacts from surface water runoff to receiving streams and groundwater intrusion. Evaluation of proposed site operations will be performed to enhance prevention, elimination, and reduction of key point sources, such as surface water runoff, spillage, and leakage. Local, state, and federal regulations will be followed and recommendations as provided by the Salt Institute will be incorporated into the site layout and BMP plan(s). Containment structures will be utilized for above-ground storage tanks and brine makers.

Infiltration Basin.

Based on our review of the site, surface runoff will be directed towards a tributary to Boone Creek, which is an impaired stream and highly sensitive to contaminated surface runoff. A Ground Water Protection Plan (GWPP), Stormwater Pollution Prevention (SWPP) Plan, and Spill Prevention, Control, and Countermeasure (SPCC) Plan will be developed to support post construction operations for the facility to regulate practices that affect the quantity and quality of stormwater runoff. This will be accomplished through a combination of specified best management practices, good housekeeping steps and water quality features and/or other appropriate stormwater control measures that are integrated into the final stormwater management plan for the site.

- *Final Documents*

Upon approval of the plans at 50% and 90% review by LFUCG, Strand will proceed with the preparation of final detailed design drawings, technical specifications, bidding documents, and permits, including a final opinion of probable construction cost. The plans, specifications and other documents will be delivered both in hard copy reproducibles and in electronic format as required by LFUCG. We will also assist LFUCG with coordination of required utility relocations by providing hard copies of plans to each respective utility company. Final deliverables will be accompanied with copies of required permits and agency approvals for incorporation in the bid documents as appropriate.

Effective Communication Plan is key to project success.

- *Meetings and Communication Plan*

Up to three progress review meetings are anticipated with LFUCG throughout the course of the project. These meetings will be spaced throughout the project to discuss progress and review of submittals. Opinions of probable construction cost will be prepared for each meeting, including life cycle cost

analysis for the various proposed layouts and salt barn options. Our scope of services includes a plan to regularly communicate with LFUCG and other stakeholders, including maintenance teams, throughout the course of the project. Progress reports will also be provided on a monthly basis to enhance communication and support invoicing reviews. Our approach also includes a project scoping and kick-off meeting for the planning level discussions early in the project.

- *Bidding and Contract Administration Phase*

  Strand will assist LFUCG throughout the bidding process including facilitation of the pre-bid conference, responding to Contractor questions, preparation of required addenda, and evaluation of bids for the accepted lowest responsive bidder. After which a contractor is awarded the project, Strand will assist with Contract Administration by reviewing shop drawings, evaluating change orders, conducting site visits and observing construction at 25%, 60%, 90%, and at final completion to assist LFUCG with preparation of a list of items remaining to be completed. Key members of our design team will also be available to respond to questions related to matters of design intent throughout the duration of construction.

- *Resident Project Representative Add Alternate*

  Strand is pleased to provide a standard hourly rate for a resident project representative as requested as an add alternate in the RFP. Given that the major elements of construction are significantly related to site preparation and structures which may require special inspections per the building code, LFUCG may also wish to consider procuring a special inspector for this purpose. To this end, representatives of S&ME are also available to meet these specialized service needs if required.

6. Degree of Local Employment

Degree of Local Employment

Our Lexington-Based Project Team will Maximize Local Employment

Our Lexington-based Project Team maximizes LFUCG's local employment objectives.

Selection of Strand for this project will maximize local employment utilizing our Lexington office to manage and deliver the project. While our corporate headquarters does not reside in Lexington or the Bluegrass Area Development District service area, we have a long-standing relationship with the Lexington community that extends back to our Lexington office's founding in 1968. Our Project Team is local, and invested in many aspects of our community. The following illustrates that our Lexington office and Project Team is local with team members that live in Lexington and have supported LFUCG initiatives for over 30+ years.

47+ years of serving

Our Lexington Office Is Local

- ✓ Founded in 1968 (6 Years before Lexington and Fayette County Governments merged).
- ✓ Provided continuous record of service to Lexington since 1968.
- ✓ Design team works in our Lexington office and pays Lexington income taxes.
- ✓ Design team resides in Lexington and pays property taxes.
- ✓ 3.7 miles from the Lexington Office to LFUCG Division of Public Works.

MWDBE Participation

As a firm that supports initiatives of our local government, we endeavor, where practical, to incorporate MWDBE participation goals in our contracting opportunities. For this project, the Strand Team includes Third Rock Consulting, LLC to provide environmental/permitting support. Their participation will be structured to meet LFUCG' s 10% DBE goal.

THIRD ROCK CONSULTANTS

Appendix – Required Forms

AFFIDAVIT

Comes the Affiant, Matthew S. Richards, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Matthew S. Richards and he/she is the individual submitting the proposal or is the authorized representative of Strand Associates, Inc.®, the entity submitting the proposal (hereinafter referred to as "Proposer").

2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.

6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

Continued on next page

7. Proposer acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

Matthew S. Richards

STATE OF Wisconsin

COUNTY OF Dane

The foregoing instrument was subscribed, sworn to and acknowledged before me by Matthew S. Richards on this the 8th day of January, 2016.

My Commission expires: June 20, 2017

Rachel A. Frieders

NOTARY PUBLIC, STATE AT LARGE

RACHEL A. FRIEDERS
NOTARY
PUBLIC
STATE OF WISCONSIN

GENERAL PROVISIONS

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

   The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, *29 U.S.C. 650 et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.

3. Addenda: All addenda, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.

4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.

5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.

6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".

7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.

8. Bribery Clause: By his/her signature on the bid, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or

attempted to bribe an officer or employee of the LFUCG.

9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,

10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.

11. Agreement to Bid Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.

12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.

    A. Termination for Cause

    (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties

    (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.

(3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:

(a) Failure to perform the contract according to its terms, conditions and specifications;

(b) Failure to make delivery within the time specified or according to a delivery schedule fixed by the contract;

(c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;

(d) Failure to diligently advance the work under a contract for construction services;

(e) The filing of a bankruptcy petition by or against the contractor; or

(f) Actions that endanger the health, safely or welfare of the LFUCG or its citizens.

B. At Will Termination

Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent, Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. Assignment of Contract: The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.

14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.

15. Authority to do Business: The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must be signed by a duly authorized officer, agent or employee of the Respondent.

16. Governing Law: This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.

17. Ability to Meet Obligations: Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.

18. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor is an independent contractor at all times during the performance of the services specified.

19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.

Signature

Date 1/8/16

LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # RFP#67-2015 Engineering Services for Salt Barn Feasibility Study &Construction Documents

The MWDBE subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately.

MWDBE Company, Name, Address, Phone, Email	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1. Molly Foree Davis, President Third Rock Consultants, Inc 2526 Regency Road, Suite 180, Lexington, KY 40503 (859) 977-2000 mforee@thirdrockconsultants.com	Environmental, Permitting	*see note below	10%
2.			
3.			
4.			

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Strand Associates, Inc.
Company

Company Representative

01/12/2016
Date

Corporate Secretary
Title

* Note: Strand is committed to meeting the 10% DBE participation goal with required listed subconsultant as noted and others as may by required based on actual project assignments.

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # RFP#67-2015 Engineering Services for Salt Barn Feasibility Study &Construction Documents

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms to participate.

_____ Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms

X Requested a list of MWDBE subcontractors or suppliers from LFUCG Economic Engine and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWBDE firms to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less that seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

X Followed up initial solicitations by contacting MWDBEs to determine their level of interest.

X Provided the interested MWBDE firm with adequate and timely information about the plans, specifications, and requirements of the contract.

X Selected portions of the work to be performed by MWDBE firms in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE participation, even when the prime contractor may otherwise perform these work items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

_____ Included documentation of quotations received from interested MWDBE firms which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

_____ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE goals.

_____ Made an effort to offer assistance to or refer interested MWDBE firms to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

X Made efforts to expand the search for MWBE firms beyond the usual geographic boundaries.

_____ Other - any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE participation.

Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement. Documentation of Good Faith Efforts are to be submitted with the Bid, if the participation Goal is not met.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Strand Associates, Inc.	Matt Scheibel
Company	**Company Representative**
1/8/16	Corporate Secretary
Date	**Title**

Strand Associates, Inc.®
1525 Bull Lea Road, Suite 100
Lexington, KY 40511
(P) 859-225-8500
(F) 859-225-8501

Equal Employment Opportunity Policy Statement

Strand Associates, Inc.® is committed to a policy of equal opportunity for all employees. It is our policy to seek and employ the best qualified personnel in all positions, to provide equal opportunity for advancement to all employees, including upgrading, promotion and training, and to administer these activities in a manner which will not discriminate against or give preference to any person because of race, color, religion, age, sex, national origin, handicap, marital status, or any other discriminatory basis prohibited by state or federal law.

Strand is further committed to providing a work environment in which employees are treated with courtesy, respect, and dignity. As part of this commitment, we will not tolerate any form of harassment, verbal or physical, with regard to an individual's race, sex, national origin, or any other protected characteristics Therefore, all employees are encouraged to bring forth any concerns or complaints in this regard to the attention of management by contacting Human Resources, Shawn Cannon, or Ted Richards.

All complaints of sexual harassment, or harassment of any kind, will be investigated promptly and, where necessary, immediate and appropriate action will be taken to stop and remedy any such conduct. Any employee found in violation of this policy will be subject to disciplinary action which could include discharge.

EQUAL OPPORTUNITY AGREEMENT

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.

- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.

- Section 503 of the Rehabilitation Act of 1973 states:

  The Contractor will not discriminate against any employee or applicant for employment
  because of physical or mental handicap.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.

- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

  The Secretary of Labor may investigate the employment practices of any Government
  contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

****

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.

Matt Schiebel — *Signature*

Strand Associates, Inc — *Name of Business*

WORKFORCE ANALYSIS FORM

Name of Organization: Strand Associates, Inc.

Date: 01 / 12 / 16

Categories	Total	White		Latino		Black		Other		Total	
		M	F	M	F	M	F	M	F	M	F
Administrators	11	9	1						1	9	2
Professionals	264	213	42	3		2		4		222	42
Superintendents										-	-
Supervisors										-	-
Foremen										-	-
Technicians	48	40	6	1		1				42	6
Protective Service										-	-
Para-Professionals										-	-
Office/Clerical	49	9	34	1	1		2	1	1	11	38
Skilled Craft										-	-
Service/Maintenance	3	1				2				3	-
Total:	375	272	83	5	1	5	2	5	2	287	88

Prepared by: Audra Wells, H/R Coordinator

Name & Title

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 7/9/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Ansay & Associates, LLC. MSN 702 N High Point Road Suite 201 Madison WI 53717	**CONTACT NAME:** sue.simoneau@ansay.com **PHONE (A/C, No, Ext):** 800-643-6133 **FAX (A/C, No):** 608-831-4777 **E-MAIL ADDRESS:** sue.simoneau@ansay.com
INSURED STRAASS-01 Strand Associates, Inc 910 W. Wingra Drive Madison WI 53715	**INSURER(S) AFFORDING COVERAGE** / **NAIC #** **INSURER A :** CNA Insurance Companies 35289 **INSURER B :** **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 1398411903 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	**GENERAL LIABILITY** X COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR X XCU cov. incl. GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC			5099170076	1/1/2015	1/1/2016	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$1,000,000 $10,000 $5,000 $1,000,000 $2,000,000 $2,000,000 $
A	**AUTOMOBILE LIABILITY** X ANY AUTO ALL OWNED AUTOS [ ] SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			5099170062	1/1/2015	1/1/2016	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$1,000,000 $ $ $ $
A	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000			5099170059	1/1/2015	1/1/2016	EACH OCCURRENCE AGGREGATE $	$2,000,000 $2,000,000 $
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WC595126844	1/1/2015	1/1/2016	X WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
A	Professional Liability & Pollution Liability			AEH113974097	7/11/2015	7/11/2016	Each Claim Aggregate Full Prior Acts	2,000,000 2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

Blank Certificate

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE