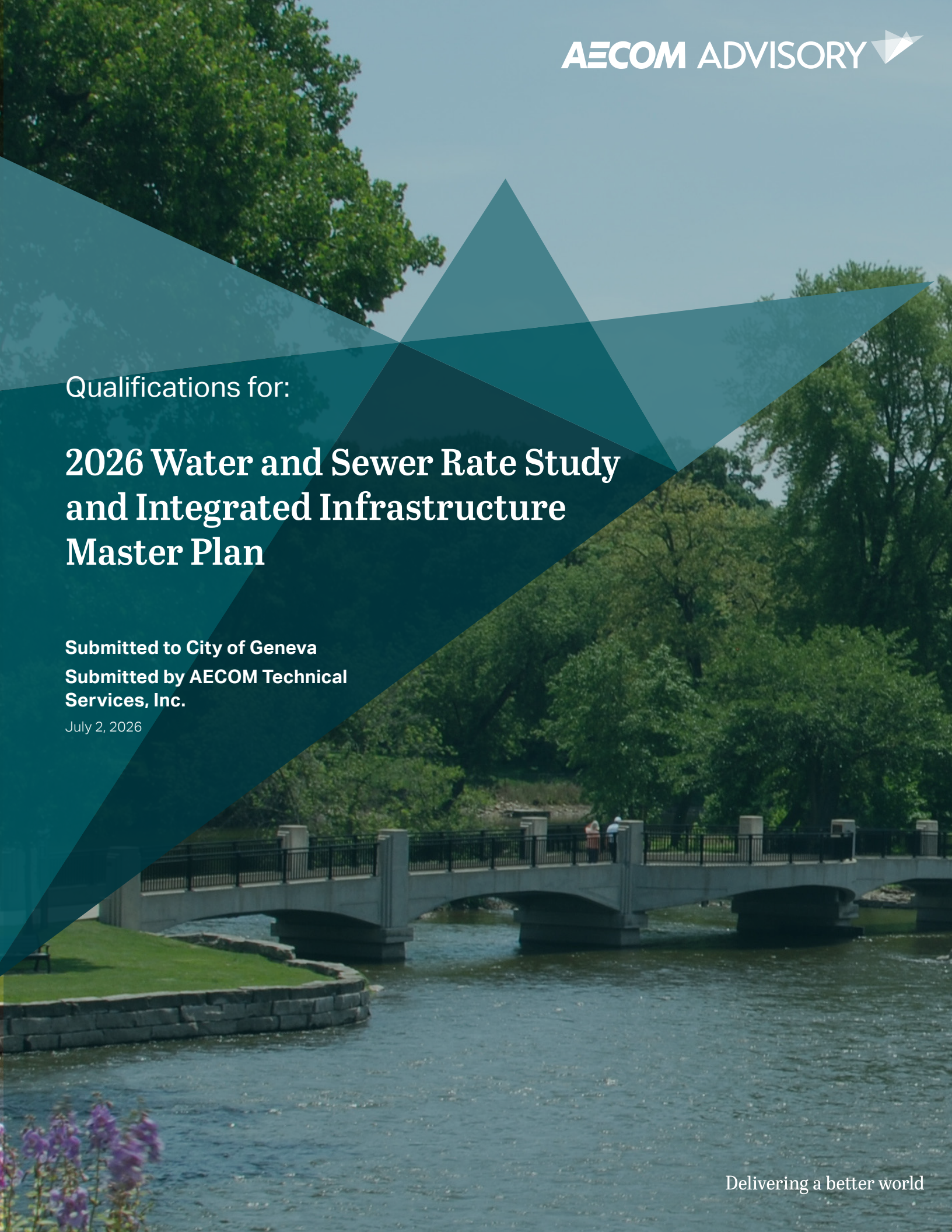


AECOM ADVISORY

Qualifications for:

2026 Water and Sewer Rate Study and Integrated Infrastructure Master Plan

Submitted to City of Geneva

Submitted by AECOM Technical Services, Inc.

July 2, 2026

Delivering a better world

City of Geneva
Attn: Alex Voigt, City Administrator
1800 South Street
Geneva, IL 60134

Dear Ms. Voigt:

The City of Geneva is at a pivotal moment. Continued growth, aging assets, and increasing service expectations are placing new demands on your water, sewer, and transportation systems, while also creating an opportunity to move beyond siloed planning toward a more coordinated, data-driven approach. This is the time to align infrastructure investments, rate strategies, and asset management practices into a unified framework that positions Geneva for long-term resilience and performance. Achieving this vision requires a team with the experience and strategic insight to translate it into a clear, integrated, and actionable plan.

The AECOM Team (AECOM Technical Services, Raftelis, and Tiger Eye Engineering) brings together technical excellence, local experience, and financial expertise in a single, multidisciplinary team that can deliver a practical, and cost-effective study today that will position Geneva for efficient capital investment, improved service delivery, and sustained success well into the future, and position the City for long-term resilience, regulatory compliance, and sustainable growth.

The AECOM Team is pleased to submit this Statement of Qualifications to support the 2026 Water and Sewer Rate Study, Pavement Management Plan (PMP), and Integrated Infrastructure Master Plan (IIMP). Our approach focuses on three outcomes to support Geneva's strategic growth:

1. **Align Financial Sustainability with Infrastructure Needs.** In partnership with Raftelis – nationally recognized for utility rate setting and cost-of-service analysis– we will develop equitable, defensible water and sewer rates that reflect true system costs and support long-term financial sustainability. Our integrated financial models will directly link rates to capital and operational needs and economic development goals, helping Geneva maintain affordability while keeping pace with growth.
2. **Coordinate Investments Across Systems.** With extensive experience supporting suburban communities along the Fox River and across the Chicago region with infrastructure and economic development planning, our team understands the challenges and opportunities facing Geneva. We know what it takes to align water, wastewater, stormwater, and transportation investments into a unified program, to minimize disruption, reduce redundant construction, and maximize the value of each capital dollar.
3. **Deliver a Practical, Data-Driven Implementation Roadmap.** We will apply our strategic planning expertise to deliver an integrated, actionable framework - equipping Geneva with prioritized capital improvement programs, GIS-based planning tools, and scenario-driven financial models that enable transparent decisions and guide investments over the next 10 to 30 years, with flexibility to adapt as the City grows.

We recognize that successful implementation requires a practical and scalable approach. While our team brings innovative ideas and best practices from across the industry, ***we are equally focused on right-sizing solutions to align with Geneva's budget, staff capacity, and near-term priorities***.

We look forward to the opportunity to partner with the City of Geneva on this important initiative. Thank you for your consideration.

Sincerely,

Chris Brewer, VP, Project Manager
chris.brewer@aecom.com

Gareth Lifton, SVP, Project Director
gareth.lifton@aecom.com

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Firm Information

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1. Firm Information

Organizational Description

AECOM is a global infrastructure consulting firm delivering professional services across water, transportation, environment, urban planning, program management, and advisory services, including capital planning and asset management. This integrated model enables AECOM to align technical delivery with long-term community objectives by combining engineering, planning, and financial expertise into a scalable, multidisciplinary approach.

For the City of Geneva, AECOM has partnered with Raftelis and Tiger Eye Engineering to bring together a unified team spanning water, wastewater, stormwater, transportation, and advisory disciplines to address interconnected needs holistically. Rather than operating as a traditional engineering firm, AECOM integrates technical delivery with strategic advisory, data-driven insights, and forward-looking planning. This approach brings both engineering and financial perspectives, enabling innovative, practical solutions that support immediate performance and long-term resilience.

AECOM's Philosophy

AECOM's philosophy is centered on:

- **Delivering Sustainable Infrastructure Solutions:** Supporting resilient, long-term community outcomes
- **Integration Across Disciplines:** Aligning engineering, financial, and planning expertise
- **Client-Focused Delivery:** Tailoring solutions to each client's goals and constraints
- **Innovation and Practical Implementation:** Combining advanced analytics with actionable recommendations

AECOM's approach emphasizes not only technical excellence, but also **clarity, transparency, and implementability**.

Relevant Experience and Capabilities

AECOM's multidisciplinary team of planners, economists, and engineers bring decades of experience delivering municipal rate studies and integrated infrastructure planning for utilities of all sizes. Together,

Firm Name:
AECOM Technical Services, Inc.

Corporate Headquarters:
300 South Grand, Suite 900
Los Angeles, CA 90071
Telephone: (213) 593-8100

Office in Charge of This Study:
130 East Randolph, Suite 2400
Chicago, IL 60601
Telephone: (312) 373-7700

Firm Structure:
AECOM is a publicly traded corporation (NYSE: ACM) and operates as a global professional services firm. The company employs approximately **50,000+** professionals worldwide.

AECOM History:
AECOM traces its origins back to 1910 through its legacy firms and has operated under the AECOM name since 1990. The firm has over **100 years of experience** delivering infrastructure and advisory services.

Principals:
AECOM operates under a corporate governance structure led by executive leadership, including:

- **Matt Crane** – President and Chief Operating Officer
- **Allison Hall** – Chief Financial Officer & Treasurer
- **Karl Jensen –** Chief Executive Officer
- **Armond Tatevossian** – Secretary

Project-specific leadership and accountability for this engagement will be provided by designated Project Manager, identified in the Project Personnel section.

our team offers a comprehensive set of services that can deliver practical, defensible, scalable and forward-looking solutions tailored to the City's needs.

Our team has supported major infrastructure agencies throughout the Chicago metropolitan area and public-sector clients nationwide. Specific project examples and descriptions are provided in **Section 2: Project Personnel and Experience – Project Experience.** The AECOM Team's in-house relevant services include:

Capital Improvement Programs (CIP) and Investment Prioritization

Our team applies an integrated, corridor-based approach to CIP, aligning investments across water, wastewater, and transportation to reduce costs and improve lifecycle outcomes. AECOM has supported agencies such as the Chicago Department of Water Management and the City and County of Broomfield in developing coordinated, risk-based capital programs with phased implementation strategies tied to regulatory and service goals. We tailor delivery from concise capital plans to embedded Program Management Office (PMO) support, providing defensible, actionable investment roadmaps.

Asset Management and Lifecycle Cost Analysis

AECOM delivers integrated asset management services that evaluate condition, performance, and risk across utility systems to prioritize long-term investments. Experience includes Monroe, MI (risk-based modeling and funding projections), Detroit Water and Sewerage Department (PMO and systemwide assessments), Fairfax (inspection and hydraulic modeling), and Broomfield (capital planning tools to support rate decisions), demonstrating practical, data-driven asset planning.

Stormwater Funding and Utility Development

AECOM combines technical, financial, and stakeholder analysis to develop sustainable stormwater funding strategies, including ERU-based rate structures, credit policies, and ordinances. In Alexandria, VA, we delivered a full utility implementation plan, and across communities such as Durham, Elizabeth City, and Fairfax, we have advanced stormwater programs, capital prioritization, and funding strategies grounded in defensible data.

Pavement Management and Condition Assessment

AECOM has supported over 300 agencies nationwide, including 93 in the Chicagoland region, with pavement management programs using tools such as PAVER to drive lifecycle optimization. Tiger Eye Engineering complements this work with AI-driven condition assessments and georeferenced data collection. Recent Illinois projects include systemwide evaluations for Chicago DOT, Peoria, Galesburg, and Macon County, delivering PCI-based, decision-ready datasets. This depth of experience in comparable climates, roadway networks, and municipal environments positions the team to provide proven, practical approaches to pavement condition assessment and asset management planning.

Integrated Infrastructure and Master Planning

AECOM brings integrated infrastructure and master planning expertise, combining transportation, stormwater, land use, and economic development into cohesive strategies. For Elk Grove Village, AECOM developed a revitalization plan aligned with the Western Access to O'Hare, evaluating roadway connectivity, freight routing, and stormwater capacity along key corridors to prioritize investments that support mobility, growth, and long-term performance. AECOM also supported the Naperville Development Partnership in assessing redevelopment strategies along the I-88 Corridor, evaluating whether existing utility infrastructure serves as a constraint or opportunity.

Utility Financials & Rate Study

Raftelis, a nationally recognized leader in utility financial and rate consulting, will lead the rate study, drawing on experience with more than 1,700 local governments and utilities, including some of the nation's most complex agencies. In the past year alone, Raftelis has completed over 1,300 projects for more than 700 agencies across 47 states, Washington, D.C., and Canada. Their work brings industry best practices and analytical rigor to evaluating historical financial statements, budgets, audits, rate ordinances, and prior studies, as well as customer data by class and usage.

Raftelis' approach includes reviewing existing and future debt, capital improvement plans, and funding needs; evaluating revenues and expenses within the Water and Sewer Fund; assessing fund balance and reserve policies; and confirming compliance with bond covenants and other financial constraints. The team also identifies structural deficits or surpluses and evaluates connection fees, with a consistent focus on affordability and financial sustainability. AECOM and Raftelis collaborate regularly on water and wastewater planning efforts, providing an integrated engineering and financial perspective that supports practical, defensible recommendations.

Financial Capability

AECOM is a financially stable firm that has the necessary resources, both human and financial, to provide the services at each level required by the City of Geneva, with total assets of $12 billion and total liabilities of $9.5 billion. AECOM is a large corporation traded on the New York Stock Exchange under the symbol AECOM. The firm maintains strong annual revenues, access to capital and operational resources, and robust financial management practices. Detailed financial statements and supporting documentation can be provided upon request during the selection or negotiation process.

Regulatory Actions and Litigation

AECOM is committed to the highest standards of professional and ethical conduct. To the best of our knowledge, there have been **no material regulatory actions** within the past 10 years that would adversely impact AECOM's ability to perform the requested services. If required, AECOM can provide formal disclosures consistent with corporate reporting requirements.

As a large global firm, AECOM is occasionally involved in the normal course of business in claims and litigation typical for the industry. None of these matters have materially impacted the firm's ability to deliver professional services. Additional information can be provided upon request consistent with legal and corporate disclosure requirements.

Insurance Coverage

AECOM maintains all insurance coverage required to perform the requested services, including:

- Commercial General Liability Insurance
- Professional Liability (Errors & Omissions) Insurance
- Automobile Liability Insurance
- Workers' Compensation Insurance

Coverage limits meet or exceed industry standards and can be tailored to meet City of Geneva requirements. Certificates of insurance will be provided upon request.

Project Personnel and Experience

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2. Project Personnel and Experience

Project Team

Project Team Leader

The project will be led by Chris Brewer, who will serve as Project Manager and the City's primary point of contact.



Our team is **led by Chris Brewer**, who serves as our Project Manager. Chris is responsible for overall delivery, quality control, schedule, coordination with City staff, and will confirm that interim and final deliverables meet the City's expectations and timeline. This role serves as the central point of accountability and verifies that all workstreams, including the rate study, water master plan, pavement planning, and the integrated infrastructure master plan are aligned and advancing cohesively. Chris will maintain consistency between CIP development, asset condition assessments, and financial models. He brings 32 years of experience in infrastructure planning, financial analysis, and utility-related rate and real estate market and fiscal analysis, with a strong focus on linking economic, demographic, real estate, and financial data to support sound infrastructure investment decisions. His recent work includes redevelopment planning work in communities along the Fox River.

Supporting the project manager is **Avani Sharma as the Integration Team Lead**. In this role, Avani will focus on fully integrating each technical component into a unified decision-making framework. She brings experience in strategy, program design, and organizational transformation, with a focus on public-sector and utility clients. She will apply her strategic planning expertise to synthesize technical, financial, and operational workstreams into a cohesive Integrated Infrastructure Master Plan (IIMP). Her strengths in stakeholder engagement, change management, and data-driven decision-making will help the IIMP not only technically be sound, but also aligned with organizational priorities, implementable across departments, and positioned to support long-term resilience and effective capital investment planning.

Our **Program Director, Gareth Lifton**, will provide overall guidance and support, drawing on more than 40 years of utility experience to lead strategic direction and decision-making throughout the program. His background includes work with DC Water, where, as part of a five-year program, he was responsible for aligning the utility's asset management program with ISO 55001, including development of the Asset Management Policy and Strategic Asset Management Plan, establishment of a risk-based asset approach, and review of capital planning programs.

AECOM organized three specialized technical teams to efficiently deliver the full scope of services:

1. The **Rate Study and Funding Strategy Team** will lead all financial analyses, including revenue requirements, cost-of-service evaluations, rate design, and development of sustainable funding strategies to support both short-term and long-term capital improvement programs. This team is composed of registered municipal advisors from our teaming partner, Raftelis.
2. The **Water and Sewer Master Planning Team** will evaluate existing system conditions, perform lifecycle and asset management analyses, and prioritize capital improvements needed to maintain reliable performance and meet regulatory requirements. This effort will also consider long-term water supply resilience to support sustainable and adaptable system planning.

3. The **Pavement Management Planning Team** will lead development of the Pavement Management Plan so that roadway improvements are strategically coordinated with underground utility work, supporting the City's objective of minimizing redundant construction and optimizing project sequencing. This team includes Tiger Eye Engineering, who will provide data collection and pavement condition assessment.

The organizational chart for the key members of the project team is provided below in **Figure 1**. Where applicable, relevant licenses and registrations with the State of Illinois are noted. Specific details about these registrations are provided on the resumes for the proposed personnel in **Appendix A**. Both Avani and Chris are located in Chicago, along with the leads for the Water and Sewer Master Planning team and the Pavement Management Planning Team, Chad Laucamp and Bridget Malinowski.

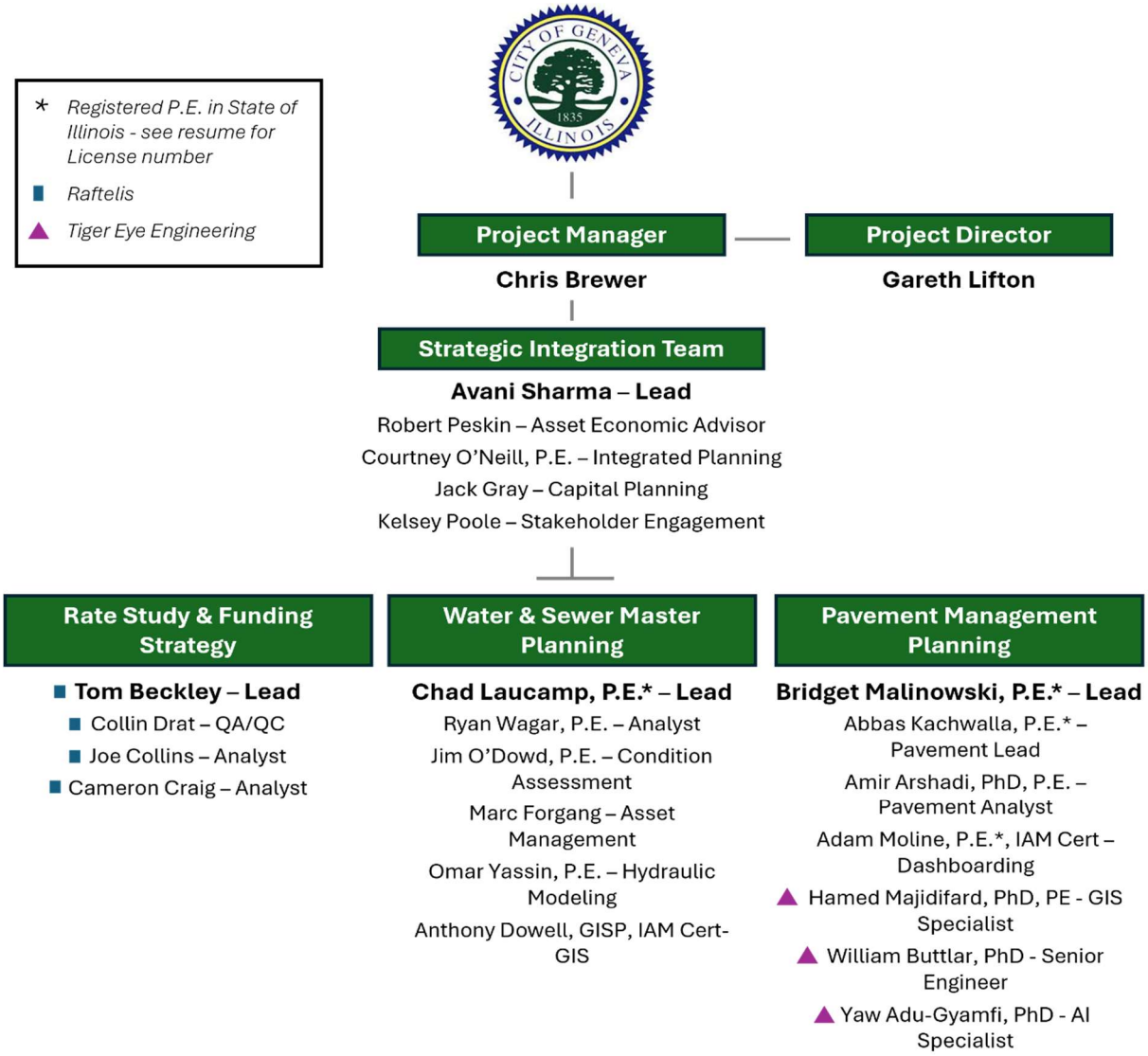


Figure 1. Organizational Chart of the Proposed Key Personnel

Project Experience

The AECOM team has deep knowledge of, and experience with, the northeast Illinois region. We offer comprehensive services, from planning and design through construction and management, and have worked directly with Chicagoland cities, counties, and agencies to execute many of the

region's largest and most complex utility projects and programs. AECOM also engaged closely with various stakeholder groups and communities to understand the challenges and opportunities that each project faces.

As highlighted in **Section 1: Firm Information – Relevant Experience and Capabilities, the AECOM Team brings extensive experience in all aspects of the proposed engagement**, from capital planning to condition evaluation to rate studies and financial planning. The following project examples represent a small subset of our work that highlights our integrated planning approaches and ability to customize our approach to the size of our client and their unique needs. Additional personnel experience is shown in the resumes in **Appendix A**.

Asset Management Gap Assessment & CIP Development

City & County of Broomfield (CCOB), Broomfield, CO

Relevance to Scope:
- Asset Management Analysis
- Capital Spending Optimization
- Increase Planned Maintenance

AECOM assessed Asset Management (AM) gaps for CCOB's drainage and stormwater, water, and wastewater departments. AECOM comprehensively reviewed CCOB's current AM program using AECOM's 4-Pillars methodology, interviewed departmental management and staff to assess needs and current practices, and integrated national AM best practices into the assessment framework. The gap analysis highlighted the AM program's strengths and informed specific recommendations for improving CCOB's AM capabilities and transitioning to more mature AM approaches over time.

AECOM also helped Broomfield evaluate its current capital program to identify funding gaps and provide recommendations for future planning and funding. AECOM used our in-house Capital Investment Planning (CIP) tool to optimize CCOB's capital spending and provided CCOB with data-backed summaries to support water rate increases, helping Broomfield transition from reactive to planned maintenance.

Wastewater and Stormwater Engineering Basic Ordering Agreement (BOA)

City of Fairfax Public Works Department, Fairfax, VA

Relevance to Scope:
- Condition Assessments
- Utility Engineering & Design Expertise
- Hydraulic Modeling

AECOM provides ongoing wastewater and stormwater data collection, condition assessment, and design services to the City of Fairfax Public Works Department, delivering over 20 task orders to support system planning and maintenance. Key services include condition assessments using advanced inspection technologies (e.g., manhole and CCTV inspections), wastewater rehabilitation design and construction support, and development of GIS-based tools to enhance asset management and prioritize investments. The team also supports flow monitoring and hydraulic modeling to improve system performance understanding and long-term planning.

Feasibility Study to Receive Lake Michigan Water

DuPage Water Commission (DWC), Oswego, IL

Relevance to Scope:
- Water Resources Planning
- Hydraulic Modeling
- Distribution System Analysis

AECOM conducted a feasibility study for the Village of Oswego and United City of Yorkville to evaluate purchasing treated Lake Michigan water from DWC as an alternative to their current reliance on the declining aquifer. With projected population growth increasing demand, the study assessed Lake Michigan as a sustainable long-term supply option in place of a previously recommended Fox River source.

Hydraulic modeling confirmed that DWC could serve both communities while maintaining service to existing users. AECOM identified a preliminary transmission main route, developed planning-level cost estimates and unit water costs under multiple financing scenarios, and assessed storage, metering, and connection options. The study also evaluated service interruption risks and recommended mitigation measures associated with connecting to the DWC system.

Roadway Asset Management Development

Chicago Skyway Concession Company, Chicago, IL

Relevance to Scope:
- Asset Management Software Implementation
- Lifecycle Cost Analysis
- Pavement Analysis

AECOM assisted the Skyway Concession Company (SCC) with the development of their AM program and has been retained for 3 successive projects. SCC leases, operates, and maintains nearly 8 miles of roadway with 2.6 miles of bridges. SCC has 86 years remaining on their lease and staff identified a need for better asset management. The first phase of this project involved review of existing AM processes, a gaps analysis, review of CAPEX procedures, AM recommendations, and an implementation plan. As part of the gap analysis, AECOM held interviews with management and staff on needs, current practices, and industry best practices. AECOM developed a comprehensive roadmap that identified areas for improvement based on SCC's needs.

AECOM used a robust system to identify and assess how the actual expenditures of CAPEX and OPEX compared to prior experience and forecasts and identified historical cost drivers. This assessment helped to identify areas of CAPEX and OPEX potential efficiencies (i.e. replacement of leaking bridge joints to prevent accelerated deterioration of substructures).

AECOM's engagement included overseeing implementation of an Enterprise Asset Management Software (EAMS), creation of a roadway and structural 'digital twin', and a pavement analysis. AECOM then fully digitized SCC's roadway drainage system and implemented it within the EAMS. AECOM also provided recommendations to migrate structure tracking to the SNBI system. AECOM also reviewed current CMMS processes and outcomes and provided recommendations.

Chicago Metropolitan Agency for Planning Municipal Pavement Program

93 agencies (4,800 centerline miles) across 7 counties

Relevance to Scope:
- Pavement Management Planning
- Engineering & Design Services
- Program Management

AECOM provides pavement management planning, engineering, and program management support to the Chicago Metropolitan Agency for Planning (CMAP), the regional planning organization responsible for guiding transportation and economic development initiatives across northeastern Illinois. The project focuses on developing data-driven transportation and infrastructure strategies, coordinating with regional stakeholders, evaluating capital improvement priorities, and advancing sustainable mobility solutions. AECOM's role includes technical guidance, QA/QC, planning support, stakeholder engagement, and project delivery services.

Road, Sidewalk, and Asset Data Collection and Asset Management

City of Galesburg, IL

Relevance to Scope:
- Pavement Management Planning
- Engineering & Design Services
- Program Management

The City engaged TEE, in partnership with Hanson Professional Services Inc., to deliver an evaluation of its pavement network along with a strategic partner to strengthen decision-making, prioritize investments, and implement effective maintenance and

rehabilitation programs. The effort focused on integrating the City's GIS with Hanson's Decision Optimization Software (DOT)™ to create a user-friendly, data-driven platform that supports actionable planning and long-term asset management.

TEE performed a detailed pavement and infrastructure assessment using high-resolution imagery, paired with AI- and machine learning-based distress identification in accordance with ASTM 6433. The team developed PCI ratings using both section-level and hyper-granular analyses, while also inventorying and rating additional transportation assets such as signs, signals, and sidewalks, including ADA ramps. Deliverables included georeferenced imagery, PCI and Sidewalk Condition Index ratings, and a comprehensive asset database integrated into a custom visualization dashboard with GIS-compatible outputs.

Lincolnwood Financial Planning and Rate Study

Village of Lincolnwood, IL

Relevance to Scope:

- Rate Studies
- Financial Planning
- Capital Financing Strategies

Raftelis completed a financial planning and rate study for the Village of Lincolnwood's water and sewer utilities, developing multi-year plans for each while separating costs within the Village's combined fund. Working with staff, Raftelis evaluated capital scenarios, with a focus on generating sufficient water utility revenue to support distribution system recapitalization. The team assessed varying reinvestment rates and funding mixes of cash and debt to establish a capital financing plan.

Raftelis also reviewed the Village's rate structure, designing fixed and volumetric charges while maintaining affordability for low-volume users. By separating water and sewer finances, the study aligned each utility's rates with its cost of service. Two workshops with the Village Board presented financing options, particularly water system reinvestment levels. The Board ultimately approved a plan that increases revenue to support ongoing recapitalization of both the water distribution and sewer collection systems.

Current Workload

The proposed personnel are **fully committed to the successful delivery of this project** and will be allocated with sufficient capacity to meet all scope, schedule, and quality expectations. Detailed project listings and schedules can be made available upon request.

AECOM's depth of resources and disciplined workload management allow us to balance flexibility and reliability across projects. Through ongoing resource planning and regular reviews of staff assignments, we maintain appropriate staffing levels and consistent attention to meeting the City's milestones and objectives. While some team members will continue supporting other assignments, we have confirmed sufficient availability to complete all services and deliverables without compromising quality or performance, with workloads carefully evaluated to maintain consistent focus on the City's project. Each team member maintains sufficient availability, ranging from approximately 30 to 60 percent, to support the proposed scope.

At project initiation, our Project Manager, Chris Brewer, will collaborate with the City to define key milestones, critical tasks, and delivery dates, which will inform a detailed schedule and resource plan. The team will actively monitor progress, hold regular coordination meetings, and communicate promptly on any issues affecting scope or schedule to maintain transparency and proactive management.

Project Approach

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3. Project Approach

AECOM brings the multidisciplinary technical expertise needed to support Geneva's vision for a truly integrated infrastructure program- one that aligns water, wastewater, stormwater, transportation systems, and long-term financial planning into a single, data-driven framework. Our team has extensive experience delivering this type of integrated infrastructure master planning, including development of water plans, pavement management programs, capital improvement plans, and utility rate strategies that are both technically sound and financially sustainable.

At the same time, we recognize that successful implementation requires a practical and scalable approach. **While AECOM brings innovative ideas and best practices from across the industry, we are equally focused on right-sizing solutions to align with Geneva's budget, schedule, staff capacity, and near-term priorities.** The final scope and deliverables would be agreed upon with the City based on available resources and subject to mutually agreeable terms and conditions. Our approach is to develop a phased, prioritized plan that is grounded in lifecycle analysis and supported by clear funding strategies that allow the City to act immediately while laying the groundwork for more comprehensive improvements in the future. By delivering an integrated, practical, and cost-effective study today that ties together infrastructure condition, transportation systems, and financial planning, we will position Geneva for efficient capital investment, improved service delivery, and sustained success well into the future, and position the City for long-term resilience, regulatory compliance, and sustainable growth.

Project Understanding

The City of Geneva is facing a convergence of infrastructure challenges that reflect both aging systems and evolving regulatory and growth pressures. Much of the City's water, wastewater, and stormwater infrastructure is reaching or exceeding its useful life, creating a need for significant reinvestment to maintain reliability and service levels. At the same time, increased stormwater runoff driven by development patterns and more intense precipitation events is placing added strain on drainage systems, contributing to localized flooding and water quality concerns. Local roadway conditions further compound these challenges, as many streets have not undergone recent rehabilitation and are increasingly impacted by both deferred maintenance and repeated utility disturbances. Together, these factors are driving the need for a coordinated, systemwide approach to capital planning that considers surface and subsurface infrastructure holistically.

In parallel, the City must plan for continued population growth and shifting development dynamics that will drive future service demand and long-term water supply considerations (e.g., whether continued reliance on existing sources remains sustainable or if regional alternatives such as Lake Michigan water may need to be evaluated). Regulatory pressures are also intensifying, particularly related to emerging contaminants such as PFAS and stricter wastewater discharge requirements to the Fox River, which may necessitate significant treatment upgrades and operational changes. These intersecting issues – aging infrastructure, growth, funding constraints, stormwater impacts, and evolving regulations - require an integrated plan that provides a clear, flexible framework for prioritizing investments, managing risk, and aligning technical needs with financial and policy decisions over the next several decades.

This effort represents a strategic shift from historically siloed planning processes toward a coordinated, data-driven approach that synchronizes water, wastewater, stormwater, and roadway infrastructure decisions into a unified CIP and implementation strategy.

Approach Organization

As shown in the Organizational chart in **Figure 1**, AECOM structured its team to align directly with the City's vision of delivering an integrated, multidisciplinary program that unifies utility financial planning, infrastructure lifecycle analysis, and coordinated capital improvement programming into a single, actionable framework. Three specialized, technical teams will efficiently deliver the full scope of services: the Rate Study and Funding Strategy Team, the Water and Sewer Master Planning Team, and the Pavement Management Planning Team. **Each workstream is structured to deliver its technical scope while continuously feeding data and assumptions into the shared IIMP**. These teams will operate within an integrated delivery framework, with continuous coordination led by the Project Manager and Strategic Integration Team, which will lead the development of the IIMP. Regular internal coordination meetings, milestone reviews, and cross-disciplinary workshops will align assumptions, priorities, and recommendations across all workstreams. This collaborative approach enables AECOM to deliver a unified CIP and IIMP that reflects both technical rigor and financial sustainability. Ultimately, the project will equip the City of Geneva with a clear, actionable roadmap to guide infrastructure investment, maintain regulatory compliance, provide financial sustainability, and support continued community growth over the next several decades.

Guiding Principles

Our approach is guided by principles that support an IIMP while maintaining flexibility in scope and empowering the City to sustain and evolve the work independently over time:

- **Right-sized, flexible planning approach:** We can tailor the depth, level of detail, and analytical rigor presented here to align with the City's priorities, budget, schedule, and decision needs, allowing the work to scale from a focused, light-touch assessment to a more comprehensive evaluation as desired.
- **Decision-driven sequencing:** Our approach prioritizes the development of core building blocks - such as reliable datasets, agreed-upon levels of service, growth projections, and baseline system understanding - before advancing into alternatives and capital planning, so each workstream works with the same data and towards the same goals.
- **Transparency, reproducibility, and knowledge transfer:** We will establish clear, well-documented data structures, assumptions, and workflows so City staff can replicate analyses, update inputs, and maintain the plan independently beyond project completion.
- **Stakeholder-aligned planning:** We recommend the targeted engagement with staff, stakeholders, and elected officials at key milestones to align technical recommendations with policy direction, funding realities, and community priorities. These engagements can be tailored to fit the scale of the project as needed.

Quality Management

AECOM will implement QA/QC procedures appropriate for reports, datasets, forecasts, and model outputs. We thoroughly review, characterize, and qualify all data received from the City; preserve raw and derived datasets; and document assumptions, data gaps, and limitations in each major deliverable.

Communications

Throughout the project, AECOM will maintain clear and consistent communication with the City through regular progress updates, milestone review meetings, and formal presentations, including briefings to the Committee of the Whole and City Council. This organization provides that all

elements of the Water Master Plan (WMP), Water and Sewer Rate Study, PMP, and IIMP are developed cohesively and reflect the City's objective of coordinated infrastructure investment and long-term value optimization.

We will provide iterative deliverables, including draft and final reports, technical analyses, and a usable financial and rate model, and will support stakeholder engagement through workshops and presentations to the City Council.

Project Approach

As shown in **Figure 2**, the project is organized into six complementary, interdependent workstreams (WS) that collectively develop a comprehensive understanding of water, wastewater, stormwater, and pavement system conditions and needs, and define prioritized capital improvements and lifecycle replacement strategies. Workstream 2 (Strategic Planning Baseline) establishes the foundational policy, financial, regulatory, and data context that informs all subsequent analyses. **Workstreams 3, 4, and 5 advance this foundation through stand-alone deliverables while supporting development of the unified IIMP and CIP in WS6**, enabling early alignment on objectives and governance, timely validation of data and methods, and transparent, iterative engagement at key decision points.



Figure 2. Integrated Workstreams (WS) in Project Approach

WORKSTREAM 1: PROJECT MANAGEMENT

The purpose of this workstream is to establish a clear project governance and coordination framework between AECOM and the City of Geneva to support the delivery of the project and deliverables efficiently, on schedule, and in alignment with project objectives.

AECOM's Project Manager, Chris Brewer, will serve as the primary points of contact for Geneva throughout the duration of the project. He will work closely with the technical teams to facilitate timely execution of tasks and deliverables. AECOM will use customized and proven accounting methods to closely monitor and adjust project progress, and schedule, and appropriate staff assignments.

Workstream 1 Deliverables:

- Project Management Plan
- Monthly progress reports, cashflow projections, and schedule updates
- Meeting agendas, presentation materials, minutes, action items, and sign-in sheets

1.1 Project Initiation and Work Plan Development

We will begin with a project team kickoff meeting with Geneva staff and key technical leads to confirm project goals and objectives, roles, timelines, and communication preferences. We will also use this meeting to refine the project schedule and identify potential risks, mitigation strategies, and emerging opportunities.

Based on the discussion at the Kickoff Meeting, AECOM will develop a Project Management Plan that provides an updated outline of roles, responsibilities, contact information, key decision points, decision-making processes, and our approach to internal and external collaboration and communications. This plan will include an updated project work breakdown structure and critical path schedule and details about AECOM's project tracking and progress management tools to support reporting requirements and timely execution of tasks.

1.2 Monthly Invoices and Reports

AECOM will organize and lead virtual monthly project management meetings with the Geneva project team. We will review task status and progress, confirm near-term deliverables, troubleshoot emerging issues, and facilitate cross-task alignment.

The Project Manager will provide regular invoices that include written status reports on progress and deliverables for each task.

WORKSTREAM 2: STRATEGIC BASELINE PLANNING

This workstream establishes a foundational understanding of the City's policy, financial, regulatory, and data context to support all subsequent analyses. It integrates early stakeholder input, validated data, growth projections, and regulatory review to align assumptions and provide a consistent, defensible basis for planning and decision-making across the Master Plan.

Workstream 2 Deliverables:

- Stakeholder Engagment Plan
- Data Management Plan

2.1: Stakeholder Engagement

At the beginning of the project, the team will conduct targeted outreach with a select group of elected officials and key stakeholders to inform early understanding of policy direction, funding constraints, and political considerations affecting the water and wastewater system. This effort will focus on gathering insights related to post-COVID development trends, including the increasing reliance on residential growth as the primary driver of new connections and the associated implications for capital financing capacity. Through structured interviews and facilitated discussions, the team will document perceived risks of a narrowing revenue base, potential funding gaps for capital improvements, and sensitivities around rate adjustments or alternative funding strategies. Findings from this engagement will be synthesized into a memorandum that highlights key themes, areas of alignment or concern, and potential policy constraints, providing a clear foundation for subsequent technical analyses and the rate study.

Stakeholder engagement will also be carried out throughout the workstreams as needed for agreement and buy-in and can be right-sized to fit the budget and timeline.

2.2 Data Acquisition, Validation, QA/QC, Analysis, and Management Plan

AECOM will establish a reproducible data environment to support large-scale analysis, forecasting, and hydraulic modeling throughout the Master Plan. The team will acquire, inventory, and validate datasets provided by the City and other sources, evaluating completeness, quality, and usability. Raw data sources will be preserved while validated, quality-controlled datasets are developed, with

interim datasets maintained using documented lineage and version control practices. A Data Management Plan will be prepared that defines tools, storage locations, file naming conventions, data dictionaries, and reproducible workflows, including code and/or step-by-step procedures to support transparency and repeatability.

2.3 Demand Projections and Growth Analysis

AECOM will develop integrated demand projections based on land use forecasts, demographic trends, and anticipated development patterns. The analysis will translate projected growth into system demand and evaluate implications for infrastructure capacity, operations, and revenue generation, with particular attention to potential shifts resulting from a narrower development base. The team will coordinate with City planning staff and regional partners to validate growth assumptions, align projections with planning documents, and support a consistent, defensible basis for long-term system planning and financial analysis.

2.4 Identify Regulatory Compliance Risks

In this task, AECOM will perform a comprehensive review of all relevant codes, standards, and regulatory requirements that may influence the project's work with the City's water, wastewater, storm sewer and pavement programs to identify potential statutory regulation risks, gaps and uncertainties. This includes, but is not limited to, Illinois Environmental Protection Agency (IEPA) requirements, U.S. EPA regulations (including those currently under development), NPDES MS4 permit obligations, bond covenant requirements, and local ordinances governing utility rates and infrastructure improvements. This effort will be closely coordinated with the City's existing policies, historical studies, and regulatory commitments to ensure continuity and compliance across all recommendations.

WORKSTREAM 3: WATER MANAGEMENT PLAN

The purpose of this workstream is to develop the proposed Water Master Plan (WMP) that will serve as an interim report to consolidate prior studies and define a prioritized set of water, wastewater, and stormwater projects. These priorities will be based on risk, performance, compliance, cost-effectiveness, and community impact, forming a key input to the IIMP and CIP.

Workstream 3 Deliverables:

- Level of Service Goals
- Life Cycle Replacement Report
- Draft and Final Water Master Plan (WMP)

3.1 Existing Conditions Assessment

AECOM will conduct a streamlined review of existing conditions across the City's water, wastewater, stormwater, and related water infrastructure systems to establish a unified baseline of needs. This effort will compile and evaluate available planning documents, asset inventories, condition assessments, hydraulic models, growth projections, regulatory requirements, and GIS data to identify system performance issues, capacity constraints, and asset risks. Land use and development trends will be incorporated to understand how shifting growth patterns may influence future demand and capital investment needs. Coordination with City staff and technical stakeholders will be conducted to validate findings, address data gaps, and confirm key assumptions, with planning-level approaches applied where data limitations exist.

This task will also include a focused review and integration of prior studies and plans, including the City's 2021 Comprehensive Drainage Study, to assess the status of previously identified projects and recommendations. Completed, ongoing, deferred, and unfunded projects will be identified and re-evaluated based on current conditions, risk, regulatory drivers, and cost-effectiveness. The outcomes of this effort will be integrated into the WMP and reflected in the final report.

3.2 Levels of Service (LOS) Development

AECOM will develop a data-driven Level of Service (LOS) framework for Geneva's water system, establishing performance targets and associated costs across water quality, reliability, resilience, and affordability. Using existing data, benchmarking, and stakeholder input, the framework will define metrics, assess current performance, identify gaps, and evaluate tradeoffs. The final LOS framework, including baselines and recommended targets, will be documented in the Water Master Plan to guide system planning and prioritization.

3.3 System Performance and Capacity Analysis

The team will evaluate system performance under existing and projected conditions using hydraulic modeling, capacity assessments, and level of service criteria to identify deficiencies, regulatory drivers, and system risks across the planning horizon, including considerations for potential constraints and opportunities related to water resources such as shallow aquifers and river-based supply, to support sustainable and adaptable system planning. Technical review sessions with operations staff will be conducted to validate findings and assumptions. Potential risks such as model limitations, evolving regulatory requirements, and climate-related stressors, will be addressed through conservative assumptions, scenario evaluation, and clear documentation of uncertainties.

This effort will be complemented by a high-level condition assessment of the City's water distribution, sewer collection, and treatment systems, building on existing inspection records, GIS data, and historical service disruption information to evaluate asset condition, reliability, and capacity. The sewer system assessment will incorporate findings from recent flow monitoring and televising efforts, with targeted verification to address data gaps. Results will be synthesized into a streamlined, asset-based Life Cycle Replacement Report defining condition, useful life, and criticality, and establishing a risk-informed, prioritized repair, rehabilitation, and replacement schedule with planning-level cost estimates to support coordinated capital planning and long-term decision-making.

3.4 Alternatives Development and Project Prioritization

AECOM will incorporate findings from the existing conditions assessment and Life Cycle Replacement Report to develop a prioritized, long-term replacement schedule for major assets across the water distribution system, sanitary sewer collection system, Reverse Osmosis Water Treatment Plant, and Wastewater Treatment Plant. Building on identified needs, the team will develop and evaluate capital improvement alternatives to address system deficiencies and accommodate projected growth, screening projects based on cost, constructability, operational impacts, resiliency benefits, and alignment with City policies and LOS objectives.

Projects will be evaluated using both quantitative and qualitative criteria, including risk reduction, system performance, regulatory compliance, cost-effectiveness, and community impact, supported by planning-level cost estimates and implementation considerations. Through workshops with City staff and stakeholders, AECOM will refine evaluation criteria, confirm assumptions, and support a transparent decision-making process. The resulting prioritized project list will form a key component of the City's CIP.

3.5 Water Assets Capital Improvement Program

AECOM will develop a CIP that integrates both near-term and long-term capital investments to address system needs, accommodate growth, and meet regulatory requirements. The team will prepare a detailed, prioritized short-term CIP that defines project scopes, planning-level costs, and implementation schedules, with a focus on project readiness and coordination opportunities. In parallel, a long-term CIP will outline major system improvements and expansions, including order-

of-magnitude costs, sequencing strategies, and key decision points tied to future demand and regulatory drivers. A risk-informed prioritization framework will be applied across both planning horizons, addressing uncertainties such as funding limitations, cost escalation, growth variability, and implementation constraints through contingency planning, phasing strategies, and scenario-based analysis with defined trigger points for updates. Stakeholder engagement will include workshops with staff and leadership to review priorities, validate sequencing, and align both short- and long-term investments with community priorities, policy direction, and financial capacity.

3.6 Develop Water Master Plan (WMP)

Although this task was not specifically requested by the City in the RFQ, we believe consolidating and advancing the findings, analyses, and recommendations from preceding tasks into a single, comprehensive document will be particularly useful for Geneva and the project at large. In AECOM's experience, the WMP can act as a powerful tool to document existing system conditions, identified deficiencies, and recommended capital improvements across the water and wastewater systems, providing a clear linkage between system performance, Level of Service objectives, and infrastructure needs. The plan will include planning-level cost estimates for proposed capital improvements, supporting informed financial planning and investment decision-making. The completed WMP will serve as a cohesive and actionable roadmap that aligns prioritized projects with regulatory requirements, operational considerations, growth projections, and the City's broader financial and policy objectives, forming the basis for subsequent implementation and rate-setting efforts.

WORKSTREAM 4: WATER AND SEWER RATE STUDY

Raftelis will conduct a Water and Sewer Rate Study to evaluate revenue sufficiency, rate design, and financial sustainability. This effort will build directly on the capital needs identified through the WMP and will assess the adequacy of existing rate structures to support both ongoing operations and planned capital investments.

Workstream 4 Deliverables:

- Water and Sewer Rate Study
- Rate models, financial analyses, and decision-ready materials

4.1 Financial Baseline and Cost of Service Analysis

The Rate Study and Funding team will review historical financial data, budgets, revenue streams, operating costs, and existing debt obligations to establish a financial baseline. The assessment will include evaluation of water and sewer service connection fees, which have not been updated since 2012, through review of City data, prior consultant studies, and actual system costs, revenues, pumpage, and billing information to determine whether current fees reflect the cost of service and to develop updated recommendations aligned with current conditions.

In addition, the analysis will compare the City's water and sewer system costs—such as operations, capital improvements, and debt—against relevant industry benchmarks to identify cost drivers, evaluate efficiency, and provide context relative to similar utilities. The study will also include exhibits illustrating projected rate impacts over a five-year period for residential and commercial customers to assess equity and affordability.

Finally, the assessment will review the existing rate structure for compliance with applicable laws, bond covenants, and regulatory requirements, including emerging EPA regulations, and will recommend adjustments to support compliance, financial stability, and long-term system reliability.

4.2 Revenue Requirements and Financial Forecasting

Raftelis will develop revenue requirements and supporting financial forecasts that reflect operating needs, debt service obligations, and the capital improvement programs identified in the WMP for both near-term (Years 1–10) and long-term (Years 11–30) horizons. The team will evaluate funding gaps and define the magnitude and timing of rate adjustments needed to support planned investments while maintaining financial stability. The analysis will also consider shifts in revenue composition, including reduced reliance on development-driven revenues and greater dependence on existing customers. Key uncertainties, such as capital cost escalation, interest rate variability, and evolving regulatory requirements will be addressed through scenario-based modeling to provide a range of planning outcomes and support informed decision-making.

4.3 Rate Design and Alternatives Evaluation

This task will evaluate alternative rate structures, including fixed and variable charges, tiered rate designs, and potential updates to development-related fees. Each option will be assessed for revenue stability, equity, conservation incentives, and alignment with community priorities and policy objectives. The team will facilitate workshops with City staff and conduct briefings with elected officials to review options, understand policy preferences, and evaluate rate sensitivities.

4.4 Integration with CIP and Financial Planning

The rate study will be closely integrated with the prioritized CIP to align project timing with funding capacity. Iterative coordination between the planning and financial teams will allow refinement of project phasing to reflect affordability constraints and policy direction. This integration will help identify where adjustments to the CIP, alternative funding strategies, or rate modifications may be required. Early outreach conducted in WS2 will inform this process, allowing the team to tailor rate strategies to the existing political and policy context.

4.5 Develop Water and Sewer Rate Study

The team will develop a water and sewer rate study aligned with the WMP to evaluate the City's ability to fund operations, maintenance, and capital needs, and to identify rate structures that support financial sustainability and equity. The study will provide recommended rate adjustments, a multi-year implementation plan, and financial policies aligned with the CIP and long-term infrastructure needs.

The study will also include a utility benchmarking analysis to provide context for the City's water and sewer rates relative to comparable communities. This benchmarking will evaluate rate levels, rate structures, and key financial metrics to help assess competitiveness, affordability, and alignment with industry practices. In conjunction with the financial evaluation, the project will establish recommended minimum fund balance levels for the water and sewer funds, based on industry best practices and the City's specific risk profile, operational needs, and capital program. These fund balance targets will support financial resilience, provide contingency for unexpected costs, and help maintain strong fiscal management.

WORKSTREAM 5: PAVEMENT MANAGEMENT PROGRAM (PMP)

The PMP will transition the City from an annual, project-by-project street program to a proactive, condition-based asset management approach. This includes evaluating pavement conditions, establishing performance targets, and identifying optimized maintenance and rehabilitation strategies that extend asset life and improve cost efficiency.

Workstream 5 Deliverables:

- Validated PCI database
- Pavement Management Plan

5.1 Existing Conditions Assessment

AECOM will begin with a review of the City's current and historical pavement management practices, including available records, past maintenance activities, and the prior internal Pavement Condition Index (PCI) study. This effort will establish a baseline understanding of existing conditions while identifying data gaps and limitations associated with the current dataset. The team will compile and evaluate available roadway inventory, condition ratings, maintenance history, and prior studies, coordinating closely with public works and transportation staff to confirm data quality and applicability. Where data is incomplete or inconsistent, normalization techniques and standard rating approaches will be applied to improve consistency and usability.

Given the limited reliability of existing PCI data and the absence of a formal, citywide dataset, AECOM will conduct a comprehensive pavement condition assessment for all City streets using industry-standard ASTM methodologies. Leveraging mobile data collection technologies and geospatial mapping in partnership with Tiger Eye Engineering, the team will perform systemwide evaluations to document pavement conditions, distresses, and overall performance. The result will be the City's first high-confidence, consistent PCI dataset, providing a defensible foundation for asset management, maintenance planning, and data-driven decision-making.

5.2 Pavement Deterioration Modeling

AECOM will evaluate systemwide pavement conditions and develop deterioration models to project future performance under varying maintenance and funding scenarios. This analysis will estimate lifecycle needs and identify current and long-term funding requirements to achieve and maintain desired levels of service. The team will account for key uncertainties, including traffic loading, climate influences, and construction impacts, and will address these risks through scenario-based analysis and calibration using available historical data to support reliable and defensible projections.

5.3 Maintenance and Rehabilitation Strategies

AECOM will develop and evaluate a range of pavement maintenance and rehabilitation strategies, from routine preservation treatments to full reconstruction. Each approach will be assessed based on lifecycle cost, effectiveness, and constructability to identify the most cost-efficient solutions. The analysis will define optimal timing for interventions to extend pavement life, reduce long-term costs, and support sustainable asset management practices.

Constructability will be assessed by evaluating how easily and efficiently each maintenance or rehabilitation strategy can be implemented under real-world conditions. The team will consider factors such as site access, traffic control requirements, utility conflicts, construction sequencing, and impacts to adjacent properties and operations. Strategies will also be reviewed for compatibility with existing materials and infrastructure, contractor availability, and typical construction methods used in the region. Input from City staff and industry experience will be incorporated to identify practical constraints and opportunities for coordination with other planned work. This assessment will help confirm that recommended approaches are not only cost-effective on paper but also feasible to deliver with minimal disruption and risk.

5.4 Prioritization and Risk-Based Framework

AECOM will develop a transparent, risk-informed prioritization methodology to rank pavement projects using a combination of quantitative scoring and qualitative input. The framework will incorporate factors such as PCI, functional classification, traffic volumes, and proximity to critical corridors, along with coordination opportunities with planned utility improvements to minimize

redundant construction and disruptions. The team will also evaluate risk of failure by considering deterioration trends, consequence of failure, and service impacts to the community.

A structured scoring system will be established with defined criteria, weighting, and thresholds, allowing projects to be consistently evaluated and compared across the network. Data inputs will be standardized and integrated into an analytical tool or database to support repeatable and defensible results, with scenario testing to evaluate how changes in funding levels or priorities affect project sequencing. The methodology will align with the broader risk-informed approach used for utility infrastructure, supporting coordinated decision-making across asset classes. Engagement with City staff and leadership will include workshops to review and refine criteria, validate weighting assumptions, and confirm that the prioritization reflects operational realities, policy objectives, and community priorities.

5.5 Pavement Capital Improvement Program

The team will develop a coordinated pavement program that aligns with the City's capital planning framework, including a prioritized 10-year program with defined scopes, costs, and implementation timing integrated with utility improvements where feasible. This will be complemented by a long-term (11–30 year) pavement strategy that outlines funding needs, reconstruction cycles, and key coordination points with future infrastructure investments, providing a flexible roadmap to sustain system performance while addressing risks related to funding uncertainty, implementation constraints, and evolving conditions through phased and adaptive planning.

5.6 Develop Pavement Management Program

AECOM will develop a comprehensive PMP that builds on the systemwide condition assessment to modernize, standardize, and digitize the City's pavement management practices. The team will evaluate and provide implementation guidance for pavement management software aligned with the City's infrastructure asset management goals, establishing protocols for maintaining and updating the PCI database, including procedures for ongoing data collection, quality control, and integration with other infrastructure datasets.

The PMP will define prioritized maintenance and rehabilitation strategies supported by lifecycle cost analysis and multi-year budget forecasts, providing a long-term roadmap for optimizing pavement performance, extending asset life, and allocating resources efficiently.

WORKSTREAM 6: INTEGRATED INFRASTRUCTURE MASTER PLAN

These workstreams culminate in the IIMP, which brings together technical, financial, and operational findings into a single, coordinated planning framework. The plan integrates pavement and underground utility investments to align roadway improvements with water, sewer, and stormwater needs, establishing a prioritized and phased infrastructure program that reflects lifecycle considerations, risk, and available funding.

Workstream 5 Deliverables:

- GIS-based system and interactive story map
- Detailed roadmaps for how the City might pursue recommended funding strategies
- An excel-based, dynamic tool to forecast the revenue and required cash flow
- Integrated Capital Improvement Program (CIP)
- Integrated Infrastructure Master Plan (IIMP)
- Materials for board presentations

6.1 GIS systems/story map

AECOM will develop a GIS-based system and interactive story map to support visualization, management, and communication of the City's system assets and associated capital planning recommendations. Building on the City's existing

GIS data, the team will organize, validate, and enhance asset information to create a structured, user-friendly geospatial platform within the City's Esri environment, which will be hosted and maintained by the City following project completion.

The GIS deliverable will integrate key datasets, including asset inventories, condition information, project locations, and CIP recommendations, into a cohesive and accessible mapping interface. An interactive story map will be developed to communicate system conditions, needs, and planned investments to both technical and non-technical audiences, supporting internal decision-making and future stakeholder engagement. The final deliverables will include configured GIS layers, web maps, and story map applications aligned with the IIMP, providing the City with a scalable tool to manage infrastructure data and update capital plans over time.

6.2 Develop an Integrated Capital Improvement Program (CIP)

The team will develop a comprehensive CIP that prioritizes and sequences investments across water, sewer, and pavement systems over short-term (Years 1–10) and long-term (Years 11–30) horizons. The CIP will integrate projects from existing plans and updated analyses to address system deficiencies, regulatory requirements, and future growth while identifying opportunities to coordinate roadway and underground utility improvements to reduce costs and minimize community disruption.

The resulting CIP will provide a clear, data-driven roadmap for implementation, including project descriptions, phasing, planning-level cost estimates, and prioritization rationale. It will also incorporate technical validation through targeted analyses, where needed, and define considerations such as feasibility, coordination requirements, and potential easements to support effective and strategic infrastructure investment.

6.3 Financial Alignment and Funding Considerations

An important element of the IIMP is to review the comprehensive long-range financial plan for the City's utilities. Raftelis will lead development of a comprehensive long-range financial plan for the City's utilities, evaluating current policies and practices for funding operations, capital improvements, and debt service. The team will assess and recommend a range of financing strategies, including use of operating revenues, debt issuance, and alternative funding sources, to support the CIP in a financially sustainable manner. As a Registered Municipal Advisor, Raftelis will also provide guidance on debt financing alternatives, including bond sizing, timing, and structure options. This effort will also include evaluation of grant funding opportunities to offset capital costs, with identification of relevant programs, funding availability, application requirements, and potential match obligations.

Raftelis will develop a multi-year cash flow model to project revenues, operating expenses, capital funding needs, reserve contributions, and debt service requirements, using assumptions based on economic conditions and growth trends. The analysis will emphasize a five-year planning horizon to inform near-term rate adjustments while also extending to a longer-term projection to support strategic planning. The cash flow model will incorporate all revenue sources, system expenses, interfund transfers, and required debt service coverage, and will be used to evaluate rate adjustments needed to maintain financial stability and avoid sharp fluctuations. The team will also review and recommend reserve policies, including operating, capital, and rate stabilization reserves, to align with industry best practices and the City's risk tolerance related to emergency expenditures and revenue variability.

6.4 Integrated Infrastructure Master Plan (IIMP) Development and Adoption Support

AECOM will develop a comprehensive IIMP that consolidates and synthesizes findings from prior analyses into a cohesive, systemwide framework. This effort will integrate key planning initiatives including the Water and Sewer Rate Study, PMP, and WMP to provide a unified view of the City's infrastructure systems and evaluate interdependencies among water, sewer, and pavement assets. The team will conduct a systemwide assessment, including a strengths, challenges, opportunities, and risks (SWOT) analysis, drawing on technical, operational, financial, and regulatory considerations to highlight key performance issues, funding gaps, and risk exposure.

The IIMP will identify overlapping needs and opportunities for coordinated investment, supporting more efficient delivery and minimizing redundant construction.

To support alignment, AECOM will facilitate a workshop with City staff and stakeholders to review findings, validate priorities, and explore tradeoffs related to funding, level of service, and long-term sustainability. The final IIMP will provide an integrated, actionable roadmap that aligns infrastructure planning, financial strategy, and asset management, supported by governance recommendations to promote coordinated implementation across departments and enable informed, strategic decision-making.

AECOM will support adoption of the IIMP by preparing and delivering two evening presentations to the Committee of the Whole and City Council. These sessions will clearly communicate key findings, recommendations, and implementation considerations, while facilitating discussion, addressing questions, and incorporating feedback to build understanding, alignment, and formal approval.

Approach Assumption

This proposed approach can be right-sized to align with Geneva's budget, schedule, staff capacity, and near-term priorities. The final scope and deliverables would be agreed upon with the City based on available resources and subject to mutually agreeable terms and conditions.

Appendix

A

Appendix

We provide resumes of our proposed staff in this section.



Chris Brewer

Vice President, Economics + Advisory

Firm
AECOM

Years of experience
30 years

Education
MS, Resource Economics, University of New Hampshire

BS, International Relations and Economic Development, Drake University

Chris has 30 years of experience evaluating planning, zoning, market, financial and policy aspects related to infrastructure and utilities which supports real estate development. Chris' consulting projects have always started with the quantitative basics, review of demographic and economic indicators, freight transportation metrics, and real estate market data to place a project or location in context. These tools are used in support of market and financial studies, cost benefit analyses, and environmental/socioeconomic impact assessments.

Project experience

Long Range Financial Plan Analysis Support. City and County of Broomfield, CO. Project Director. AECOM supported the development and review of the CCOB Long Range Financial Plan (LRFP) model, which is an analytic tool that links land use planning, demographic information, and financial planning to understand the potential short, medium, and long-term fiscal implications of future land use change. We reviewed the analytical framework and underlying model engine, as well as reviewing revenue and cost drivers to ensure alignment with current market expectations. Several white papers were developed to contextualize the LRFP to document changing consumer behavior and its effects on retail sales tax, the implications of remote work for property tax revenues, and major cost drivers for local government operations.

Area III Urban Services Infrastructure Extension Study. City of Boulder, CO. Project Manager. AECOM provided infrastructure planning, engineering, and economic services to support plans for annexation of a 500-acre tract on the edge of Boulder, the Area III-Planning Reserve. We assessed four scenarios for demand across city services and infrastructure needs and framed potential costs and policy considerations. Urban services included water, sewer, stormwater, urban fire protection and emergency medical care, urban police protection, multimodal transportation and parks. We developed service demand scenarios based on conceptual land use to estimate potential new residents and jobs, which were converted into incremental general fund services costs as well as on- and off-site horizontal infrastructure requirements across water, wastewater, stormwater, and transportation systems, such that rough order of magnitude construction and operating costs could be estimated to help City officials understand fiscal implications of future development within the planning reserve.

Strategic Investment Strategy, San Francisco Public Utilities Commission (SFPUC), San Francisco, CA. Task manager. SFPUC's Power Enterprise is developing its first multi-year capital plan and has partnered with AECOM to identify three to five priority projects to be implemented within the next five years. We evaluated potential projects, leveraging local data across GIS, building permits, and real estate information from CoStar. Outputs were used to help assess 20 potential utility investment projects to understand their economic impacts, environmental & social impact, and return on investment.

City of Naperville I-88 Corridor Redevelopment Strategy, Naperville Development Partnership (NDP), Naperville, IL. Project Director. AECOM led an economic development and marketing strategy effort to help reposition the I-88 Innovation Corridor to be competitive in attracting advanced technology sectors. We put local real estate dynamics in context with regional fundamentals and developed a comprehensive industry cluster target strategy to match growing industries with available space and underutilized sites with redevelopment potential. The effort included extensive stakeholder engagement with infrastructure and utility providers to clarify capacity to support repositioning.

Spring Hill Mall Reuse Assessment, Village of West Dundee, West Dundee, IL. Project Manager. AECOM was engaged by the Village of West Dundee to explore redevelopment concepts for Spring Hill Mall, which had started to decline before 2020 due to increased competition and trends toward e-commerce. We completed an economic and demographic overview, real estate market analysis, and GIS

Chris Brewer

analysis, and collaborated with an interdisciplinary team of urban designers and landscape architects to craft a visionary redevelopment plan for the site, supported by financial analysis of supportable development. The financial analysis considered new public investment in horizontal infrastructure, including streets, water, sewer, and related public amenities, in context with costs to demolish the existing mall.

Downtown/Uptown Market Analysis and Infrastructure Assessment, Village of Hawthorne Woods, Hawthorne Woods, IL. Project Manager. AECOM was engaged by the Village to study residential and commercial real estate markets, in support of plans to expand provision of municipal infrastructure in downtown and uptown, anchored by Gilmer Road. Real estate, economic, demographic, and housing trends were documented to frame local real estate markets in a regional context. A high-level water and wastewater infrastructure needs assessment was also completed for uptown and downtown. Infrastructure strategies for provision of water and wastewater were identified.

Development Underwriting Model Development, City of Chicago Department of Planning and Development, Chicago IL. Project Manager. AECOM developed an underwriting model to support their negotiations with developers over development incentives, such as TIF. The final financial model incorporates tools to evaluate developer proposals for retail, mixed-use, office and industrial projects against benchmarks for rents, real estate values and construction costs. The model is being used to provide more transparency as to developer need for incentives.

Hourly Electricity Pricing Program, 2022 / 2023 Economic Evaluation, Client: Elevate Energy / Commonwealth Edison (ComEd), Project Director. AECOM evaluated impacts of the Residential Real Time Pricing (RRTP) program offered by ComEd. The program allows participants to actively manage their energy and peak demand use, lowering their electricity bills. We evaluated the Hourly Pricing program according inclusive of net benefits, considering the various aspects of the program that result in consumer, societal, and economic benefits as well as the costs to implement and operate the program. We also looked at peak load impacts reflecting the reduction in demand and conservation effects reflecting behavioural changes, leading to reduced energy use.

Energy Efficiency Economic Impact Assessment, Nicor Energy, Chicago, IL. Technical Lead. AECOM assessed the economic impacts of the Nicor Energy Smart Program, the goal of which was to incentivize customers to decrease their energy use which would reduce the impact of energy use on the environment. Our evaluation of the initial three years of the program revealed that Nicor Gas provided $66 million in incentives to residential and non-residential customers who spent nearly $358 million on new energy efficient equipment, resulting in savings of 54 million thermos of natural gas and almost 1.2 billion gallons of water. Total energy cost savings were estimated at $28 million. The total economic impact of the three-year program was $804 million, supporting 5,090 jobs.

Cost Benefit Analysis, Water Testing Lab Expansion Alternatives, City of Chicago Department of Water Management. Economics Task Lead. AECOM evaluated the array of water quality tests completed by Jardine Water Treatment Plant staff to ensure the quality of water delivered to Chicago residents. AECOM reviewed testing approaches for 13 categories of contaminants covering more than 150 separate tests of generally organic or inorganic compounds. The assessment considered the type of testing equipment, from thermometers to gas chromatography sensors and mass spectrometers, the annual volume of tests required to meet regulations, and whether the test can be completed by in-house staff or an outside lab. The study also considered policy implications regarding tests on synthetic organic compounds. Study findings were used to support identification of future testing equipment requirements, which were then used to inform architectural plans regarding the amount of lab space per piece of equipment.

Fiscal Impact Tool, City of Denton, Denton, TX. Project Manager. AECOM worked with the City to develop a fiscal model to evaluate individual real estate projects in terms of fiscal impacts, across taxes and fees on property, sales, utilities, and related areas. The tool helps City staff understand the geographic and fiscal implications of development approvals so that the City can make informed infrastructure investment and capital improvement decisions.

Kansas Electricity Rate Study, Kansas Corporation Commission Topeka, KS. Task Lead. AECOM assisted with a market analysis for the Kansas Corporation Commission to analyze whether electricity rates in Kansas were materially higher than in neighboring / comparative markets throughout the U.S. Data from the Department of Energy and BEA to identify whether energy costs appeared to be a material barrier to economic development. Electricity rates in Kansas were impacting the competitive position of local industries. Stakeholder interviews also suggested that utility costs were an important factor in industrial site location decisions.

Industrial District Infrastructure Expansion Study, Confidential Client, Central Ohio. Project Director. AECOM was engaged by a confidential client in Central Ohio to conduct an in-depth site and market analysis to analyze the feasibility of developing a new industrial district in the region. The study goal was to understand if public infrastructure investment in the study area would better position the site for sustainable growth and development and provide a return on investment in terms of economic and fiscal benefits. The project team drew heavily on extensive economic analysis to better frame unfolding opportunities across advanced manufacturing sectors such as chip fabrication. Findings were leveraged to shape land requirements and infrastructure needs.



Avani Sharma

Associate, Advisory

Firm
AECOM

Years of experience
9 years

Education
MBA, University of Michigan, 2021

BS, Psychology and Studio Art, Skidmore College, 2013

Registrations/Certifications

Results-Based Accountability (Certified)

Avani is a member of AECOM's Advisory practice, specializing in strategy, program design, and stakeholder engagement for public, private, and nonprofit clients. Her work focuses on designing and implementing programs that increase access, equity, and organizational effectiveness. She combines qualitative and quantitative analysis with facilitation and change management to develop actionable strategies and scalable solutions. Avani brings a global perspective, with experience across North America, Europe, and Asia, and is known for her creative, user-centered approach to problem solving.

Project experience

Washington Suburban Sanitation Commission, Strategic Plan Refresh, MD. Project Manager. Led a comprehensive refresh of an enterprise strategic plan for a large bi-county public utility. Conducted stakeholder interviews and workshops, analyzed external trends and internal drivers, and developed a strategic framework with initiatives, KPIs, and implementation roadmap supported by change management and communications strategies.

Department of Water Management, Organizational Development, Chicago, IL. Project Manager. Led organizational development within the Program Management Office, developing governance strategy, program management frameworks, and stakeholder engagement and communications plans to improve organizational effectiveness.

Department of Water Management, Operational Optimization, Chicago, IL. Project Manager. Conducted operational and financial analysis to identify opportunities to reduce overtime expenditures and improve efficiency in pump stations and filtration plants.

AECOM Real Estate, Change Management, U.S. Project Manager. Designed and delivered change management workshops to support adoption of agile workplace strategies across AECOM's U.S. real estate portfolio.

Oakland County Children's Village, Organizational Change & Capacity Building, MI. Project Manager. Developed an organizational strategy including communications planning, talent management frameworks, and FTE modeling to strengthen staff capacity and align resources with mission delivery.

City of Chicago Department of Planning and Development, Manufacturing Succession Planning, Chicago, IL. Project Manager. Designed a city-led program to support manufacturing succession planning with a focus on employee ownership and community wealth building. Conducted stakeholder interviews, ecosystem assessment, and developed KPIs, funding strategies, and scalable implementation recommendations.

Metropolitan Transportation Authority, Electrification Workforce Impacts, NY. Analyst. Researched workforce implications of fleet electrification and developed recommendations on partnerships and implementation considerations.

Teach For India, Community Aggregator Program, India. Program Lead.* Conceptualized and implemented a community development program connecting nonprofits and government partners; recognized as a network-wide breakthrough across 45 countries.

United Airlines, Environmental Data Analytics & Visualization, U.S. Project Manager. Redesigned environmental reporting processes, facilitated stakeholder workshops, and developed Power BI dashboards integrating multiple data sources to improve decision-making and user experience.

* Experience prior to AECOM



Gareth Lifton

SVP AECOM Advisory

Firm
AECOM

Years of experience
34 years

Education
B.Sc. (Hons) Civil Engineering, City University, London, UK

Registrations/Certifications

Chartered Engineer, Member of the Institution of Civil Engineers, UK, 1992
Fellow of the Institute of Asset Management, UK, 2017
Certificate in Asset Management, 2016
Executive Certificate in Advancing Sustainability, NYU, Stern 2022
Cambridge ESG Curriculum, 2024

Gareth recently joined AECOM Advisory as Senior Vice President. Gareth was previously a Managing Director at KPMG US, where he led their national Asset Management practice and then their Environment and Sustainability practice for state and local government clients, and previously spent 10 years at CH2M Hill, where he was the Canadian Advisory Team lead and the global lead for asset management. With over 40 years utility experience during which time he has worked on the development and implementation of policies, strategies, and business plans; business process optimization; technology implementation/optimization; capital program development and delivery; change management, communication, stakeholder engagement and implementation of risk and resilience methodologies, tools, and techniques. Gareth helped write the ISO55000 Asset Management suite of standards, is a member of the Board of Advisers at the Cornell Brooks Center for Infrastructure and is a Fellow of the Institute of Asset Management.

Project experience

Virginia Department of Health, VA, USA. Worked with VDH on a cost of compliance study for PFAS and Lead Supply Lines looking at both CAPEX and OPEX requirements for the state. Developed models for assessing the likely extent of PFAS in drinking water, based on current and prior land usage, supplemented within water quality samples. Surveyed all Public Waterworks in the state with more detailed follow ups for the larger Waterworks. Assessed the impact on licensed operators associated with more advanced water treatment approaches.

Ohio EPA, OH, USA. Worked with Ohio EPA to develop Ohio's strategy to address lead in drinking water. This includes facilitating stakeholder outreach sessions, evaluating the current Lead and Copper Rule program, developing the draft strategy included a broad range of improvement initiatives and the associated local engagement toolkit to help promote and facilitate removal of lead service lines, along with recommending a statewide education and outreach campaign.

DC Water, Washington DC, USA. As part of a five-year program, responsible for developing a plan for aligning the Utility asset management program with ISO55001. Developed the Asset Management Policy, Strategic Asset Management Plan, asset risk approach and reviewed current business processes including capital planning.

State of Michigan, MI, USA. Worked with the Governor's office to put in place consistent processes to enable an assessment of the investment need across the state's, water, sewer, stormwater and linear transportation infrastructure, along with creating mechanisms for coordinated planning and communication across asset owners and asset types statewide, including energy and broadband utilities.

Watercare, New Zealand. Carried out an independent review of capital planning processes, asset risk, organizational design, roles and responsibilities, focusing on needs identification, solution selection, project prioritization and their overall business case evaluation framework. Made a series of recommendations to move them towards best practice.

Northumbrian Water, UK. Reviewed operations and maintenance practices along with risk and capital planning approaches with a view to improving reliability and reducing costs. Recommended improvements to operations and maintenance practices, and the capital investment planning approach, along with developing a Production Strategy covering the more efficient use of the water production asset base.

National Water Company, Saudi Arabia. Developed/delivered an asset

Gareth Lifton

management, asset risk, and capital planning training program, covering all aspects of a comprehensive asset management approach, including the requirements for complying with ISO55000.

Confidential Client: Carried out a Climate Triage Analysis across 600 locations in the US. Modeled fluvial and pluvial flooding, sea level rise, wildfire, heat wave & cold wave risk, and compared risk between current and 2050. Risk ranked all locations for future analysis.

Gareth was responsible for carrying out asset management assessments, including risk & resilience and capital planning approaches, along with the development of a program of improvement initiatives, for the following Cities and Utilities:

- City of Sugar Land, TX.
- City of Bellingham, WA.
- City of Lincoln, NE
- City of Fresno Water Utility. CA
- City of London; Ontario.
- City of Windsor, Ontario,
- City of Hamilton, Ontario
- City of Lethbridge, Alberta
- City of Edmonton, Alberta
- City of Calgary, Alberta
- City of Winnipeg; Manitoba.
- City of Ottawa; Ontario.
- City of Burnaby; British Columbia
- Metro Vancouver; British Columbia
- Regina Water Utility; Saskatchewan
- Halifax Water, Nova Scotia

General Manager; Scottish Water; UK. Member of the Transformation team that created Scottish Water from the three predecessor water authorities. Senior management team member who reduced operating costs by 45% over the first 4 years of Scottish Water, whilst at the same time delivering the capital program with total savings of 25%. Managed an annual capital budget of $1bn. Responsible for over 330 water treatment works, 2000 wastewater treatment works, along with over 60,000 miles of linear assets, including capital project ownership, asset risk & resilience planning, and water resource planning, leakage strategies, and the supply demand balance. Responsible for stakeholder engagement related to the delivery of the capital program, including elected officials, regulators, municipal staff, public interest groups, contractors, consultants, developers, and members of the public. Member of the senior management team responsible for assessing options for the creation of Scottish Water Solutions, a unique capital program alliance delivery business model.

Regional Asset Manager; United Utilities, UK. Responsible for the coordination, development, and planning of medium- to long-term strategies for regional assets and their operations. Developed asset business plans covering CAPEX/OPEX requirements, performance, risk & resilience with regard to environmental and customer service, along with contingency plans. Responsible for facilitating and coordinating capital projects aimed at improving regional water supply availability and impact on customer service.



Robert L. Peskin, PhD

Senior Consulting Manager

Firm
AECOM

Years of experience
49 years

Education
PhD/1977/Civil Engineering, Northwestern University

MS/1975/Civil Engineering, Northwestern University

BS/1973/Civil Engineering, University of Maryland

KPMG courses in Prospective Financial Reporting and Performance Auditing

Registrations/Certifications

EIT/Maryland (No.2140 6/18/73)

Dr. Peskin consults in the areas of transportation financing, planning, and management. A member of AECOM's transportation consulting practice throughout his entire career, he serves the transit industry and government agencies at the local, state, and federal level. He pioneered analytical methodologies in the areas of transportation financial planning, analysis of transportation infrastructure capital needs, and operating & maintenance cost modeling. His work focuses on the application of quantitative information to support transportation decision making. He works with public agency staff in integrating financial, capital, and operating data from all functional areas including planning, engineering, transportation, and maintenance. Dr. Peskin supports transportation agency executive staff and governing boards as they commit limited public resources to major capital investments and make difficult budgeting decisions.

Project experience

Analysis of Water Supply and Wastewater Assets, City of County of Broomfield, CO: Supported the assembly of data and analysis of water supply and wastewater assets. Ran alternative funding scenarios for all assets combined and separately for water supply and for wastewater assets to approximate appropriate funding levels.

Capital Asset Condition Assessment, Metra, Chicago, IL. Supported the development of an Asset Management Plan, including participation in a series of Steering Committee meetings to brief Metra staff on asset management principles. Supported the implementation of the RTA Capital Optimization Support Tool (COST), including conversion of asset inventory data to a format suitable for analysis. Managed a comprehensive state-of-good-repair analysis, estimating current SGR backlog, projecting future SGR needs, and – most importantly – projecting the impact on future asset condition of not fully funding the backlog and SGR needs. Examined backlog, needs, and condition by Metra line and by major asset category.

Review of Prioritization of Combined Sewer Outfall Projects, Detroit Water and Sewerage Department, Detroit, MI. Supported a review of the capital program and prioritization of combined sewer outfall projects by the Great Lake Water Authority which is partially funded by the City of Detroit.

Tier 2 Group Transit Asset Management Plan, Arizona Department of Transportation. Supported the application of the FTA TERM Lite software to examine current backlog, future needs, and impacts on asset performance of alternative funding levels for the 33 small and rural transit agencies included in the plan.

Transit Asset Management Plan, Central Florida Regional Transportation Authority (LYNX). Supported updating the LYNX Transit Asset Management (TAM) Plan to meet FTA requirements and to strengthen the agency's ability to manage assets, prioritize capital investments, and maintain state of good repair. Assisted in identifying and assessing and systems used to track assets including LYNX's current asset management systems. Supported the assembly of a current inventory of all LYNX assets and updated applicable asset systems to reflect status of rolling stock, equipment and facilities. For buildings, applied the most recent condition assessment performed by LYNX for its National Transit Database report. These data addressed up to 48 building subsystems for each building. Applied the estimated the cost of each building at the building subsystem level based on representative costs per square foot for similar buildings. For vehicles, supported the development of a useful life based on mileage which was used for high-mileage vehicles to plan for replacement when a mileage threshold (rather than the age threshold) was met. Applied the assembled asset inventory in the FTA TERM Lite decision support tool to estimate the impact of constrained funding on future asset performance (in terms of future

Robert L. Peskin, PhD

condition, backlog, facility condition index) and spending by asset class.

Sepulveda Corridor Heavy Rail Alternative Asset Inventory and Life Cycle Cost Analysis, Los Angeles County Metropolitan Transportation Authority, Los Angeles, CA. Managed the assembly of detailed asset data from preliminary (15 percent) engineering drawings and cost estimates. Worked with cost estimators to identify individual equipment items for each room identified in drawings for passenger stations; mid-mountain ventilation shaft; maintenance of way, vehicle maintenance, and administration & employee welfare building. A 3,400 line-item asset inventory was developed and applied in a life cycle cost analysis model that estimated life cycle costs over 35, 50, 75, and 100 year analysis period and for a range of discount rates. The LCCA was structured to analyzed costs in base year and year of expenditure dollars.

Application of New Asset Management Decision Support Tools, Southeastern Pennsylvania Transportation Authority, Philadelphia, PA:

Managed the implementation of the state-of-good-repair decision support tool (SGR Tool), originally developed for New York MTA to a 6,600 line-item asset inventory addressing bus, heavy rail, regional rail, trolley, trackless trolley, paratransit, and systemwide assets. Examined the impact of alternative funding levels on future SGR backlog, condition, percent of asset value not at SGR, reliability, capital spending by asset class, and resulting operating and maintenance cost by asset class. A second phase of the project will provide SEPTA with access to the AECOM Plan$pend Optimizer application, which includes enhanced analytical and visualization capabilities.



Courtney O'Neill

Strategic Planning

Firm
AECOM

Years of experience
20 years

Education
M.S., Civil Engineering, Water Resources Planning,
University of Washington, Seattle, WA

B.S., Biosystems Engineering,
Michigan State University, East Lansing, MI

Registrations/Certifications
Professional Engineer (Civil)/Washington
Professional Engineer (Civil)/California

Courtney is a Water Supply Planner with 20 years of experience leading complex, multidisciplinary planning efforts and guiding agencies through the development of integrated plans that unify multiple stakeholders and priorities into coordinated strategies. She brings a structured, data-driven approach to evaluating existing plans, lifecycle needs, and funding constraints, helping clients prioritize decisions and investments. A skilled facilitator, Courtney designs and leads executive and stakeholder workshops that translate complex technical, financial, and regulatory information into clear strategic choices. She supports clients in evaluating tradeoffs between level of service, affordability, and risk, and in establishing strategies that align with community priorities and regulatory requirements. Her technical background in water system reliability, flood resilience, and watershed management allows her to connect detailed engineering analysis with broader policy and financial decisions. By integrating climate adaptation, infrastructure lifecycle planning, and economic uncertainty into actionable frameworks, Courtney helps clients develop implementable programs and strategies with strong stakeholder alignment and governance support.

Project experience

Santa Clara Valley Water District, Infrastructure Reliability Plan, Santa Clara County, CA. Project Engineer. The Valley Water IRP identified a combination of capital and operational improvements to ensure reliable water service under a range of emergency events and hazards. Ms. O'Neill helped facilitate a chartering session with Valley Water to establish level-of-service goals, roles, and decision-making expectations. She then supported collaborative engagement and team-building efforts with stakeholders to refine these goals and foster shared ownership. Building on this foundation, she supported testing and evaluation of raw and treated water system performance under multiple hazard and outage scenarios, including drought and climate change. She identified system redundancies and potential improvements, and helped develop and screen infrastructure options, including interties and new connections, and guided the development of cost-effective project portfolios aligned with the agreed-upon level-of-service goals and stakeholder priorities.

City of Los Angeles, Department of Public Works, Bureau of Engineering, Fire Protection Plan. Technical Lead. As part of the Fire Protection Plan (FPP), Ms. O'Neill assessed the existing water supply system available for fire fighting, and developed alternative water supply strategies that could be used to support wildfire suppression in the Palisades. She provided recommendations for future infrastructure modifications that could be used to enhance the resilience of the water supply system for fighting wildfires, including measures that involve resources that may be located outside the Palisades. Ms. O'Neill worked closely with City of LA staff to incorporate existing efforts into the plan, and presented to multiple stakeholder groups to receive buy-in on the final recovery plan.

San Juan Water Commission, Strategic Plan, San Juan County, NM

Project Advisor. AECOM researched, developed, and delivered a strategic plan outlining opportunities, strategies, and an implementation roadmap to support the Commission's goals for water rights acquisition, new water development, conservation, and protection of raw water resources to ensure a sustainable municipal supply for San Juan County. Ms. O'Neill helped facilitate a chartering session with the Commission to establish project goals, scope, roles, and decision-making processes, creating a clear governance framework and strong

Courtney O'Neill

foundation for collaboration. She then participated in team-building and engagement discussions with Commissioners and staff to develop the Mission, Vision, and Values, and to collaboratively define and refine the Plan's Goals, Objectives, and a three-year Implementation Plan with actionable next steps.

City of Houston, Source Water Protection Plan, Houston, TX

Project Manager. AECOM developed a Source Water Protection Plan for a complex system that includes surface water reservoirs, groundwater wells, and interbasin transfers. Ms. O'Neill facilitated a chartering session with the City to define project scope, level of effort, roles, and decision-making protocols, establishing a clear governance framework and phased delivery approach aligned with the system's scale and complexity. Initial phases focused on educating and supporting City staff on the value of source water protection planning while building internal alignment and team cohesion. Concurrently, the team compiled and assessed existing system information and identified key stakeholders for future engagement. Courtney developed spreadsheet-based tools to help the City track and manage regulatory requirements, improving visibility and strengthening their ability to implement and sustain an effective source water protection program.

King County Council, Independent Assessment of the West Point Treatment Plant, Seattle, WA

Project Coordinator. Following a flooding incident at the West Point Treatment Plant, the King County Council commissioned an independent review of the event, including staff interviews, and evaluation of operations, procedures, training, and maintenance records to identify contributing causes. Ms. O'Neill supported the effort by helping establish clear coordination and communication structures between AECOM, County leadership, and utility staff, ensuring alignment across a broad group of stakeholders. She also facilitated focused engagement sessions with management, operations, maintenance, and engineering teams to gather input, validate findings, and build shared understanding around root causes and potential solutions. As lead author, she coordinated multidisciplinary technical advisors and translated complex findings into a clear, accessible report for diverse audiences. She also led the environmental and public health assessments and helped frame recommendations such as enhanced training, improved communication protocols, and increased system redundancy within a governance and implementation context that supports accountability and long-term resilience.

Rockefeller Foundation, 100 Resilient Cities (100RC), City of Seattle, WA

Project Manager. As a strategy partner for the City of Seattle, AECOM provided technical expertise and guidance for the 100RC process. Courtney guided the City through the first two phases of the resilience strategy development process, which involved a workshop that brought together 100 stakeholders from 65 organizations across a wide range of sectors to discuss a holistic systems-based resilience assessment focused on the relationship between inequity and threats, and thorough research, stakeholder engagement, and analytical tools and evaluation of existing resilience actions and plans. Courtney managed the logistics of the stakeholder workshop and developed all materials and planning exercises. She also led the development of a Preliminary Resilience Assessment that identifies the cities strengths, weaknesses, and its capacities, challenges and opportunities to build resilience.

San Francisco Public Utilities Commission, Sewer System Improvement Program- Climate Change Vulnerability and Risk Assessment and Adaptation Plan, San Francisco, CA

Project Engineer. SFPUC undertook a comprehensive climate change vulnerability and risk assessment related to its wastewater and stormwater assets. Ms. O'Neill helped to identify and rate the vulnerability of assets and operations to climate change, and to identify and rate the risks posed thereby. She created asset vulnerability and risk profiles that summarize exposure, sensitivity and adaptive capacity of wastewater and stormwater facilities.

EPA, Drought Response and Recovery Guide Update, Nationwide.

Senior Advisor. Supported updates to the Drought Response and Recovery Guide including, developing sections on drought monitoring, information on water loss and water audits, and reviewing and improving sections on mitigation and resilience.

Upper Santa Ana River Watershed Infrastructure Financing Authority, WIFIA Application Support, San Bernardino, Riverside and Orange County, CA.

QA/QC. AECOM is supporting the Upper Santa Ana River Watershed Infrastructure Finance Authority (USAR WIFA) in the preparation of their applications for WIFIA loans. To date, the program has received two loans totaling $150 million. Future loan phases are anticipated. The purpose of WATERSHED CONNECT is to achieve regional water supply security, provide resilience against extended drought and mitigate the effects of climate change to holistically enhance the health of the USAR Watershed. Ms. O'Neill provided technical review of the applications and worked with the client team in order to incorporate their goals and vision into the final application.



Jack Gray

Associate Director, Advisory

Firm
AECOM

Years of experience
15 years

Education
Ross School of Business - University of Michigan, Bachelor of Business Administration

Jack Gray is an Associate Director within AECOM Advisory, where he supports public and private sector clients in the strategy, design, and implementation of their most complex challenges in transportation, economic development, sustainability and more. His work spans the entire innovation execution spectrum – from problem identification; to solution and partnerships development; to value chain creation; and go-to-market strategy for deployment – across mobility, advanced manufacturing, maritime, healthcare, and energy industries.

Project experience

Detroit's First Autonomous Vehicle Service Design and Deployment, Detroit, MI.* Project Lead – Design & Strategy. Leading the Ford Motor Company team, Jack provided the City of Detroit (and their State of Michigan and USDOT partners) with the design and foundational strategy for a community-centered autonomous vehicle service to support aging populations in Detroit's most vulnerable, transit dependent communities. Jack's scope included identifying participant populations; engaging residents for detailed service co-design; development of 7 service use-cases for greatest community and economic impact by increasing access to food, jobs, education, healthcare and places of joy; and initial service route design.

Partner Ecosystem Buildout for Emerging Tech Integrations, Detroit, MI.* Head of Industry Partnerships. Built and managed over 80 corporate and public-sector partnerships, including with the City of Detroit, the State of Michigan, Michigan Economic Development Corporation, ARPA-E, Delta Airlines, DTE Energy, Ford Motor Company, General Motors, the Israel Innovation Authority, and the U.S. Army Corps of Engineers, helping industries and government adopt emerging technologies to solve their most complex, emerging challenges in mobility, advanced manufacturing, maritime and energy.

Electric Vehicle Roadside Service Subscription, Detroit, MI.* Senior Manager. Led the end-to-end business creation of a subscription-business to reduce Ford electric vehicle owners' "charging and roadside anxiety," opening new, recurring revenue streams for Ford Motor Company and increasing confidence in EV adoption. Scope included user research through business modeling, service design, and funding design - directing a cross-functional team of designers, researchers, and EV infrastructure experts; delivering a go-to-market plan projected to reach thousands of new Ford EV buyers.

Increasing Access to Healthy-Living Assets, Austin, TX.* Project Lead. Designed, facilitated and led a mobility entrepreneurship challenge program with the City of Austin's Transportation Department, City of Austin's Equity Office and the Austin Technology Incubator at the University of Texas-Austin to increase access to healthy living assets through the use emerging mobility technology. Particular focus on understanding the historical influences of segregation and racial inequity on the healthcare and transportation infrastructure in East v West Austin; deeply engaging East Austin residents in the co-design of mobility solutions; sourcing 150+ startups to submit proposals; and facilitating the deployment of four, six-month real-world pilot deployments.

* Project completed prior to AECOM Employment



Kelsey Poole, AICP

Senior Urban Planner

Firm
AECOM

Years of experience
9 years

Education
MCRP, City and Regional Planning, University of Texas at Arlington

Registrations/Certifications

American Institute of Certified Planner (AICP)

Kelsey is a senior urban planner for AECOM's Urbanism + Planning practice in Dallas. Her focus is on the intersection of urban design, sustainability and land use policy to address social, economic and environmental equity. With over 10 years of public and private project experience, Kelsey brings strong managerial, creative and analytical skills needed to facilitate large-scale, multidisciplinary projects that involve stakeholder input and analysis. As a senior planner, she's leveraged her communication and multimedia skills to manage numerous long-range efforts that required extensive coordination and community outreach with diverse populations.

Project experience

Butler Place Access and Development Plan, City of Fort Worth, Fort Worth, TX. Engagement Lead and Land Use Analyst. Led public engagement strategy and land use analysis for a 42-acre historically significant redevelopment; directed outreach, interactive mapping, and scenario evaluation supporting equitable revitalization and mobility planning.

St. Louis County 2050: An Equitable and Sustainable Comprehensive Plan (STLCO 2050), St. Louis County, St. Louis, MO. Led existing conditions and equity analysis; developed an equity-focused StoryMap integrating land use, housing, transportation, and environmental data to inform policy and implementation strategies.

Moving a Million, Master Transportation Plan Update, Fort Worth, TX. Engagement Lead and Land Use Analyst. Directed multidisciplinary teams translating multimodal data into policy and capital recommendations through 2050; led development of adoption-ready StoryMaps and final plan document.

Central City District Planning, City of Austin, TX. Engagement Strategy and Technical Support Lead. Led community engagement strategy and analysis translating qualitative input into actionable insights guiding downtown visioning, mobility, and land use priorities.

Austin Citywide Integrated Climate Funding Strategy & Management, City of Austin Office of Sustainability (OOS), Austin, TX. Land Use Policy Analyst and Engagement Facilitator. advance climate and environmental justice goals; coordinated with City departments and community-based organizations to align priority projects with EECBG, CPRG, and Urban & Community Forestry grant opportunities.

Dallas Area Rapid Transit (DART) Sustainability Program and Plan, DART, Dallas, TX. Deputy Project Manager overseeing schedule, budget, sustainability metrics, dashboard development, and agencywide plan update aligned with APTA guidance. Agency wide stakeholder virtual interview process to review department sustainability objectives, which informed Plan priorities and updates.

SEA Central Mechanical Plant Decarbonization and Resilience, Seattle, WA. Equity and Policy Analysis Lead. Led Environmental Justice & Equity evaluation framework integrated into technical decarbonization scenario analysis informing capital investment decisions.

NAS JRB Fort Worth Installation Development Plan, U.S. Naval Facilities Engineering Systems Command (NAVFAC), Fort Worth, TX. Deputy Project Manager managing data, geospatial analysis, and facility gap assessment supporting federal installation resilience and mission readiness.



Tom Beckley

Project Manager, Vice President

Firm
Raftelis

Years of experience
26 years

Education
Master of Public Administration - University of Kansas (2008)

Master of Business Administration (Concentration in Finance) - A.B. Freeman School of Business, Tulane University (2000)

Bachelor of Science in Naval Architecture & Marine Engineering - Webb Institute (1995)

Tom has 25 years of experience with Raftelis conducting financial and rate consulting related projects. He has assisted a wide range of municipal water, wastewater, and stormwater utilities in conducting cost-of-service, rate setting, financial feasibility, privatization, system development fees, and other finance-related studies. Tom authored a chapter entitled, "Designing Water and Wastewater Rate Structures," for the Fourth Edition of the industry guidebook, Water and Wastewater Finance and Pricing: The Changing Landscape. He is also an active member of AWWA and WEF, as well as ICMA, and has presented at various national and state conferences.

Project experience

Great Lakes Water Authority (MI): Long Term CSO Control Plan Update. Tom served as the project manager for Raftelis' engagement with the Great Lakes Water Authority (GLWA). Raftelis worked closely with GLWA staff as well as the Member Partners to review the existing charge methodology and propose updates to the methodology to meet the objectives of the Member Partner communities to simplify the methodology while ensuring it remained fair and equitable.

Bloomfield Township (MI): Water and Wastewater Rate Study. Tom served as project director for Raftelis' previous rate study engagement with Bloomfield Township (Township). Raftelis was originally retained to conduct a water and sewer rate study. The Raftelis team worked closely with Township staff and members of the Township Board to develop a financial plan which will sustainably fund the two utilities, and rate structure alternatives which meet the Townships policy priorities.

St. Louis Metropolitan Sewer District (MO): Rate Change Review (multiple). Tom has served as the project manager for multiple engagements with the St. Louis Metropolitan Sewer District (District). In 2007, 2008, and 2011 Raftelis served as the Consultant to the Rate Commission in the District's Rate Commission process. In this role Raftelis provided support to the Rate Commission in reviewing the proposal prepared by District Staff and the District's Rate Consultant for proposed rates.

In 2012 Raftelis was engaged by the District to serve as the Rate Consultant to the District and has performed cost of service analyses in support of the District Rate Commission proceedings in 2015, 2018, and 2019. In addition, Raftelis has served as the District's Feasibility Consultant for all new revenue bond issuances since 2012 totaling over $1 billion.

Downriver Utilities Wastewater Authority (MI): Wastewater Cost Allocation Model. Tom served as project manager for a review and modification to the Authority's wastewater cost allocation model used to distribute annual operation and maintenance expenses among the member communities. The work involved examination of wastewater flow data derived from sewage meters within the collection system and water usage data for each of the communities.

City of Kansas City (MO): Sewer Cost-of-service Analysis. Tom served as the project manager for the Raftelis engagement to conduct a comprehensive cost of service study for the City of Kansas City (City) wastewater utility. The City provide retail service both within the City and to other nearby communities as well as wholesale service throughout the region.



Chad Laucamp, P.E.

Project Manager

Firm
AECOM

Years of experience
28 years

Education
MS, Civil Engineering, University of Iowa
BS, Civil Engineering, University of Iowa

Registrations/Certifications
IL Professional Engineer | Lic 062055364

Chad is a Project Manager with experience in numerous potable water projects, including water treatment plant design, water distribution and transmission system planning and design, vulnerability assessments, emergency response plans, and utility rate studies.

Project experience

Design Coordinator, City of Toledo (COT), Ohio Collins Park Water Treatment Plant, Program Management. For this $500M Program, Mr. Laucamp was responsible for coordinating design reviews with discipline leads for the various CIP projects to meet deliverable milestones. In addition, Mr. Laucamp led the City's Alternative Water Source General Plan project, which provided recommendations and a schedule to construct necessary improvements within a projected 20- year timeframe that will provide a reliable alternative supply of treated water should the current facilities of the COT be compromised and unable to function as intended. Responsibilities included the development of 13 alternatives using conceptual methods of analysis that included both raw and finished water sources based on review of past planning studies, discussions with the COT and regional partners, and preliminary engineering methods. Planning-level cost estimates were provided for each alternative along with figures that depicted the key features of the proposed improvements. A weighted value rank analysis (WVRA), which is based on several criteria, both objective and subjective, was utilized to rate the characteristics of each alternative. These criteria included not only capital cost, but also more subjective factors such as feasibility, operations, ability to deliver the target water demand, and risk/vulnerability. The alternatives were then ranked, and the final selection of the screened alternatives was limited to the top five, which were examined in more detail by sub-dividing the WVRA criteria into new categories to further refine the alternatives evaluation.

Project Manager, Village of Buffalo Grove, Facilities Planning Study and Hydraulic Modeling Report. Project Manager for the condition assessment conducted at the Village's four receiving station sites, which included the various buildings, equipment, structures, and other components based on development of evaluation criteria. This project also included an evaluation of the existing distribution system, which was performed using hydraulic modeling to assess the advantages/disadvantages of eliminating, merging, or adding new receiving stations in the future, and analyzing the potential benefits of utilizing elevated storage in the future. A subsequent hydraulic modeling report was prepared that examined the potential annex of new customer subdivisions. The findings indicated that the addition of a new 16-inch looped water main extension would be required along with an elevated tank and pump station. In addition, given the relatively high elevation of the future customers, there was an opportunity to establish the service area as a separate pressure zone, which would allow the Village to be more flexible in meeting dynamic flow conditions.

Project Manager, Genesee County Division of Water and Waste Services, Water Treatment Plant and Upland Raw Water Impoundment, Genesee County, MI. Project Manager for the design of a conventional-type water treatment plant that will treat raw water from Lake Huron. The plant was designed with an initial capacity of 30 mgd; however, all plant piping was designed for possible expansion to 45 mgd in the future. Mr. Laucamp was responsible for preparing water quality technical memorandums and the preliminary design basis report, as well as serving as lead designer for the 2.6 mg concrete finished water reservoir, gravity filtration system, and chemical storage and feed systems.

Project Director, Karengondi Water Authority, Flint, MI, Water Supply Modeling and Suge Study. Project Director for this study that evaluated the feasibility of delivery for

Chad Laucamp, P.E.

up to 30 mgd of raw water to potential new entities at sites identified within the Genesee County Drain Commissioner's Office, Division of Water and Waste Services (GCDC-WWS) distribution system. The project team investigated the AECOM capacity of the existing KWA system and evaluated the required upgrades to the facilities/infrastructure. AECOM developed a steady state and transient hydraulic model to identify hydraulic limitations under various existing and future flow conditions. A surge analysis was also completed to identify locations where the pressure rating of the pipeline and valves are exceeded as a result of a power outage that suddenly shuts off the operating pump(s). Two design alternatives for improvements to the existing facilities and transmission mains were developed to achieve the desired raw water supply to the prospective new entities. This work included an Opinion of Probable Costs (OPCC) and ROI calculations for each alternative.

Project Manager, Feasibility Study to Receive Lake Michigan Water via DuPage Water Commission, Oswego, IL. Project Manager for this study to determine the feasibility of the Village of Oswego and United City of Yorkville purchasing treated Lake Michigan water via the DuPage Water Commission (DWC). Both communities currently obtain their water from the deep sandstone aquifer, which is being steadily drawn down as it is pumped beyond its long-term sustainable yield due to increasing water demands in the area. Hydraulic modeling was performed and evaluated, and results indicate that DWC could effectively serve both Oswego and Yorkville in conjunction with maintaining service to its existing customers. A preliminary route for the supply transmission main was determined and costs were estimated for the proposed improvements, including estimated unit cost per 1,000 gallons for various financing options. In addition, the study defined the storage facility needs and the meter/receiving station options for potential connection points to the DWC.

Project Director, Northwest Water Commission, Wilmette Interconnection Study, Des Plaines, IL. Project Director for this study, which focused on exploring water supply alternatives and the potential feasibility of receiving NWC's source water from the Village of Wilmette. The analysis included an examination of options to increase the Wilmette Water Treatment Plant's rated capacity and an assessment of distribution routing options to convey the flow from the Village water distribution system to a connection point with the NWC transmission main and then to the NWC reservoir. This study investigated five treatment expansion alternatives, each providing an increasingly greater supply with the final option providing the current maximum of 55 mgd of demand.



Bridget Malinowski, P.E.

Associate Vice President, Asset Management Practice Lead

Firm
AECOM

Years of experience
22 years

Education
BS, Geological Engineering

University of Missouri – Rolla 1999

Registrations/Certifications

Professional Engineer, IL – 2008 (#062-060472) and Texas – 2022 (#143492)

IAM Certificate 6127986

Bridget has spent her career working for public clients within the transportation industry. She created comprehensive assets and developed asset management plans that incorporated the needs of the various stakeholders. Bridget is an accomplished engineer and project manager specializing in transportation and understanding the life cycle of assets from design and construction to preservation and rehabilitation to reconstruction/replacement. She has dedicated most of her career to the delivery of Illinois Tollway projects and has held increasingly responsible positions from field inspector to manager, gaining the trust and respect of her clients, colleagues and staff. Bridget has experience in conceptual design studies; contract plan reviews; pavement inspection and analysis, design and repair; condition assessment, programming and funding, program delivery and development of standards and guidelines.

Project experience

City and County of Broomfield, Colorado. Project Manager – Water and Wastewater AM Strategy and Improvements. Project Manager helping the CCOB improve their asset management program for their water, wastewater, and stormwater assets. Completed gap analysis on the water program and developed a roadmap to offer guidance on how to improve their AM programming. The project also developed a Capital Investment Planning (CIP) tool to evaluate different funding scenarios and backlog and provided recommendations for funding necessary to eliminate backlog and provide guidance to City Council for future funding needs and impacts of funding changes.

Illinois State Toll Highway Authority, Systemwide Design Corridor Manager (DCM), Illinois Tollway Consultant Engineer Services, Northeastern Illinois. Design project manager responsible for the development and implementation of the Tollway's systemwide repair program with the Tollway's capital programs (both the CRP and MI). She identifies repairs and funding requirements, assigns project work to appropriate design firms and follows through into construction to ensure repairs are completed to the Tollway's quality and safety standards. Annual expenditures under her supervision range from $25 million to $100 million, based on system needs and funding.

Kane County Department of Transportation, Asset Management Illinois (2024-present) $501,000. Project Manager responsible for delivering asset management maturity to the Department of Transportation. Responsibilities include gap analysis and identifying best practices, establishing asset management goals, policies, and objectives, evaluating existing asset inventories, developing reports and dashboard templates, developing performance metrics and standard operating procedures for assets, recommending life cycle standards, developing risk assessment strategies, establishing planning horizons and financial planning strategies, and developing processes to integrate asset management into daily operations. The project is also laying out the framework for the County's transportation asset management plan, developing data dictionaries and data hierarchies, and assisting with process documentation as requested.

Ohio Turnpike and Infrastructure Commission, Cleveland, Ohio, - Long Term Asset Management Plan (LTAMP) (2026-present) ($282,XXX). Project Manager for a multi asset LTAMP for a major transportation tolling authority, directing development of a comprehensive 10 year and 50 year capital investment strategy across 18 infrastructure asset classes. Leading scope, schedule, and budget; coordinated multidisciplinary technical

Bridget Malinowski, P.E.

teams; facilitated stakeholder workshops; and oversaw delivery of risk-based prioritization, lifecycle cost analysis, capital programming, and executive level reporting aligned with ISO 55000 and FHWA best practices.

City of Fort Worth Transportation & Public Works, TX. Project Manager – Enterprise-wide AM Strategy and Improvements. Project Manager helping the City of Fort Worth, TX improve their asset management program. All client documentation and procedures are review and catalogued, used to grade Fort Worth's current capabilities and offer guidance on how to improve their AM programming. Led workshops to discuss best practices, assess the agency's current capabilities in asset management as it relates to the 4-Pillars and develop recommendations for the agency moving forward in the near and long term, developed a comprehensive asset management training program and developed and hosted the subsequent training sessions.

AECOM Asset Management TechEx Global Lead, Transportation. Responsibilities include marketing AM internally and externally, assisting with national pursuits related to AM, providing guidance and assistance for national pursuits and projects and review projects and best practices nationally and globally. As Asset Management Technical Practice Global Leader, responsible for curating AECOM's institutional memory and knowledge transfer related to asset management projects, methodologies and standards.

Chicago Skyway Concession Company (SCC), Chicago, IL – Asset Management Program Assessment and Development LTMMP Project Manager responsible for helping the SCC identify gaps in their asset management capabilities and provide recommendations for improvement along with an implementation plan. The role also review CAPEX and OPEX expenditures to determine historical cost drivers and identify areas for improvement. Project Manager responsible for reviewing vendor RFP and managing software (AMS) and data collection vendors to build inventory and condition for SCC assets. Vendors include asset management software (OpenGov), traffic speed deflectometer, LiDAR, digital twin and artificial intelligence for bridge data collection. Responsibilities also include guiding AMS implementation, developing AM guidelines, data dictionaries and hierarchies, AM organization and policies. Also developed a Long-Term Maintenance Management Plan (LTMMP) for the life of the concessionaire that included developing a robust excel spreadsheet that was configurable to allow for multiple scenario changes including recommendations for project plan layout based on Skyway defined parameters. Responsibilities included review existing plans, inspection reports, testing data, studies & recommendations, contract requirements, etc., perform cursory supplemental visual inspections on site as necessary to form a comprehensive view and understanding of overall asset condition, review and improve the format, structure, and function of the existing LTMM Plan, and verify that all assets and associated capital work activities anticipated over the remaining term of the concession are detailed out and included in the LTMM Plans.

Illinois Tollway, Infrastructure Management Consultant, Northeastern Illinois Deputy Pavement Management Engineer/Technical Advisor responsible for overseeing the maintenance and update the Tollway's Pavement Asset Management Plan (PAMP) and the Ramp Asset Management Plan (RAMP) to include Condition Rating System (CRS), Remaining Service Life (RSL), and smoothness (International Roughness (IRI)) values shown over time, and by Mile Post, for Tollway segments. The PAMP is a resource for rehabilitation and reconstruction planning of the mainline pavement and shoulders while the RAMP focuses on ramp pavement and shoulders. Also responsible for maintaining and using a pavement management system supports the environmental and economic principles by optimizing the management of pavements, including preservation, maintenance, rehabilitation, and replacement, to maximize service life. This reduces costs, the environmental impacts of construction, and raw material usage. Responsibilities include annual updates of the Tollway pavement management system include updating current construction history, traffic, cost, pavement condition data, CRS, RSL, and IRI in OpenGov (formerly Cartegraph) to document the actual performance. This data is utilized for programming system wide projects and to develop a 50-year asset management plan. The data is used by the Illinois Tollway to program capital improvement projects while also identifying efficient ways to package and execute preservation projects. The team includes process documentation of existing and new processes for work throughout the project.

Colorado Department of Transportation (CDOT), Colorado. Asset Management Specialist – Bridge and Tunnel Enterprise (BTE) Bridge Program Management. Subject Matter Expert leading the team developing best practices and life cycle recommendations for over 200 bridges that are currently in the BTE inventory. Project interviewed various stakeholders to help identify recommendations for managing existing inventory and allow room for future additions.



Collin Drat

Quality Assurance / Quality Control, Vice President

Firm
Raftelis

Years of experience
13 years

Education
Master of Public Affairs (Public Finance) - Indiana University (2012)

Bachelor of Arts in International Relations - Wheaton College (2010)

Registrations/Certifications

AWWA

Water Environment Federation (WEF): Utility Management Committee

Collin has 13 years of experience advising municipally owned water, wastewater, stormwater, electric and natural gas utilities throughout North America. Collin has conducted 80+ studies for dozens of utility clients in 20 states. This experience includes not only establishing cost justified utility rates but also critiquing and defending them in court and before state public service commissions. Collin will provide an independent quality assurance/quality control review of key deliverables to ensure accuracy and completeness.

Project experience

Regional Water Customers Group (AB): Cost-of-service Review. Collin has served as lead consultant for Raftelis' ongoing engagement with the Regional Water Customer Group (RWCG) since 2013. The Regional Water Customer Group (RWCG) is a consortium of nine water service providers who purchase water from EPCOR Water Services Group, Inc. (EPCOR). Collin reviews EPCOR's prospective and actual cost-of-service models annually to ensure they comply with the agreed to methodology.

City of Bentonville (AR): Water and Wastewater Rate Studies, Capacity Fee Study. Raftelis has completed two engagements with the City of Bentonville. Collin served as lead consultant for Raftelis' first engagement, a water rate study, in 2019. Raftelis developed a comprehensive water financial plan and cost of service study for the City. The study identified the funding needs for the water utility and rates which appropriately recovered those costs from the City's retail and wholesale customers based on their use of the City system. In 2023, Raftelis completed a similar analysis for the City's wastewater utility, focusing on developing a plan to fund over $100 million in anticipated capital improvements over the next 10 years. Collin served as the project manager for this engagement. Raftelis is currently engaged in updated the water and wastewater rate studies and conducting a capacity fee study, all anticipated for completion in 2025.

Marana Water (AZ): Water and Water Reclamation Rate Study, Impact Fee Study, Litigation Support. Collin has led Raftelis project teams supporting multiple engagements with Marana Water, the utility providing water and wastewater service to the Town of Marana. As lead consultant, Collin supported the development of water and wastewater financial plans, cost-of-service analyses and alternative rate designs. Subsequently, Raftelis was engaged to develop water, water resources and water reclamation impact fees. Collin served as the project manager for this engagement. Raftelis is currently providing expert witness support regarding the Town's prior impact fees (not prepared by Raftelis), which were challenged by the Southern Arizona Homebuilders Association (SAHBA).

City of San Diego (CA): Water Rate Study. The City of San Diego (City) engaged Raftelis to conduct a comprehensive financial planning, cost of service, and rate design study for its water utility. Collin served as lead consultant for this engagement, supervising consulting staff, coordinating and leading working meetings and preparing deliverables. A key aspect of this engagement involved restructuring the City's residential tier structure to encourage conservation in a cost-justified manner, taking into account Proposition 218 and ongoing litigation around the City's water rates.



Joe Collins

Lead Consultant, Manager

Firm
Raftelis

Years of experience
8 years

Education
Master of Public Administration - Indiana University (2016)

Bachelor of Science in Economics - Truman State University (2014)

Registrations/Certifications

AWWA

Water Environment Federation (WEF)

Joe has a background in economics, public policy analysis, and municipal finance as well as utility energy management. Joe's areas of expertise include water and wastewater demand analysis, financial planning, cost-of-service analysis and rate design. Joe has developed decision support tools and analyses for some of the largest and most complex agencies in the nation. Joe will serve as the Lead Consultant and will work at the direction of Tom in conducting analyses and preparing deliverables for the project.

Project experience

Great Lakes Water Authority (MI): Long Term CSO Control Plan Update. Joe served as the staff consultant for Raftelis' engagement with the Great Lakes Water Authority (GLWA). Raftelis worked closely with GLWA Staff as well as the Member Partners to review the existing charge methodology and propose updates to the methodology to meet the objectives of the Member Partner communities to simplify the methodology while ensuring it remained fair and equitable. Joe provided analytical support throughout the engagement.

Bloomfield Township (MI): Water and Wastewater Rate Study. Joe served as lead consultant for Raftelis previous rate study engagement with Bloomfield Township (Township). Raftelis was originally retained to conduct a water and sewer rate study. The Raftelis team worked closely with Township staff and members of the Township Board to develop a financial plan which will sustainably fund the two utilities, and rate structure alternatives which meet the Townships policy priorities.

Genesee County Drain Commission - Division of Water and Waste Services (MI): Water and Sewer Rate Studies. The Genesee County Drain Commission's Division of Water and Waste Services (GCDC) provides potable water transmission and distribution and wastewater collection, conveyance, and treatment to over 200,000 customers within its 700 square mile service area. Raftelis was engaged to develop a water and wastewater financial planning, cost-of-service and rate model for GCDC. Joe currently serves as the lead consultant for this engagement. A key aspect of this engagement has involved capturing all of the various levels of service provided by GCDC to the various communities which it serves. The model developed by Joe will allocate the cost of providing water service to GCDC's customers in proportion to their use of GCDC's water and wastewater system.

Detroit Water and Sewerage Department (MI): Water and Wastewater Rate Study, Fire Protection Study. Joe serves as a staff consultant for Raftelis' engagement with the Detroit Water and Sewerage Department (Department). The engagement involves financial planning and rate design for the water and sewer utilities. Key aspects of this engagement involve analyzing and projecting costs from wholesale provider Great Lakes Water Authority, analyzing customer affordability and developing rates which mitigate the impact on lower income customers. Joe also served as a staff consultant for the development of the Department's private fire line charge.

Allendale Township (MI): Water and Sewer Commodity Rate and Connection Fee Study. Joe served as the staff consultant for Raftelis' engagement with Allendale Township. The engagement involved the development of utility rate and water and sewer financial planning models for Allendale Township. The financial plans involve a forecast of water and stormwater revenue, the development of a capital financing plan to fund improvements to the wastewater and stormwater systems and a detailed cash flow analysis for each utility indicating the rate adjustments necessary to ensure operational sustainability. Additionally, a key component of this engagement involved developing new system development charges for new connections to the water and sewer systems.



Cameron Craig

Staff Consultant, Financial Analyst

Firm
Raftelis

Years of experience
1 year

Education
Bachelor of Science in Management in Finance - Tulane University (2025)

Cameron joined Raftelis in June of 2025 and has been working in the Kansas City branch assisting in financial analysis for water and wastewater services. Cameron graduated from Tulane University in New Orleans, Louisiana, where he earned a Bachelor of Science in Management degree from the A.B Freeman Business School. Cameron holds a Major in finance, along with a Minor in management. During his time at Tulane, he worked with multiple clubs including the Tulane Energy Club and the Wall Street Krewe. Cameron will work at the direction of Tom in conducting analyses and preparing deliverables for the project.

Project experience

The City of Kirkwood (MO): Water Rate Study. Raftelis was engaged by the City of Kirkwood in 2025 to perform a water rate study. The objectives of the study were to update the financial plan and to propose multiple rate adjustments to be presented to the City of Kirkwood's council. Cameron worked as a financial analyst on the rate study and was tasked with building a water rate model with relevant historical and budgeted financial data and billing data. This model would be used to formulate multiple scenarios of potential rate adjustments to be provided to the City of Kirkwood.

Pensacola Energy (Pensacola, FL): Gas Rate Study and Natural Gas Bond Feasibility Study. Pensacola Energy engaged Raftelis in 2025 to develop gas rates and produce a feasibility study. As a team, Raftelis worked together with Pensacola staff to produce a functioning financial planning model used to propose gas rate adjustments for residential and commercial inside-city and outside-city consumers. Cameron worked as a financial analyst for the rate study to compile usage and forecast revenues for Pensacola Energy for a multi-year forecast period. Additionally, a key component of this engagement involved developing new system development charges for new connections to the water and sewer systems.



Ryan Wagar, P.E.

Civil Engineer 4

Firm
AECOM

Years of experience
13 years

Education
BS, Civil Engineering, University of Toledo, 2012

Registrations/Certifications

Professional Engineer: MI 6201068867

Ryan brings extensive expertise in project management and engineering design, with a focus on civil, site development, water, and wastewater infrastructure. His experience includes preparing comprehensive design plans and technical specifications for commercial, municipal, and government water and wastewater facilities. He has conducted both vertical and linear asset condition assessments, overseen construction activities for water main and sewer replacements, and led asset management program initiatives. Additionally, Mr. Wagar is proficient in securing local permits, authoring technical reports, and facilitating coordination among engineers, contractors, and clients. He is committed to delivering high-quality, efficient solutions that enhance infrastructure resilience and support sustainable growth.

Project experience

Monroe WWTP Asset Management Program, Monroe, MI (Sept 2016 – Present, $2M). Project manager and engineer responsible for developing and implementing an Asset Management Program (AMP) for the Monroe Wastewater Treatment Plant to meet the Michigan Department of Environmental Quality's (MDEQ) requirements in the City's National Pollutant Discharge Elimination System (NPDES) permit. The project included, but was not limited to the following: policy development; strategic goals; determination of key performance indicators; asset classifications; defining levels of service; condition assessments; consequence of failure scoring; business risk evaluations; workflows development; software and hardware selection; system testing; training; and reporting. Condition assessment of collection system assets (gravity mains, force mains, pump stations, and manholes), treatment plant assets, and select mobile assets were included in the program. Outputs from the AMP were integrated with the City's Computerized Maintenance Management System (CMMS) program.

DWSD Capital Improvement Program Management Organization (CIPMO), Detroit, MI (July 2017 – Present, $52M). Project engineer for the Detroit Water & Sewerage Department CIPMO project, responsible for leading field crews in hydrant flow and c-factor testing, applying for and being the point of contact for traffic control permits, assisting in field data collection QA/QC, providing GIS support, and preparing weekly status reports for the client. Responsibilities also included design of new water mains and sewers in various neighborhoods, including obtaining record drawings of existing utilities, development of design drawings, obtaining permits, facilitating easement access agreements, and providing construction support. Design and rehabilitation of water mains and sewers included open cut and trenchless technologies such as cast in place pipe lining, horizontal directional drilling, and pipe bursting. Construction support responsibilities included attending weekly progress meetings, construction observation, reviewing submittals, responding to RFI's, responding to contractor claims, and reviewing post-rehabilitation sewer inspection videos and reports for adherence to NASSCO PACP guidelines.

Chicago Department of Water Management (DWM) Program Management Office (PMO), Chicago, IL. Project engineer responsible for reviewing contractor-submitted shop drawings and submittals to ensure compliance with design specifications and standards for the replacement of water mains and lead service lines across Chicago. Collaborated with stakeholders to enhance water distribution system reliability and public safety. Also assisted with updates to Chicago's lead service line inventory, including data validation and identification of high risk facilities.



Jim O'Dowd, P.E.

Water/Wastewater Senior Engineer, AECOM

Firm
AECOM

Years of experience
31 years

Education
BEng, Civil Engineering, University College Cork, Cork, Ireland, 1994

Registrations/Certifications

Professional Engineer: VA

Jim O'Dowd is a professional engineer with over thirty-one years of experience in water and wastewater consulting. Prior to joining AECOM, he implemented a full office and mobile asset management software solution using InfoAsset Manager at the Western Virginia Water Authority in Roanoke, Virginia where he worked for a decade. This work involved all aspects of an enterprise implementation and the resulting data was directly used for defensible decision making throughout all programs within the organization from planning, operation and maintenance to capital improvement. At the Authority, he built and maintained an all mains sewer hydraulic model in InfoWorks ICM and an all mains water hydraulic model in InfoWorks WS Pro with direct SCADA connections using IW Live. Jim serves as a leader on AECOM's Condition Assessment and Rehabilitation Technical Excellence Group. He is the current Vice-Chair of the Executive Committee of ASCE's Utility Infrastructure Asset Management Division. He has presented multiple papers at national and international conferences with a primary focus on hydraulic modeling and asset management.

Project experience

AECOM - City of Baltimore, Office of Asset Management, Baltimore, MD – Asset and Data Management Subject Matter Expert with AECOM – Jan 2020 to Present. Duties involve specification review for pipeline and manhole cleaning and condition assessment, oversight, implementation and staff training of asset management software, review of multiple preventative maintenance programs including targeted cleaning, chemical root control, acoustic monitoring, sanitary sewer overflow investigations / root cause analysis, sewer CIP and O&M plan development.

AECOM - Detroit Water and Sewerage Department, Detroit, MI - CIP and Condition Assessment Planning Lead with AECOM – Jan 2025 to Present. Responsibilities include assisting with all water planning activities from condition assessment to final Planning-Level capital improvements. Incorporation of software tools to assist with all elements of capital improvement planning. Assisting with the management of the import and evaluation of water inspection data, making resultant CIP recommendations, evaluation and incorporation of hydraulic model and work-order data.

AECOM – Beaufort-Jasper Water and Sewer Authority, Okatie, South Carolina – Data Management Lead with AECOM – August 2024 to Present. Responsibilities include incorporation of software tools to assist with all elements of sanitary sewer data import, mapping and quality control for a sewer system with over 800 pump stations. Development of a sewer capacity framework model and a sewer hydraulic model.

Western Virginia Water Authority, Roanoke, VA - Infrastructure Asset Manager – Oct 2008 to Nov 2018. Responsible for: hydraulic modeling, asset management, GIS management, data analysis and QC, technical lead for CIP project selection, fire flow analysis, sewer flow meter selection and model calibration, pipe selection for chemical root control, large diameter CCTV, acoustic monitoring, paving program pipe evaluation, DMA analysis, SMA analysis, master planning, initiator of standard operating procedures for numerous programs, personnel training in multiple departments, staff development and education.



Marc Forgang

Asset Management Manager

Firm
AECOM

Years of experience
31 years

Education
Bachelor of Science (BSc), Geography, Towson University, 1992

Marc is an accomplished asset management project manager based in AECOM's Baltimore office, bringing 30 years of diverse experience across account management, sales support, project management, and offshore outsourcing. His expertise includes leading software design, system development, and operations and maintenance initiatives, as well as delivering and integrating software solutions for a wide range of public agencies and utilities. With a deep understanding of asset management principles and lifecycle planning, Marc specializes in tailoring innovative solutions to meet the complex needs of public sector clients. His strategic approach ensures the seamless alignment of technology and operations, optimizing resources and delivering sustainable value. Marc's extensive background and commitment to excellence make him a trusted leader in advancing asset management practices and driving impactful results for clients in the public sector.

Project experience

City of Baltimore, Wet Weather Consent Decree Program Management, Baltimore, Maryland. Consultant, Supporting the evaluation of mainline inspection programs in Cityworks reviewing metrics to improve targeted cyclical inspections of critical wastewater infrastructure. Assessing pumpstation inspection program to verify consent decree compliance with recommendations to improve workflow for cyclical inspections and maintenance.

City of Baltimore, On-Call Stormwater/ Asset Management Services, Baltimore, Maryland. Consultant, Leading the development of a stormwater asset management plan with a focus on green infrastructure. Developing a green infrastructure SOP to support the expansion of the BMP inspection program utilizing Cityworks.

Washington Suburban Sanitary Commission, On-Call Water/ Wastewater GIS Support Services, Laurel, Maryland. Project Manager supporting the development of Esri Utility Network for WSSC water and wastewater infrastructure.

Salt Lake City Department of Public Utilities. [7/2025 –] Asset Management Lead, Conducting a gap assessment of water, wastewater, and stormwater practices and asset inventory with recommendations on improvements to asset lifecycle management practices and asset criticality to support capital planning needs. This includes interviewing staff across all divisions and development of a roadmap.

Houston Public Water Condition Assessment and CIP, Houston, TX. Consultant, leading the development of an Esri Field Maps inspection app for three surface water repump stations. This includes review of asset data and maintenance histories, assessing data import into Hexagon EAM.

City County of Broomfield Colorado Capital Investment Planning. [2/2025 – 8/2025] Consultant, led assessment of CCOB asset inventory and associated condition ratings to recommend 20 year capital funding needs utilizing AECOM's CIP capital assessment tool.

New York Metropolitan Transportation Authority (MTA), EAM Deployment, New York, NY: Project Manager. Contributed to requirements and design of MTA EAM pilot, which included integration between Infor and AssetWise Linear Analytics for Metro-North Railroad and evaluation of state of good repair of track condition analytics.



Omar Yassin, P.E.

Water/Wastewater Engineer

Firm
AECOM

Years of experience
9 years

Education
BS, Civil Engineering, University of Mississippi

Registrations/Certifications

Professional Engineer: Water Resources and Environmental | Lic. 062075239

Omar is a water/wastewater engineer in the Chicago office with experience in system evaluation, hydraulic analysis, and pipeline design. He has experience working on a variety of water, stormwater, and wastewater pipe design projects. In those projects, he has researched as-builts, evaluated survey data and utility conflicts for design of alignments, conducted hydraulic and loading analyses, and designed for necessary air release valves. Omar has also led the hydraulic modeling efforts and has project experience in Civil 3D, PARRE, WaterGEMS, ArcGIS, and Infoworks.

Project experience

CDWM Hydraulic Feasibility Assessment for Tunnel Feasibility, Chicago, Illinois. Worked as an PE to develop a hydraulic model of the North and Central Chicago Tunnel systems using Infowater.

DuPage Water Commission Hydraulic Model Emergency Scenarios, DuPage, Illinois. Served as engineer to implement multiple scenarios provided by the DuPage Water Commission to simulate and evaluate the diversion of flow to support neighboring communities through interconnects while avoiding loss of pressure throughout the DWC system. WaterGEMS was used to develop multiple scenarios and evaluate their viability.

DuPage Water Commission Hydraulic Model Calibration, DuPage, Illinois. Served as engineer to calibrate the DuPage Water Commission hydraulic model and evaluate the inclusion of additional communities for present and future demands. WaterGEMS was used to develop multiple scenarios and evaluate their viability.

Village of Arlington Heights Hydraulic Modeling of Elevated Storage, Arlington Heights, Illinois. Served as modeler to evaluate proposed distribution system improvements for the Village of Arlington Heights. WaterGEMS was used to develop multiple alternatives and evaluate their viability.

Southwest Water Pumping Station Tunnel Connection Phase II, Chicago, IL. Served as a PE to perform a variety of tasks for the project including modeler, Civil3D drafter, field engineer, and Civil drawings lead. The Infowater program was used to model the viability of the proposed project in relation to the existing tunnel system hydraulics. Used Civil3D to recreate site drawings using the original as-builts and develop proposed alternatives. Served as a field engineer to observe and monitor subconsultants on site. Lead the effort in developing civil drawings by delegating tasks to modelers, corresponding with manufacturers and experts, and participating in team meetings to work in tandem with other teams such as structural and geotechnical.

Southwest Water Pumping Station Tunnel Connection Phase I, Chicago, Illinois. Worked as an EIT to calibrate the hydraulic model using Innovyze Infowater as well as develop and evaluate multiple scenarios. Also developed multiple Tunnel Connection Alternatives using Civil3D.

Ecorse Creek Flood Risk Management Project Design, Dearborn, Michigan. Served as a civil engineer in the design and project management efforts in the joint venture with Black & Veatch to develop a flood risk management design for the US Army Corps of Engineers.

Risk and Resilience Assessment and Emergency Response Plan, Village of Buffalo Grove, Buffalo Grove, Illinois. Served as the PM in the development of a Risk and Resilience Assessment (RRA) and Emergency Response Plan (ERP) for the Village of Buffalo Grove.

Emergency Response Plan, Chicago Department of Water Management, Chicago, Illinois. Served as the lead in the development of an emergency response plan (ERP) for the Chicago Department of Water Management.



Anthony Dowell, GISP, IAM Cert.

Associate Vice President

Firm
AECOM

Years of experience
18 years

Education
MPS, Geographic Information Systems, University of Maryland, Baltimore County, 2013

BS, Geography and Environmental Systems, University of Maryland, Baltimore County, 2008

Registrations/Certifications

Certified Geographic Information Systems Professional (GISP)

Asset Management Certificate, Institute of Asset Management (IAM)

Mr. Dowell is an experienced water infrastructure, geospatial and engineering technology professional who serves as an Associate Vice President and GIS & Asset Management Group Leader based in AECOM's Baltimore, Maryland office. He is proven Project/Program Manager, team leader and subject matter expert who is well versed in assembling and leading multidisciplinary teams. He specializes in developing and implementing geospatial, engineering and asset management technologies and solutions across a wide variety of sectors, including water utilities, water resources, energy, surface transportation, aviation, and environmental resources. His areas of expertise include infrastructure asset management, condition assessment, digital transformation, Geographic Information Systems (GIS), Building Information Modeling (BIM), hydraulic modeling, data collection & management, technology solutions, and field services. He currently serves as AECOM's Asset Management Technical Practice Group (TPG) East Region Leader for the Water Business Line.

Project experience

Detroit Water & Sewerage Department, CIPMO Program Management, Detroit, Michigan (GIS Technical Lead). GIS Technical Lead for the Capital Improvement Program Management Office (CIPMO) for the City of Detroit's Water & Sewerage Department. As one of AECOM's Technical Leads for CIPMO, Mr. Dowell oversees all aspects of the enterprise GIS program for water, sewer and stormwater infrastructure, including the development, deployment and maintenance of GIS infrastructure and data services, as well as supporting various asset management and data management initiatives within DWSD. Mr. Dowell is also responsible for supporting asset management planning efforts and leads the development of custom solutions to support capital planning, including dashboards for the Capital Improvement Program and for Key Performance Indicator Tracking that integrate GIS, CMMS, hydraulic modeling, asset management and financial systems.

City of Baltimore Department of Public Works, Modified Consent Decree Program Management, Baltimore City, Maryland (Asset Management Manager). Asset Management Manager for the Program Management Team (PMT) on the Wet Weather Modified Consent Decree. Mr. Dowell oversees all MCD-related activities within the Office of Asset Management (OAM) and coordinating with other teams within the Department of Public Works. Mr. Dowell's responsibilities include providing task management and resource management for the PMT in support of the OAM, as well as providing technical expertise and oversight for efforts related to enterprise GIS, asset management, operations & maintenance, inspection & condition assessment and other activities as needed. Mr. Dowell's team is also leading a GIS modernization effort focused on the upgrade of OAM's GIS infrastructure, while also providing comprehensive GIS program support including data development and maintenance, database management, data analysis, systems integration, business process optimization, application development, and other related services. Supports a wide range of asset management initiatives, which include utility benchmarking and development of Key Performance Indicators and Levels of Service for water, wastewater and stormwater utilities, the development of a Sewer Asset Management Plan (AMP), risk assessment and asset prioritization, and vertical/facilities asset management efforts at the Patapsco Wastewater Treatment Plant.



Abbas Kachwalla, P.E., PMP

Senior Pavement Engineer

Firm
AECOM

Years of experience
12 years

Education
MSc, Project Management, Harrisburg University of Science and Technology

MSc, Transportation, University of Illinois - Urbana-Champaign

BTech, Civil Engineering, Veermata Jijabal Technological Institute

Registrations/Certifications

Professional Engineer (PE): IL # 062075085, TX, NY, NJ, WA

Abbas is a Senior Pavement Engineer with extensive experience in pavement engineering design, condition modeling, and implementing pavement management systems (PMS) for over 300 pavement networks. He has been involved in several pavement engineering design projects and led pavement and asset management projects for several agencies including Counties, Cities and local agencies. He has performed and analyzed data for pavement evaluations involving distress surveys (including manual, imagery based, and AI/ML processed), International Roughness Index and Falling Weight Deflectometer testing. He develops long-term pavement capital improvement plans and short-term maintenance repair plans utilizing functional and structural testing data. Working with the knowledge that pavement management goes hand-in hand with other features, such as sidewalks and utilities, and he provides a "complete streets" approach to pavement management. Abbas also serves as a pavement management system course instructor, providing training for municipalities and other agencies. He is also an active contributor to the advancement of pavement management technology and is an active committee board member of several TRB and ASCE pavement committees.

Project experience

Chicago Metropolitan Agency for Planning (CMAP), Municipal Pavement Management Plan (PMP) Program, Chicago, IL. Deputy project manager. Managed pavement management implementations for 95 municipalities (4,800 centerline miles) across the Chicago region. Technical responsibilities included data verification, report review, pavement management database review, and deliverable acceptance. Management responsibilities included overseeing schedule, budget, and subcontractors.

Cook County Department of Transportation and Highways (CCDOTH), Pavement Management System and Asset Management Integration, Cook County, IL. Technical Lead. Performed automated pavement condition surveys on county roadways, including visual, image-based pavement condition index (PCI) assessment per ASTM D6433 and pavement profiling. Managed data collection and analysis efforts. Responsible for generating deterioration models and developing multi-year engineering recommendations and budgets. Conducted a two-day on-site PAVER training course for County engineers. Also managed GIS–PAVER integration of traffic data, bridge locations, and roadway assets such as medians and curb and gutter.

Village of Glen Ellyn, Pavement Management Implementation, Glen Ellyn, IL. Technical Lead. Provides pavement management support for 100 miles of roadway pavement. Performed automated pavement condition surveys on Village roadways, including visual, image-based PCI assessment per ASTM D6433 and pavement profiling. Using pavement condition data, developed long term and short-term pavement repair recommendations for crack seal, patching, surface treatments and capital improvement projects. Capital improvement projects are developed in conjunction with utility repairs such as water main and lead pipe replacements.

Village of Oak Park, Pavement Management Implementation, Oak Park, IL. Technical Lead. Implemented a pavement management system (PMS) for 110 miles of roadway and Alleys. Developed a pavement management system from historical records and databases and thereafter supported with inventory and work history updates. Performed budget analysis and developed pavement repair plans for microsurfacing, rejuvenation and capital improvement projects using multi-criteria decision trees. Supported the Village with the development of custom condition indices to support appropriate repair planning.



Amir Arshadi, PhD, P.E.

Project Manager - Senior Pavement Engineer

Firm
AECOM

Years of experience
15 years

Education
Doctor of Philosophy (PhD), Civil Engineering, University of Wisconsin - Madison, 2015

Master of Science (MSc), Civil Engineering, University of Wisconsin - Madison, 2013

Registrations/Certifications

Professional Engineer, California, 89678

Remote Pilot (Small Unmanned Aircraft System), Federal Aviation Administration, 4210271

Amir is a seasoned civil engineer with a decade of experience in the transportation infrastructure industry, specializing in research and pavement engineering. His portfolio includes numerous successful projects related to transportation data analysis, pavement design, construction, and management, big data mining, and software development. He has worked with federal, state, and commercial clients across the United States, utilizing cutting-edge technological solutions to monitor, evaluate, and analyze transportation assets. His expertise in data science, transportation asset management, pavement engineering, and project delivery makes him a strong technical communicator. As an astute engineer in pavement technology, he has published extensively in the Association of Asphalt Paving Technologists, the International Society of Asphalt Pavement, and the Transportation Research Board.

Project experience

Illinois State Toll Highway Administration, Pavement Management Support, Chicago, Illinois. Technical lead responsible for quality control, analysis, and visualization of pavement condition data collected across more than 1,800 lane miles of the Illinois Tollway along with the entire Ramps. It involved applying data mining and data science techniques to process large datasets, identify trends, and detect anomalies in pavement performance along with developing interactive visualizations and comprehensive reports to communicate insights effectively.

Skyway Concession Company, Skyway Asset Management System Development, Chicago, Illinois. Pavement engineer who led the analysis of comprehensive pavement data for Skyway Concession Company on 7.3 centerline miles (50 lane miles) of roadway. Utilized TSD and FWD data alongside pavement surface data to diagnose structural, functional, and drainage issues. Developed detailed treatment plans, including repair timing, treatment type, and cost estimates for network-level planning.

Cook County Department of Transportation and Highways, SPRAM MSA 2023-2028 - Pavement Management System Update, Various Locations, Illinois. Asset management specialist responsible for performing comprehensive quality control on pavement condition data, importing it into the Pavement Management System (PAVER), and creating graphics and tables for data visualization to support informed decision-making.

City of Des Plaines, DesPlaines_ Pavement Mgmt, Chicago, Illinois. Lead engineer conducted quality control on pavement condition data collected on 318 lane miles of the City of Des Plaines, Illinois. Also assisted in PAVER pavement management implementation, budget analysis, and reporting.

Village of Glen Ellyn, Glen Ellyn Utility and Road Improvements, Chicago, Illinois. Lead engineer responsible for conducting comprehensive QC on flexible and rigid pavement condition data collected across the Village's pavement network, ensuring accuracy and reliability for asset management and maintenance planning.

Hillsborough County, Transportation Services 2017-Present- Pavement Management System Update, Tampa, Florida. Project manager for pavement management system update including development of prioritized rehabilitation plans, customization of data reports, database customization, and presentation of plan to the County. As part of the project, a budget planning software was developed to help the County study several budget scenarios to improve their investment decisions and optimize the capital improvement plans.



Adam Moline, P.E., IAM Certificate

Asset Manager

Firm
AECOM

Years of experience
19 years

Education
BS, Civil Engineering,

Bradley University, 2008

Registrations/Certifications

IL Professional Engineer | LIc 062065206

Adam has over 19 years of experience working for clients within the transportation industry, including municipal, state, tolling, and federal agencies. He is an accomplished professional engineer and project manager specializing in transportation design, planning, asset and program management. He has created comprehensive assets, asset management plans, workflow, and systems to support asset management needs of various stakeholders and at various stages of a project life cycle. He serves as an Asset Manager for AECOM's Global Transportation Asset Management Team. In this role, Adam implements projects and best practices across the US and globally. Extensive experience with all facets of designing and implementing decision-making platforms, from data collection and acquisition, analysis and correlation, to writing queries, developing reports and dashboarding. Emphasis on collaboration with clients to meet goals, implementation of business initiatives, and development of KPIs to generate relevant insights.

Project experience

Cook County Bureau of Asset Management, Program Management Office, Chicago, Illinois. Asset Manager (2025 to Present) Providing asset management advisory in a PMO setting for the Cook County Bureau of Asset Management, including their Capital Planning and Policy group, which manages three real estate portfolios (Corporate, Health and Hospitals, and Public Safety). Advising client staff, consultants, and contractors within a complex management environment with multiple stakeholders as they improve their AM capabilities, including implementation of TRIRIGA. Developed a PowerBI tool to display critical data across portfolios for enhanced communications. Proactively identified and addressed interdependencies between programs/projects, employing advanced risk management strategies to mitigate potential issues. Facilitated clear and concise communication between project teams, stakeholders, and senior leadership, providing insightful and actionable updates. Advised on asset management for the enterprise execution plan and formal CAD standards documentation aligned with National CAD Standard (NCS) and ISO 19650 frameworks. Defined CAD governance including standardized naming conventions, file structures, sheet/title block requirements, and drawing protocols. Defined end-to-end CAD deliverables covering existing conditions drawings, blocking diagrams, and stacking diagrams with standardized naming schemas and space classification methods for facilities and portfolio management. Implemented advanced CAD modeling and data preparation standards for IWMS platforms (TRIRIGA), including polyline QA/QC rules, floor plan data structuring, and asset-ready datasets to support CAFM integration. Developed robust digital delivery and QA/QC procedures encompassing XREF management, coordinate system alignment (SPCS/UTM/local grids), model accuracy validation, and submission requirements for design development, construction documents, and record drawings. Advised on master data governance frameworks, including asset classification hierarchies, metadata schemas, and unique asset identifiers, while advancing digital twin readiness through structured data models, geospatial alignment, and integration strategies for IoT and BAS/BMS systems.



Hamed Majidifard, PhD, P.E.

Senior Engineer, GIS Specialist

Firm
Tiger Eye Engineering

Years of experience
10 years

Education
PhD, Civil Engineering, University of Missouri-Columbia

MS, Civil Engineering, Sharif University of Technology

BS, Civil Engineering, Bahonar University of Kerman

Registrations/Certifications

PE, Civil, MO, CO

As CEO and Co-Founder of TEE, Dr. Majidifard has played a pivotal role in the development of the company's industry-leading infrastructure assessment technologies, including its Automated Data Collection System, AI-Powered Distress Detection Platform, and web-based analytics Dashboard. He oversees TEE's research and innovation strategy while guiding the company's continued growth and expansion. A recognized expert in transportation infrastructure analytics, Dr. Majidifard's research has focused on machine learning applications for pavement condition assessment, performance forecasting, and automated infrastructure monitoring, helping bridge the gap between cutting-edge research and practical asset management solutions.

Project experience

Pavement Condition Assessment and Data Visualization | City and County of Honolulu, HI. (Mar. 2025 – Jan. 2026) Technical lead responsible for managing the data collection operations, quality control, and GIS services for the automated pavement inspection of roadway pavement for the City and County of Honolulu, HI. Scope of services included 1,800 lane miles of automated roadway inspections per ASTM D6433. He also oversaw development of the final data outputs and contributed to integration into client systems.

Pavement Condition Update | County of Weld, CO. (Oct. 2025 – Jan. 2026) Dr. Majidifard managed the County of Weld's roadway and contiguous asset inspection project, using a cost-effective machine-learning distress detection system. He oversaw project management, field operations, data collection, and final delivery, including standardization and migration of historical data.

Pavement Condition Assessment and PMS Implementation | City of Brampton, Ontario, Canada. (Mar. 2025 – Dec. 2025) Responsible for managing data processing and deliverables, quality control, and PMS implementation for a network-level pavement condition assessment of approximately 600 miles of roadway within the City of Brampton, Ontario. Scope of services included ASTM D6433-compliant pavement inspections utilizing TEE's Automated Data Collection System and AI-based distress identification technologies to generate PCI ratings and pavement condition data. Oversaw development of final data deliverables, historical data migration, and integration into the Smart Asset Management Solutions™ (SAMS) platform to support GIS-based visualization, long-term asset management, and efficient use by City staff.

CDOT Pilot Project | Chicago, IL. (Mar. 2023 – Dec. 2023) Project manager for an automated pavement and sidewalk inspection using Tiger Eye's automated distress detection and rating system for the Chicago Department of Transportation (CDOT). Scope of services included roadway and sidewalk inspection and rating. Responsibilities included overall project management, management and validation of digital image annotation and machine learning training, data quality control, project communications, and review of project deliverables.



William Buttlar, PhD

Senior Engineer, Senior Reviewer

Firm
Tiger Eye Engineering

Years of experience
37 years

Education
PhD, Civil Engineering, Penn State University

MS, Civil Engineering, Penn State University

BS, Civil Engineering, Penn State University

Registrations/Certifications

PE, Civil, IL (expired)

Dr. Buttlar is a managing partner of Tiger Eye Engineering and is also the Founding Director of the Missouri Center for Transportation Innovation, as well as the Editor-In-Chief of the International Journal of Road Materials and Pavement Design. Dr. Buttlar has lead pavement evaluation, design, and management projects for various state highway agencies, tollways, and cities across the United States over the past 3 decades.

Project experience

Pavement Condition Assessment and Mgmt | City of Jefferson City, MO. (2022, 2025) Contract Manager and Senior Reviewer for consecutive assessments of 250 centerline miles of pavement and 500 miles of curb and gutter inspection and rating in 2022 and 2025. Responsibilities included model training, data collection, quality control, validation, analysis and evaluation. Advanced machine learning software programs were developed and used to evaluate the condition of pavements and curb and gutter infrastructure. Historical condition data was integrated into TEE's Dashboard.

Pavement Condition Assessment | City of Washington, IL. (2023) Contract Manager and Senior Engineer for an AI-driven roadway asset management solution for the City's 71-mile municipal road network. Directed vehicle-based pavement data collection, followed by machine learning analysis to identify all ASTM D6433 pavement distress types and generate a Pavement Condition Index (PCI) database. Integrated geospatial condition data into Esri GIS and pavement management systems to support interactive visualization, infrastructure analytics, and asset lifecycle management.

Pavement Inspection and Data Visualization | Kansas City, MO. (2022) Principal investigator for a project aimed at evaluating the current approach for pavement inspection and evaluation in Kansas City and demonstrating the potential benefits of automated distress detection, rating and data visualization using machine learning. Responsibilities included overall project management, validation of digital image annotation and machine learning training, data quality control, project communications, and review of project deliverables.

Road & Sidewalk Asset Management Platform | City of Peoria, IL. (2019) Led mobilization and deployment of an AI-driven transportation asset management solution supporting 100% roadway and sidewalk network assessment. Directed large-scale field data collection, high-resolution imagery processing, and machine learning workflows to identify 40+ pavement distress types and calculate ASTM D6433-compliant Pavement Condition Index (PCI) values. Integrated geospatial data into Esri-based asset management systems and decision optimization software to produce data-driven 5- and 10-year pavement preservation programs. Leveraged traffic volumes, crash analytics, and infrastructure condition data to optimize maintenance prioritization, capital planning, and resource allocation across the City's transportation network.



Yaw Adu-Gyamfi, PhD

Senior Engineer, AI Specialist

Firm
Tiger Eye Engineering

Years of experience
17 years

Education
PhD, Civil Engineering, University of Delaware

MS, Civil Engineering, University of Delaware

BS, Civil Engineering, University of Delaware

Dr. Adu-Gyamfi is a national expert in the application of AI for highway transportation. He is one of 30 members selected by the National Academies' Transportation Research Board to serve as a member of the standing committee on Artificial Intelligence. He is also the recipient of the prestigious NSF CAREER grant for advancing machine learning and big data analytics methods in transportation. Dr. Adu-Gyamfi has served as PI or co-PI on more than $5 million funded projects from State agencies, NSF, DOTs, FHWA and USDOT Exploratory Advanced Research.

Project experience

Pavement Condition Assessments – 2024-2034 | City of Thornton, CO. (2024, 2026) In 2024 and 2026, Yaw was a key contributor to the assessment of 421 miles of pavement for the City of Thornton, Colorado. The scope of services for this contract includes biennial pavement condition assessments through 2034. His responsibilities include machine learning (ML) model development, cloud computing, and full stack development for interactive web visualization. Advanced ML software programs were developed and used to evaluate pavement conditions by identifying over 40 different distress types and calculating Pavement Condition Index (PCI) ratings following ASTM D6433 standards.

Automated Pavement, Asset, and Sidewalk Inspection, Data Visualization | City of Galesburg, IL. (Mar. 2024 – Jan. 2025) Technical director for a comprehensive inspection of roadway, curb and gutter, sidewalks, and other transportation infrastructure across the approximately 180-mile City-maintained road network. Dr. Adu-Gyamfi oversaw the use of TEE's cutting-edge and highly cost-effective automated distress detection and rating system built around advanced machine learning algorithms. Data visualization dashboards were also developed and customized for the City.

Sidewalk Condition Assessment and Ramp Evaluation Project | City of Topeka, KS. (Mar. 2024 – Dec. 2024) In 2024, Yaw was involved in the assessment of 700 miles of sidewalks and ramp evaluations for the City of Topeka, Kansas. As the AI Software Developer and Geospatial Mapping Expert, his responsibilities included developing advanced machine learning models for analyzing sidewalk conditions and ramp compliance. Yaw designed and implemented a comprehensive data collection system that integrated GPS, LiDAR, video footage, IMU, and accelerometer data to accurately measure sidewalk slopes and detect surface irregularities. He also played a key role in data visualization and geospatial mapping, ensuring that validated data was presented in a clear, actionable format.

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation and a commitment to environmental, social, and governance priorities. Listed as one of Fortune Magazine's "World's Most Admired Companies" for 2025 and part of the Fortune 500, AECOM also has been ranked the Worlds Top Design Firm in 2025, and #1 in Transportation and #1 in Water in Engineering News-Record magazine's annual industry rankings for 2025, which proves our company is a leader in all of the key markets that we serve.

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