

STATEMENT OF QUALIFICATIONS

COLLIN COUNTY

January 2024





POINT OF CONTACT

Larissa Knapp-Scott, CFM

Project Manager

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January 2, 2024

Collin County Engineering
4690 Community Ave., Ste. 200
McKinney, TX 75071

Re: Statement of Qualifications

Dear Ms. Homfeld:

LJA Engineering, Inc. (LJA) appreciates the opportunity to provide the following qualifications package for Collin County's Stormwater Compliance Program (Phase II MS4) Project. At LJA, we are **Employee-Owned and Client Focused**. Our depth of services is comprehensive, our breadth of knowledge leads the industry, and our North Texas regional influence continues to positively impact our personal and professional communities. Boasting over 1,700 employee-owners, with 299 being in North Texas, we offer full-service planning, engineering, surveying, and construction management that will fit the County's needs.

We have put together a local team from our Fort Worth, Dallas, and McKinney offices to serve your needs. Our regulatory specialist, Joan Flowers has over 30 years of experience in stormwater permitting and has been performing these duties for Collin County for the past 15 years. Joan prepared the County's first Storm Water Management Program (SWMP) in 2008 and two subsequent permit renewals in 2013 and 2019. Joan also prepared the County's annual reports to the Texas Commission on Environmental Quality (TCEQ) each year from 2008 through 2022. Over the past 15 years, the County has worked closely with Joan and our project manager, Larissa Knapp-Scott to build a successful stormwater compliance program. Our goal is to continue that relationship in the future and assist the County with the 2024 Phase II MS4 Permit renewal process.

As you are aware, regulatory changes to the MS4 permit in 2024 will not be a simple renewal and will pose some challenges to Phase II jurisdictions in Texas. We have been working closely with the TCEQ during the permit renewal process as stakeholders and on behalf of our clients to provide comments and negotiate permit language. We are intimately familiar with the new permit requirements and are prepared to make the transition a smooth one for the County.

The attached organization chart lists the personnel that we have assigned to your team. I can assure you that Joan Flowers as Technical Lead and Larissa Knapp-Scott as Project Manager will play a prominent role in your project with some minor assistance from support staff. Jeffrey Alvarez will serve as our Quality Assurance Manager. He and Larissa each have over 25 years of experience in stormwater permitting and co-manage our North Texas Water Resources Group under my leadership. We will not make staffing changes to the project team without express written permission from the County.

If any questions or concerns arise, please feel free to contact us any time. Larissa will be your designated point of contact and her contact information is listed above. LJA looks forward to working with the County and delivering a project that is high quality, on time, and within budget. We are here to serve.

Sincerely,

James Wiegert, PE
Senior Vice President

FIRM PROFILE

51

YEARS IN BUSINESS

299

NTX EMPLOYEE OWNERS

4

NORTH TEXAS OFFICES

LJA was established to be the premier engineering firm across the southeastern US and beyond by providing high-quality, innovative, and cost-effective services to our clients. Our reputation is built upon a 51-year legacy of mutual trust – among our staff and our clients – driving our commitment to deliver the best solutions for complex business challenges.

In North Texas, we are organized around the following areas of expertise:

- » Civil Design
- » Transportation
- » Planning and Landscape Architecture
- » Public Works (Water Resources)
- » Surveying
- » Energy
- » Environmental

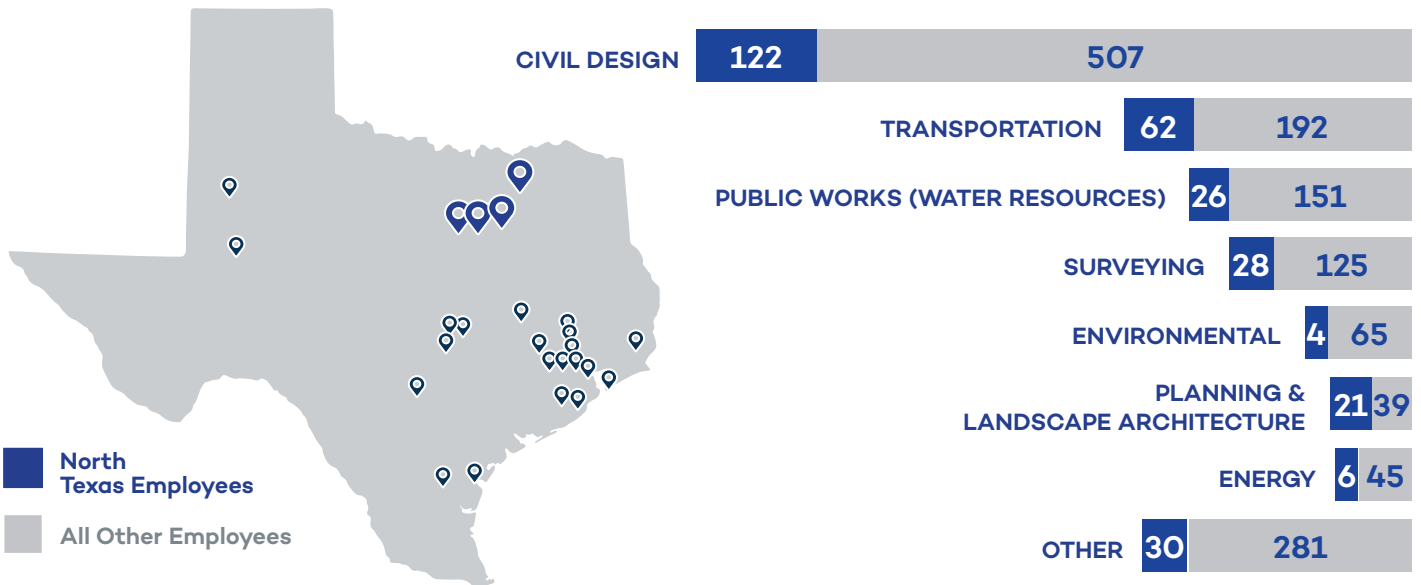


LJA has received awards for not only project excellence, but more importantly for our ability to connect with our employees, our clients, and our communities. Recent awards include:

- » #10 Top Engineering Firms in North Texas by Dallas Business Journal (2023)
- » #8 Best Companies to Work by Fort Worth Inc. (2023)
- » #5 by ENR Texas & Louisiana (2023)
- » #47 by ENR Top 100 Pure Designers (2023)
- » #64 by ENR Top 500 Design Firms (2023)

NORTH TEXAS STRENGTH

LJA opened its North Texas offices in 2015 in Dallas with one employee. In seven short years, the North Texas offices expanded to Fort Worth, McKinney, and Arlington, with over 250 employees. LJA has one of the largest, longstanding, engineering presence in Texas, and now ranks among the strongest and most multi-disciplinary in the North Texas region. The chart below demonstrates our North Texas strength and our firm's complete resources and capacity to provide support at any given time.





PROJECT EXPERIENCE

Our North Texas Water Resources Team lead by **Larissa Knapp-Scott** and **Jeffrey Alvarez**, under the leadership of **Jim Wiegert** has performed stormwater studies throughout Collin County.

Our team has completed stormwater studies of creeks and watersheds in the following Collin County communities:

📍 ALLEN

- » Rowlett Creek/Watters Branch

📍 ANNA

- » Clemons Creek
- » Throckmorton Creek
- » Spring Creek

📍 CELINA

- » Wilson Creek

📍 COLLIN COUNTY

- » Lake Lavon tributaries

📍 LAVON

- » Bear Creek
- » Lavon Trail and Park Flood Study

📍 MCKINNEY

- » Honey Creek
- » Towne Lake Park Master Plan – Wilson Creek
- » McKinney Soccer Complex Drainage Study – Watters Creek

📍 MELISSA

- » Stiff Creek

📍 PLANO

- » City of Plano Drainage Improvements Project – Stream 2D8

📍 PRINCETON

- » Ticky Creek

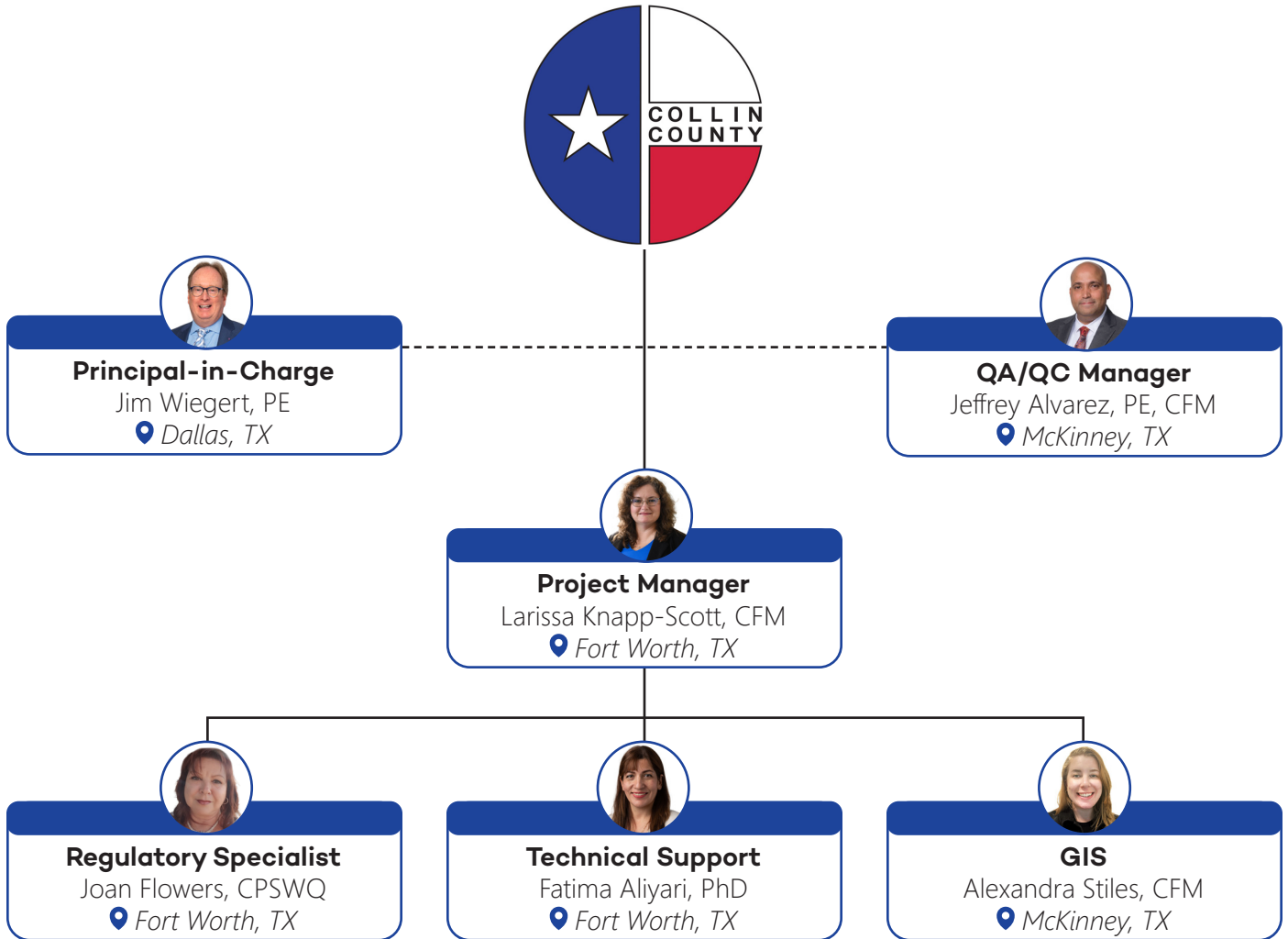
📍 PROSPER

- » Wilson Creek Tributary

📍 SACHSE

- » City of Sachse Erosion Protection Project
- » City-wide Drainage Design
- » City-wide Drainage Review

ORGANIZATION CHART



LARISSA KNAPP-SCOTT, CFM

 Project Manager



25 YEARS OF EXPERIENCE

EDUCATION

BS, Hydrology & Water
Resource Engineering, Tarleton
State University

PROFESSIONAL LICENSE

2000, Certified Floodplain
Manager, Texas #0310-01N

PROFESSIONAL MEMBERSHIPS

American Society of Civil
Engineers (ASCE)

Texas Floodplain Management
Association (TFMA)

Society of Texas Environmental
Professionals (STEP)

SUMMARY OF QUALIFICATIONS

Larissa has more than 25 years of experience in H&H modeling, design, and permitting of stormwater systems as a hydrologist and Certified Floodplain Manager. Her responsibilities include stormwater system design and modeling, dam design, dam safety through emergency action plans (EAP) and operations and maintenance plans (O&M), FEMA Conditional Letter of Map Revision/Letter of Map Revision process, FEMA benefit-cost analysis, preparation of construction plans and appropriate permitting applications through municipalities, TCEQ and USACE, stormwater pollution prevention plans, drainage plans, dam safety modeling and permitting, water appropriations permitting, oil and gas (Energy Services) pad flood proofing, and probable maximum flood (PMF) modeling. She has experience and thorough knowledge of Geographic Information Systems (GIS) and specializes in using GIS to support water resources applications on projects of all sizes.

SAMPLE PROJECT EXPERIENCE

Collin County Phase II TPDES Storm Water Management Program (SWMP), McKinney, TX – Senior Hydrologist/QA/QC. Reviewed historical water quality data, identify pollutants of concern and potential Best Management Practices (BMPs) targeting these pollutants. Quality review of the SWMP, NOIs, and Annual Reports documenting progress toward BMP implementation submitted to TCEQ.

Honey Creek Watershed Study, McKinney, TX – H&H Lead responsible for conducting the Honey Creek Watershed analysis to facilitate the proposed Honey Creek 313 residential development in the City of McKinney at the intersection of FM 542 and 229. She conducted hydrologic and hydraulic analysis preparing pre-, post- project, and fully developed hydrologic and hydraulic models. Designed storage (compensatory) grading, designed detention ponds, calculated proposed grading plans and prepared a City of McKinney downstream assessment following iSWM Hydrologic criteria.

Killeen TPDES Storm Water Management Program (SWMP) Support, Killeen, TX – Hydrologist. Prepared a Drainage Master Plan and Drainage Maintenance Plan to help the City of Killeen manage their storm drain system. It provided the City of Killeen a tool to manage the drainage system and provided recommendations for future actions, including implementation of the revised drainage utility rate structure, major CIP program, development of a drainage maintenance plan, development of a detention policy, and revisions to the City's drainage design criteria and ordinances. Project included implementation of Best Management Practices identified in the City's TPDES Phase II MS4 permit.

City of Lawton Storm Water Management Program, Lawton, OK – Hydrologist. Worked with the City of Lawton to develop a Storm Water Mitigation Master Plan to address both storm water quantity and quality issues. The project was funded with a Hazard Mitigation Grant from FEMA. The quantity portion consists of a city-wide update of the FEMA FIRM maps, as well as development and prioritization of conceptual solutions for 20 drainage problem locations.

JOAN FLOWERS, CPSWQ

 Regulatory Specialist



30 YEARS OF EXPERIENCE

EDUCATION

MS, Aquatic Biology, Tarleton State University

BS, Hydrology and Water Resource Engineering, Tarleton State University

PROFESSIONAL LICENSE

2005, Certified Professional in Stormwater Quality (CPSWQ), #0107

2009, Certified Stormwater Inspector (CSI), #3987

2021, Applied Fluvial Geomorphology, Rosgen Level 1

PROFESSIONAL MEMBERSHIPS

Society of Texas Environmental Professionals (STEP)

SUMMARY OF QUALIFICATIONS

Joan has more than 30 years of experience in storm water and water quality projects. Joan has led numerous projects involving water quality monitoring and modeling, TMDL development, NPDES storm water permitting and planning, drainage master plans, and watershed master plans. Joan has experience in all aspects of NPDES/TPDES permitting including municipal stormwater, construction stormwater, and industrial stormwater.

In addition to over 20 years of experience in the private sector, Joan has over a decade of experience in the public sector conducting research on non-point source pollution from urban and agricultural sources. Joan served as a senior research associate with the Texas Institute for Applied Environmental Research (TIAER) at Tarleton State University in Stephenville, Texas for over 12 years. While at TIAER, she managed hydrologic and water quality investigations and modeling for watershed evaluations, managed TIAER's analytical laboratory and environmental monitoring program, managed a team of chemists, field technicians and research scientists for completion of NPS watershed studies funded through EPA and TCEQ grant programs.

Joan's NPDES stormwater experience includes 20 years of developing Storm Water Management Programs (SWMPs) for Phase I and II jurisdictions in Texas, Oklahoma, Louisiana, and California. Preparation of Phase II MS4 SWMPs for jurisdictions in Texas include Hurst, Collin County, Glenn Heights, Killeen, Temple, Tyler, Smith County, and Wichita Falls.

SAMPLE PROJECT EXPERIENCE

Collin County Phase II TPDES Storm Water Management Program (SWMP), McKinney, TX – Senior Water Quality Scientist. Reviewed historical water quality data, identify pollutants of concern and potential Best Management Practices (BMPs) targeting these pollutants. Facilitated a County Stakeholder Group to select practices to include in the SWMP. Prepared SWMPs and NOIs and submitted the documents to TCEQ for the initial permit term and two subsequent 5-year permit terms. For the past 15 years, Joan has prepared Annual Reports for the County documenting progress toward BMP implementation for submittal to TCEQ. Assisted the County with NOC submittals, employee training and educational materials for compliance with permit requirements.

Collin County SPCC Plans for McKinney Service Center and Farmersville Station, Collin County, TX – Project Manager and lead scientist. Prepared the County's Spill Prevention Control and Countermeasures (SPCC) Plan for facilities that house above-ground petroleum storage tanks. Reviewed, updated, and recertified the SPCC plans every five years (two renewals).

North Texas Tollway Authority (NTTA) Phase I SWMP/ MS4 Permit, DFW Metroplex, TX – Stormwater Specialist. Managed NTTA's SWMP and assisted in the implementation of BMPs. Performed dry weather screening for 94 stormwater outfalls. Project included development of permit re-application to TCEQ and revised SWMP for new permit terms and annual report preparation.

City of Killeen Storm Water Management Program (SWMP) and Ordinance Development, Bell County, TX – Project Manager. Prepared SWMP, developed measurable goals and submitted to TCEQ. The project included policy and ordinance development for the City's SWMP. Joan led a team of scientists and engineers to develop the City's post-construction ordinance. Joan facilitated a series of stakeholder meetings with interested residents including developers and construction contractors to develop the ordinance and associated guidance manuals. Joan conducted training programs for construction personnel and municipal employees on construction general permit requirements and municipal ordinances for construction and post-construction.

City of San Marcos Storm Water Management Program, San Marcos, TX – Water Quality Scientist. Assisted the City with development of its SWMP. Services included a review of current City practices and procedures for storm water management, a series of meetings with City departments and a City facility review.

Temple Phase II Storm Water Management Program (SWMP), TPDES Small MS4 Permit, Temple, TX – Senior Water Quality Scientist. Developed a SWMP for compliance with Phase II TPDES regulations and utilized a stakeholder committee to select appropriate BMPs under each of the six minimum control measures. Prepared SWMP, developed measurable goals and submitted to TCEQ. Prepared Annual Reports to TCEQ. Facilitated a Developer Stakeholder Committee to select post-construction runoff controls and reviewed Integrated Storm Water Management (iSWM) protocols for post-construction as part of contract for ongoing Support Services for their Phase II program.

City of Tyler Phase II TPDES Storm Water Management Program (SWMP) Development, Tyler, TX – Senior Water Quality Scientist. Reviewed historical water quality data and potential water quality regulations affecting the city's watersheds, identify pollutants of concern and potential Best Management Practices (BMPs) targeting those pollutants. Responsibilities included interaction with project stakeholder group and development of stakeholder information packets summarizing available BMPs for each of the six minimum control measures defined by federal regulations.

City of Glenn Heights Phase II TPDES Storm Water Management Program (SWMP) Development, Glenn Heights, TX – Senior Water Quality Scientist. Prepared SWMP and NOI and submitted to TCEQ. Prepared Year 1 Annual Report documenting progress toward BMP implementation and submitted to TCEQ. Facilitated stakeholder meetings during development of SWMP and preparation of annual reports. Developed a storm water utility fee for the City.

City of Hurst, Storm Water Management Program (SWMP), Phase II TPDES Plan, Hurst, TX – Senior Water Quality Scientist. Assisted the City of Hurst with development of its TPDES Phase II SWMP and annual reporting requirements for the MS4 general permit.

City of Wichita Falls, Storm Water Management Program (SWMP), Phase II TPDES Plan, Wichita Falls, TX – Senior Water Quality Scientist. Assisted the City of Wichita Falls with development of its TPDES Phase II SWMP and annual reporting requirements for the MS4 general permit. Facilitated stakeholder group for selection of BMPs and SWMP development.

Smith County, Storm Water Management Program (SWMP), Phase II TPDES Plan, Smith County, TX – Senior Water Quality Scientist. Assisted Smith County with development of its TPDES Phase II SWMP including selection of BMPs for each of the six minimum control measures. Developed Inter-local Agreements with the City of Tyler for coordination of BMP implementation within urbanized areas under the County's jurisdiction.

JEFFREY ALVAREZ, PE, CFM

QA/QC Manager



28 YEARS OF EXPERIENCE

EDUCATION

BS, Civil Engineering, University of New Orleans

PROFESSIONAL LICENSE

2007, Professional Engineer, Texas #100536

2008, Certified Floodplain Manager, Texas #1491-08N

PROFESSIONAL MEMBERSHIPS

Texas Floodplain Management Association (TFMA)

SUMMARY OF QUALIFICATIONS

Jeffrey has over 28 years of water resources engineering experience, which has included the planning, analysis, and design of complex drainage and flood control projects, water resource systems, water supply, conveyance systems, site grading, and drainage, and hydraulic structures. He has served as a senior engineer on a variety of projects performed for private clients, municipalities, FEMA, USACE, NTTA, and TxDOT. His experience is focused on open channel and storm sewer hydraulics, hydrologic analyses, and dynamic flow hydrodynamics. He also has extensive experience in most USACE HEC software. He has led water resources departments for LJA and his previous firm over the last eight years that have primarily served North Texas municipalities by conducting a variety of water resources projects.

SAMPLE PROJECT EXPERIENCE

Drainage Review Services, Arlington, TX – Currently serving as Project Manager for the project to provide various stormwater review related services on an as-needed basis to assist the City of Arlington Public Works Department in the standard submittal approval process. All services are performed for the 2022-2023 FY and includes technical review of engineering reports in support of the stormwater related services' studies for sound hydrologic and hydraulic content and consistency with the City of Arlington Design Criteria Manual (DCM) and Flood Damage Prevention Ordinance. This project covers the general review of engineering reports in support of Floodplain Development Permits, CDC Permits, and FEMA CLOMR & LOMR permit submittals.

Miscellaneous Review Services, Richardson, TX – Client Manager/Lead Review Engineer for various on call review services for the City of Richardson. The City requested reviews of FEMA LOMR applications, hydrologic and hydraulic models, terrain verification, floodplain mapping problems, and other miscellaneous services to support City Staff. (2010 to current).

Drainage and Flood Study Review Services, Sachse, TX – Currently serving as Client Manager/Project Manager for the project to provide various stormwater review related services on individual assignment basis to assist the City of Sachse CIP and Public Works Department in the standard submittal approval process. Services include technical review of engineering reports in support of the stormwater services for sound hydrologic and hydraulic content and consistency with the City of Sachse Design Criteria Manual (DCM) and Flood Damage Prevention Ordinance. Electronic files that reflect the impact of the proposed study are also included as part of the review process.

S. Belt Line Road Reconstruction Plans - Drainage Review, Coppell, TX – Project Manager for the drainage review of the drainage design areas against existing contours, of the area's 100-year run-off calculations, and of the design 100-year storm sewer calculations per the design plans.

JIM WIEGERT, PE

Principal-in-Charge



30 YEARS OF EXPERIENCE

EDUCATION

BS, Civil Engineering, State University of New York at Buffalo

PROFESSIONAL LICENSE

Professional Engineer, TX #89525
Professional Engineer, OK #29567

PROFESSIONAL MEMBERSHIPS

Urban Land Institute Dallas Builders Association

American Society of Civil Engineers (ASCE)

SUMMARY OF QUALIFICATIONS

Jim has 30 years of unparalleled civil engineering experience which has included serving as a Client Manager and Project Director with a demonstrated history of working in the land development and Public Works industry. His relevant experience includes providing engineering, entitlement and master infrastructure planning services for developers of single-family residential master planned communities. His experience also includes specializing in projects located in utility districts and construction management.

SAMPLE PROJECT EXPERIENCE

Turner Tract, Collin County, TX – Project Director for a 100-acre master planned community in the Collin County, Texas. Directed a multi-disciplined team of planners, project manager, and project engineers. Project scope includes land planning, preliminary engineering, cost estimates, District Creation and Wastewater Discharge permitting.

Inspiration (Huffines Communities), Collin County, TX – Project Director and District Engineer for a 1,100-acre master planned community in Collin County in the ETJ of St. Paul, Lucas and Wylie, TX. Project Manager for the first two phases of development consisting of 400 residential lots and associated master infrastructure. Coordinated efforts with landscape architect and engineer for water supply corporation for preparation of construction plans, public bidding and construction administration. Project is located in Collin County WCID No. 3. Provided support for three bond issues.

Light Farms, Celina, TX – Project Manager. Performed feasibility and planning for a 3,000 lot master planned community located south of the City of Celina, Texas. Project included negotiating a development agreement, preparation of a wastewater discharge permit application, and district creation report (Collin County MUD No. 1). Prepared pre-filed testimony in preparation of a contested case hearing for the district creation.

Veale Ranch, City of Fort Worth, TX – Project Director for a 4,300-acre master-planned community in Tarrant County, TX. Directed a multi-disciplined team of project managers, project engineers, planners, landscape architects, and environmental scientists. Project scope completed to date includes planning, preliminary engineering, cost estimates, flood study, traffic impact analysis, TxDOT permitting, water & wastewater master planning, and District Creation.

Rolling V Ranch, Wise County, TX – Project Director and District Engineer for a 3,400-acre Master-Planned Development planned near the City of Rhome and the City of Newark in Wise County, Texas. Directed a multi-disciplined team of project managers, project engineers, planners, landscape architects, and environmental scientists. Project scope completed to date includes planning, preliminary engineering, cost estimates, District Creation, flood study, traffic impact analysis, TxDOT permitting schedules, water and wastewater master planning, and wastewater discharge permitting.

FATIMA ALIYARI, PHD

👤 **Technical Support**



10 YEARS OF EXPERIENCE

🎓 EDUCATION

PhD, Civil Engineering/Water Resources Management, Colorado State University

MSc, Civil Engineering/Hydraulics, K.N. Toosi University of Technology, Tehran, Iran

BS, Civil Engineering, K.N. Toosi University of Technology, Tehran, Iran

👥 PROFESSIONAL MEMBERSHIPS

American Water Resources Association (AWRA) Colorado

National Groundwater Association (NGWA)

American Society of Civil Engineers (ASCE)

International Water Resources Association (IWRA)

International Environmental Modelling and Software Society (iEMS)

🧠 SUMMARY OF QUALIFICATIONS

Fatima holds a Ph.D. degree from Colorado State University, specializing in hydrologic processes with a focus on water resources management. She is renowned for developing an innovative hydrologic modeling tool tailored for large river basins, coupled with a pioneering approach to estimating water supply for regions with mixed urban and agricultural water demands. Her expertise extends across a spectrum of water-related projects, encompassing the planning, analysis, and design of drainage and flood control initiatives, water resource systems, conveyance systems, and stormwater permitting through FEMA and TCEQ regulations. Fatima is an active member of prestigious organizations such as the American Water Resources Association (AWRA) Colorado, National Groundwater Association (NGWA), American Society of Civil Engineers (ASCE), International Water Resources Association (IWRA), and International Environmental Modelling and Software Society (iEMS). Notably, she has contributed her skills and knowledge as a member of the ASCE Technical Source for Environmental and Water-Related Issues at the Environmental & Water Resources Institute (EWRI) in Colorado State University.

SAMPLE PROJECT EXPERIENCE

Marine Creek Watershed Study, City of Fort Worth, TX – Graduate Engineer. Conducted detailed Hydrologic (HEC-HMS) and Hydraulic (HEC-RAS) models for Marine Creek and two tributaries (MC 3 and 4) for this 90-acre project in Fort Worth. Utilized field survey and LiDAR to develop model geometry, hydrologic parameters, and inundation mapping for the 100-year storm events. Revised hydrologic and hydraulic models to determine the existing, proposed, and ultimate development flows and floodplains for different storm durations.

Drainage Improvements Project, Plano, TX – Graduate Engineer. City of Plano project consists of drainage analysis and design improvements. Analysis consisted of a dynamic two-dimensional (2-D) model of the existing storm sewer systems. The study evaluated the 1-, 25-, and 100-year storm events and provided conceptual design recommendations for storm sewer system improvements.

Stream 2D8 Stormwater Study, Plano, TX – Graduate Engineer. Project for the City of Plano to update floodplain mapping within the Stream 2D8 watershed. HEC-HMS and HEC-RAS models were developed to evaluate existing flooding conditions including the 1-, 10-, 25-, 50-, 100-, and 500-year frequency storm events. Proposed improvements will be developed to allow road crossings to pass the design storm without overtopping or causing adverse impacts downstream. Project includes the preparation of a FEMA Letter of Map Revision (LOMR) and updates to the FEMA Flood Insurance Rate Maps (FIRMs).

ALEXANDRA STILES, CFM

GIS



9 YEARS OF EXPERIENCE

EDUCATION

MS, Marine Resource Management, Texas A&M University

BS, Ocean and Coastal Resources, Texas A&M University

PROFESSIONAL LICENSE

Certified Floodplain Manager, Texas #3784-19N

PROFESSIONAL MEMBERSHIPS

Texas Floodplain Management Association (TFMA)

Urban and Regional Information Systems Association

Texas Emergency GIS Response Team

SUMMARY OF QUALIFICATIONS

Alexandra has nine years of experience as a GIS Analyst. She has vast knowledge of working in the private, public, and academic sectors on various water resource projects nationally and internationally. Since beginning her professional career, Alexandra has specialized in base level engineering studies and physical map revisions for FEMA. She is an active member of Texas Floodplain Managers Association.

SAMPLE PROJECT EXPERIENCE

City of McKinney, Wilson Creek Flood Study, Towne Lake Park Master Plan, McKinney, TX – GIS Task Lead for the floodplain feasibility study along Wilson Creek being conducted as part of the Towne Lake Park master plan. This study analyzes Wilson Creek from Virginia Parkway to State Highway 5, approximately 4.5 miles of stream. The project's limits focus on the confined portion of the Wilson Creek floodplain impacting the neighborhood Towne Lake Park Recreation Area, the Al Ruschhaupt Soccer Complex, adjacent Alex Clark Frisbie Golf Course, and greenspace immediately upstream and downstream of these.

City of Plano, Stream 2D8 Flood Study, Plano, TX – Proposed improvements allow road crossings to pass the design storm without overtopping or causing adverse impacts downstream. The City of Plano hired LJA to conduct a floodplain study along Stream 2D8 and tributaries to update floodplain mapping within the watershed. This study analyzes Stream 2D8 from P Avenue to Shiloh Road (2.2 miles), Stream 2D9 from Ridgewood Drive to the confluence with Stream 2D8 (0.81 miles), and Stream 2D10 from Jupiter Road to the confluence of Stream 2D8 (0.34 miles). The study develops updated flood elevations and floodplain limits along Stream 2D8 and tributaries to aid in evaluating existing flood hazard conditions at stream road crossings.

City of Richardson, Upper Duck Creek Watershed CIP Study, Richardson, TX – This LJA study provides a complete dynamic analysis of the 1.5-square mile drainage area for the Upper Duck Creek watershed and storm sewer system in the City of Richardson, from Arapaho Road to US Highway 75. The analysis uses XPSTORM to simulate the 103,200 linear feet of existing public storm sewer draining to Duck Creek along with 7,500 linear feet of Duck Creek channel. This study analyzes future land use and evaluates the storm events: 2-, 5-, 10-, 25-, 50-, and 100-year to develop conceptual Capital Improvement Projects (CIP) to relieve flooding problems with the associated construction cost estimates of recommended alternatives. The project evaluates the main road crossings along Duck Creek within the project's limits using updated adopted HEC-RAS models by the City of Richardson and recommends improvements to pass the 100-year storm event.