WILLIAMSON COUNTY
1848

Statement of Qualifications:

Planning for Anderson Mill Road and RM 620 Extension

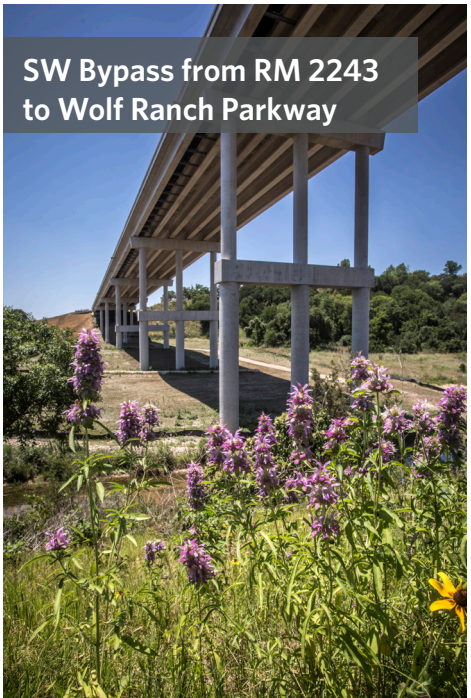
Williamson County, TX

October 2020

HDR

Contents


Kohlers Crossing over UPRR


SW Bypass from RM 2243 to Wolf Ranch Parkway

October 23, 2020
Williamson County Purchasing Department
Attn: RFQ Planning for Anderson Mill Road and RM 620 Extension
100 Wilco Way, Suite P101
Georgetown, Texas 78626

RE: **Statement of Qualifications: Planning for Anderson Mill Road and RM 620 Extension**

Dear Selection Committee Members,

Over the last ten years, Williamson County's population has grown by 40% and is expected to grow 30% more by 2030. Williamson County has been proactive in improving transportation and mobility. Through these improvements, the County has been able to reduce roadway congestion, maintain the quality of life, and attract employers. HDR Engineering, Inc. (HDR) is excited to submit on the Engineering Services for the extension of Anderson Mill Road from FM 734 to Loop 1 and the extension of a roadway from RM 620/SH 45 intersection to McNeil Road. We will bring technical skills, collaboration, and innovative thinking to these two corridors that cuts through the heart of Robinson Ranch in Precinct 1.

We offer a qualified team of professionals with vast experience in Williamson County corridor planning, schematics, environmental studies, geophysical, geotechnical, and surveying for projects adjacent to or crossing railroads and go through or around quarries. Our team includes LJA Engineering, McGray & McGray Land Surveyors, LLC, HVJ Associates, Inc., Cambrian, and Round Rock Geophysics, LLC.

HDR is a registered Texas Board of Professional Engineers (TBPE) firm. **Our firm registration number is F-754.** With a staff of 294 full-time professionals in Central Texas and a Williamson County office located at **710 Hesters Crossing, Suite 150, Round Rock, TX 78681**, we can begin work immediately upon receiving notice-to-proceed. Our **Project Manager, Felipe Tudtud, PE**, will coordinate with Williamson County's GEC, public involvement group, and utility coordinator to deliver a successful project. Our proven local team will provide Williamson County with the following:

PROVEN EXPERIENCE. We bring recent and relevant experiences like SW Bypass and Robert S. Light Blvd. Extension that addressed similar issues encountered when a roadway goes through or around quarries and crosses a railroad. We are currently working on, or have completed at-grade, overpass and underpass projects across several railroads in Central Texas, including SW Bypass, FM 3349 at US 79, Kohlers Crossing, Yarrington Road, LP 82, Kenney Fort Blvd., AW Grimes, SH 130, and Harrell Parkway. By demonstrating a high level of technical expertise, we have become a trusted partner delivering significant projects throughout Williamson County and Central Texas. Our national railroad group is familiar with the Local Union Pacific Railroad Representative.

RESPONSIVENESS. We have one of the largest transportation planning and design teams located in Williamson County. We bring together the right people with the right skills, expertise, experience, and the highest level of teamwork to serve the County on this project. In addition, we are serving as the Program Manager for Capital Metro's Project Connect, which will help us with Capital Metro railroad crossings coordination.

Our history with Williamson County projects, understanding of the type of work to be performed, and lessons learned from the successful completion of similar projects make us the right consultant for Williamson County. Thank you for your consideration of our Statement of Qualifications. Please contact us via email at Felipe.Tudtud@hdrinc.com or by phone at (512) 633-6528 with questions or for additional information.

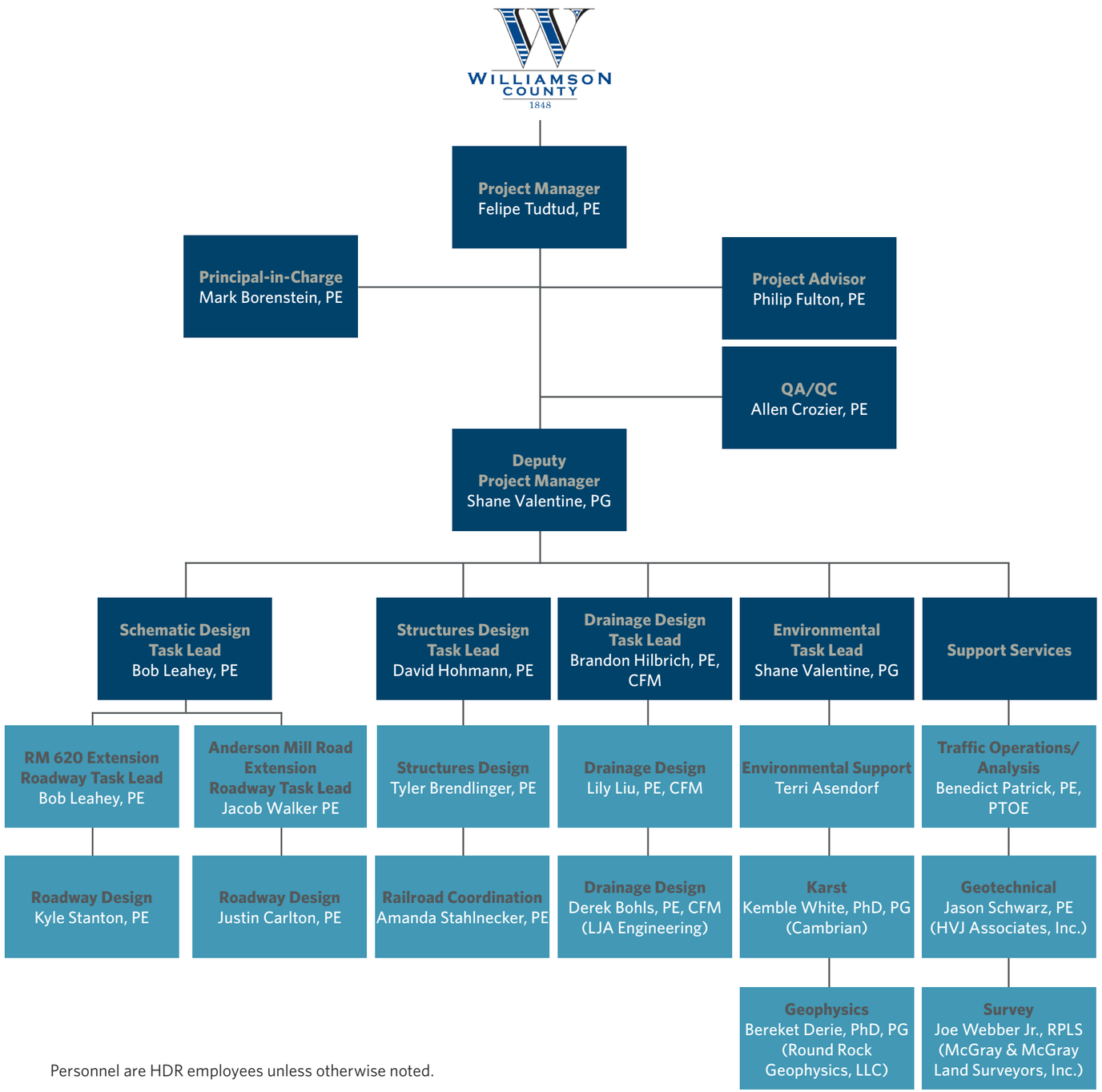
Sincerely,

Felipe Tudtud, PE
Project Manager
Point-of-Contact

Mark Borenstein, PE
Central Texas Area Manager/Vice President
Principal-in-Charge

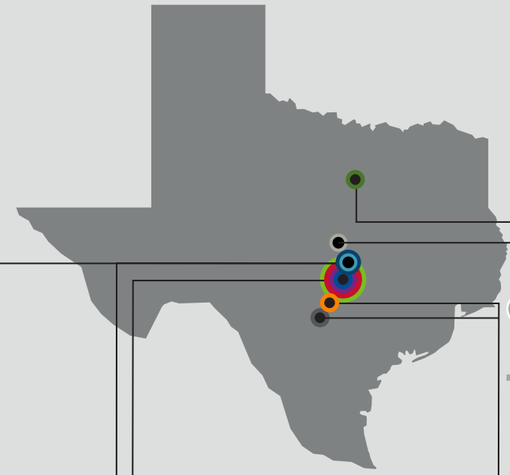
ORGANIZATIONAL CHART

We will commit the key personnel identified in this submittal and listed in the Organizational Chart to meet the project goals and objectives of Williamson County. Our team is fully committed to perform the duties represented and meet the quality and schedule requirements. Resumes for each team member shown below are included in Appendix A.



Personnel are HDR employees unless otherwise noted.

PHYSICAL OFFICE LOCATION FOR INDIVIDUALS



1 710 Hesters Crossing, Suite 150, Round Rock, TX 78681 (HDR)


Felipe Tudtud, PE


Mark Borenstein, PE


Shane Valentine, PG


Philip Fulton, PE


David Hohmann, PE


Tyler Brendlinger, PE


Jacob Walker, PE


Justin Carlton, PE


Terri Asendorf


Kyle Stanton, PE


Benedict Patrick, PE, PTOE

2 4401 West Gate Blvd., Suite 400, Austin, TX 78745 (HDR)


Bob Leahey, PE


Lily Liu, PE, CFM

3 4201 Freidrich Lane, Suite 110, Austin, TX 78744 (HVJ Associates, Inc.)


Jason Schwarz, PE

4 3301 Handcock Drive, Suite 6 Austin, TX 78731 (McGray & McGray Land Surveyors, Inc.)


Joe Webber Jr., RPLS

5 4422 Pack Saddle Pass, Suite 204, Austin, TX 78745 (Cambrian)


Kemble White, PhD, PG

6 2700 La Frontera Blvd. Round Rock, TX 78750 (LJA Engineering)


Derek Bohls, PE, CFM

7 4749 Williams Dr. , Suite 323, Georgetown, TX 78633 (Round Rock Geophysics, LLC)


Bereket Derie, PhD, PG

8 600 West Sixth Street, Fort Worth, TX 76102 (HDR)


Amanda Stahlnecker, PE

9 1290 Wonder World Drive, Suite 1230, San Marcos, TX 78666 (HDR)


*Allen Crozier, PE

*Allen splits his time 80%/20% between San Marcos and Round Rock.

10 613 NW Loop 410, Suite 700, San Antonio, TX 78216 (HDR)


*Brandon Hilbrich, PE, CFM

*Brandon splits his time 75%/25% between San Antonio and Austin as he is working on a Williamson County and TxDOT Austin District project.

All other employees report 100% of their time to the office location shown.

PROJECT MANAGER'S EXPERIENCE AND QUALIFICATIONS WITH SIMILAR PROJECTS

Our Project Manager for Williamson County's Anderson Mill Road Extension from FM 734 to Loop 1 and the roadway extension from the RM 620/SH 45 intersection to McNeil Road is **Felipe Tudtud, PE**. Felipe is a professional engineer in the State of Texas with 17 years of experience in transportation planning and design. He leads projects with multi-discipline design teams and subconsultants for TxDOT, county, and municipal clients. Felipe has the proven experience leading diverse teams of professionals and providing interdisciplinary coordination between transportation planners, environmental, right-of-way (ROW), utility coordination, surveying, geotechnical, roadway geometrics, structural, hydrology and hydraulics (H&H), and sequence of construction to reach the client's desired results with regard to quality, schedule, and budget.

Williamson County, FM 3349 at US 79. Felipe is the Roadway Task Lead and Deputy Project Manager for the schematic development of an ultimate 3.1-mile access control facility and interim Phase 1 PS&E of frontage roads over UPRR and US 79, similar to the Anderson Mill Road Extension over McNeil Road and UPRR. The design evaluated the cost/benefit analysis for steel vs. concrete structure over UPRR and US 79, utility relocation vs. additional construction cost to avoid conflict, floodplain mitigation, and ROW assessment to accommodate ultimate roadway and drainage detention using Atlas 14 for ROW preservation.

Williamson County, Corridor C SH 29 Bypass from SH 130 to SH 29. Felipe was the Roadway Task lead and Deputy Project Manager for the schematic development of a 4.5-mile new alignment access control facility for Williamson County. Felipe developed multiple routes and used an analysis matrix to evaluate and score the different alternatives. Included in the decision matrix were environmental impacts, ROW acreages, bridge structures, floodplain impacts, and public input. He internally coordinated with environmental, drainage, structures, and public involvement task leaders.

In addition to the detailed examples above, Felipe has worked on numerous projects that exhibit similar elements of design and coordination that are shown in the proposed corridors.

Felipe's Relevant Projects	Corridor Planning/ Schematic Design	New Alignment	Environmental Doc Prep/ Coordination	Multiple Agency Coordination	Railroad Grade Separation	Floodplain
FM 3349 at US 79	■		■	■	■	■
Corridor C SH 29 Bypass from SH 130 to SH 29	■	■	■	■		■
Southwest Bypass RM 2243 to IH-35	■	■	■	■	■	■
Southwest Bypass from RM 2243 to Wolf Ranch Parkway	■	■	■	■		■
Kenney Fort Blvd. (Arterial A)	■	■		■	■	■
Central Texas Turnpike System (CTTS) Planning and Feasibility Study	■		■		■	■
Loop 82	■		■	■	■	■
IH-35 at RM 2243	■		■	■		■
Loop 360 GEC	■		■	■		■
Diboll Relief Route	■	■	■	■		■

Task Leader | Deputy Project Manager | Project Manager

For more details about the projects and Felipe's tasks on the projects, please refer to his resume in Appendix A.

Felipe's relevant experience allows him to identify and mitigate constraints at the very early stages of a project. His work on new location projects, such as Corridor C, Southwest Bypass, Kenney Fort Blvd., and Diboll Relief Route, has provided him with a solid understanding of challenges, such as avoiding environmental features, accommodating water quality, and minimizing overall ROW needs that may be involved with these two corridors. His experience with the TxDOT Austin District will be a valuable asset when coordinating with the CTTS at the RM 620/SH 45 and Anderson Mill Road/Loop 1 intersections. Felipe prides himself in delivering a project on-time, on-budget with high-quality, and to the client's satisfaction.

As a resident of the County for over 14 years, Felipe wants to be part of the solution to proactively address roadway congestion and provide better mobility for a better quality of life for Williamson County residents.

PROJECT TEAM'S PLANNING AND DESIGN EXPERIENCE WITH SIMILAR PROJECTS

Our Schematic Design Task Lead is **Bob Leahey, PE.** With 33 years of transportation experience, Bob provides significant technical expertise, leadership, and mentoring to staff while managing the development of high-quality transportation planning and design deliverables for multi-disciplinary projects. He has completed numerous highway engineering projects, including corridor feasibility studies, planning and environmental linkage studies, alternatives analyses, environmental studies, stakeholder outreach and strategic communications, schematic design and preparation of plans, specifications and estimates (PS&E) for urban and rural projects. The following projects demonstrate our relevant planning and design experience.

TEAM'S EXPERIENCE/QUALIFICATIONS

TxDOT Corpus Christi District, Regional Parkway Corridor Study. This project included an alignment alternatives analysis for a new location corridor to enhance connectivity on the far south side the City. As the Project Manager, Bob completed the feasibility assessment that determined a preferred alignment based on the evaluation of several environmental and engineering criteria. Extensive public involvement and coordination with local governments was conducted and segments of independent utilities were determined. The corridor assessment determined the ultimate condition of the facility to be developed as a six-lane divided rural principal arterial.

TxDOT Austin District, IH-35 Feasibility Study. Bob was responsible for coordinating the engineering, public involvement, and environmental services associated with the identification and development of conceptual mobility solutions, feasibility analysis of those concepts, and preparation of an Implementation Plan to guide the development of the IH-35 corridor between SH 130 and RM 1431 in Williamson County. He managed a team of engineers and planners in the development of mobility concepts for possible managed lanes, main lanes, collector distributor lanes, frontage roads, ramps, cross streets, and multi-modal accommodations. Under Bob's leadership, proof of concept geometric design was developed to determine basic feasibility and enable the development of comparative analysis of the concepts.

Williamson County, Southwest Bypass IH-35 to RM 2243. During the early stages of the project, Felipe was the Schematic Lead and developed alignment alternatives and profile options for an alternative analysis matrix for the segment that went through the Texas Crush Stone Quarry and over the Georgetown Railroad. **Jacob Walker, PE, Anderson Mill Road Extension Roadway Task Lead,** took over and was responsible for the interim and ultimate schematics and phased PS&E designs. He and **Justin Carlton, PE, our proposed Roadway Designer,** refined the design criteria and produced a 3D corridor model to use in plan development and stakeholder coordination/visualizations. The team went through the TCEQ permitting and approval for construction, similar to what will ultimately be needed for this project.

Hays County, Robert S. Light Blvd. Extension (Buda Truck Bypass). Jacob was the Roadway Task Lead for the design schematic and preparation of PS&E for the extension of Robert S. Light Blvd. located approximately 1.8-miles from RM 967 to FM 1626 through an active quarry, over UPRR, across the Edwards Aquifer recharge, contributing and transition zones. Jacob developed multiple alignment alternatives using a set of criteria to minimize environmental impacts and minimize ROW needs while considering construction cost. The design schematic showed the proposed ultimate section with two 12-ft lanes and 10-ft shoulders in each direction with a 48-ft (edge of travel way to edge of travel way) center grassy median with an interim phase construction planned. The environmental document cleared the full ROW width for the proposed ultimate section.

The chart below presents our relevant experience. For more project details, please refer to staff resumes in Appendix A.

Relevant Projects	Alignment Analysis	ROW Needs Assessment	Railroad Crossing	Floodplain Impacts	Earthworks vs Retaining Wall	Phased Construction	Bike and Pedestrian Facilities	Team Members Involved in Project
Regional Parkway Corridor Study	■	■		■	■	■		Bob Leahey
IH-35 Feasibility Study	■	■	■	■	■	■	■	Bob Leahey
Southwest Bypass IH-35 to RM 2243	■	■	■	■	■	■		Jacob Walker, Felipe Tudtud, Philip Fulton, Justin Carlton, Brandon Hilbrich, Shane Valentine, Tyler Brendlinger, David Hohmann, Kemble White
FM 3349 at US 79		■	■	■	■	■	■	Felipe Tudtud, Philip Fulton, Justin Carlton, Tyler Brendlinger, Brandon Hilbrich, Benedict Patrick, Kyle Stanton, David Hohmann

PROJECT TEAM'S EXPERIENCE/QUALIFICATIONS DESIGNING AND PLANNING DRAINAGE FACILITIES FOR SIMILAR PROJECTS

Our Drainage Design Task Lead is **Brandon Hilbrich, PE, CFM**. He has 11 years of experience leading, managing, and conducting water resources, stormwater management, and transportation drainage projects. Brandon works on flood mitigation studies, as well as schematic and PS&E projects within Central Texas for TxDOT, counties, river authorities, and municipal clients. He has a thorough understanding of the rapid changes occurring in Central Texas due to population growth, as well as recent drainage criteria and regulatory changes based on implementation of the new NOAA Atlas 14 precipitation data. The following projects demonstrate our experience/qualifications designing and planning drainage facilities for similar projects.

TEAM'S EXPERIENCE/QUALIFICATIONS

Williamson County, FM 3349 at US 79. Brandon is the Drainage Task Lead. During the schematic phase, Brandon coordinated with FEMA and the local Floodplain Administrator to acquire the best available FEMA H&H models and establish the implementation of NOAA Atlas 14 rainfall data. Brandon, with the support of Justin Carlton, developed updated HEC-HMS hydrology and HEC-RAS 1D hydraulic models for the major watersheds and seven minor culverts and bridge class culvert crossings within the project area to determine ROW needs based on drainage requirements, including mitigation improvements.

Williamson County, Southwest Bypass IH-35 to RM 2243. Brandon was responsible for designing the required detention and retention basins for the Phase I, Phase II, and ultimate condition roadway project. With the support of Justin, Brandon developed existing and proposed flow conditions and sizing of each detention/retention basin using design flows and historical rainfall data as a quarry is located within the project area, providing unique constraints. He also evaluated floodplain impacts to one FEMA regulated Zone AE floodplain within the Phase I project limits, which required coordination with the local Floodplain Administrator.

TxDOT Austin District, Mobility 35 North 16. Lily Liu, PE, CFM, our proposed Drainage Designer, led the drainage design on the schematic level drainage impact analysis for the proposed transportation improvements along 16 miles of IH-35 from the Travis County line to midtown Austin. Lily's responsibilities included updating hydrologic calculations to reflect additional impervious cover using appropriate methods and modeling tools such as HEC-HMS; evaluating culvert hydraulics using HEC-RAS and HY-8; outfall to outfall impact analyses; alternatives analyses at Brushy Creek Bridge to mitigate adverse impact at this FEMA Zone AE crossing; scour analyses and erosion impacts analyses at each outfall; TSS removal calculations and BMPs design to mitigate water quality impacts to comply with TCEQ Edwards Aquifer rules; and detention pond sizing and footprint design to determine additional ROW needs. Lily also assisted in the ditch capacity design for the roadway group.

Williamson County, North Mays Extension. Derek Bohls, PhD, PG (LJA), our proposed Drainage Designer, performed floodplain analysis on a FEMA crossing using HEC-RAS and HEC-HMS. He coordinated with the Upper Brushy Creek Water Control and Improvement District regarding development in the designated inundation easement behind Dam #11. He performed drainage design for PS&E, including storm sewer, ditch cross culvert design, and water quality design. He also prepared a Water Pollution Abatement Plan to be submitted to TCEQ for approval.

The chart below presents our relevant experience. For more project details, please refer to staff resumes in Appendix A.

Relevant Projects	Prelim Detention Sizing	TCEQ Permitting	WPAP Design	HEC-HMS/HEC-RAS	Ditch Sizing	Culvert Analysis	Floodplain Mitigation	Team Members Involved in Project
FM 3349 at US 79	■			■	■	■	■	Brandon Hilbrich, Felipe Tudtud, Philip Fulton, Justin Carlton, Tyler Brendlinger, Benedict Patrick, Kyle Stanton, David Hohmann
Southwest Bypass IH-35 to RM 2243	■	■	■	■	■	■	■	Brandon Hilbrich, Felipe Tudtud, Philip Fulton, Shane Valentine, Justin Carlton, Jacob Walker, Tyler Brendlinger, Kemble White, David Hohmann
Mobility 35 North 16	■	■		■	■	■	■	Lily Liu
North Mays Extension		■	■	■	■	■	■	Derek Bohls

PROJECT TEAM'S EXPERIENCE/QUALIFICATIONS PROVIDING STRUCTURES PLANNING AND/OR DESIGN

Our Structures Design Task Lead, **David Hohmann, PE**, has 38 years of bridge design and project management experience. He served as a Senior Bridge Design Engineer and Director of the Bridge Division over his 29 year tenure with TxDOT. As the Division Director, David had statewide responsibilities for construction, project development, inspection, and design activities. He managed resources on large bridges over railroads, waterways, interchanges, and freeway projects totaling over $1B. He brings his vast experience of managing resources on large bridges over railroads, waterways, interchanges, and freeway projects to this project. The following projects demonstrate our experience and qualifications providing structures planning and design.

TEAM'S EXPERIENCE/QUALIFICATIONS

Williamson County, Southwest Bypass IH-35 to RM 2243. David was Project Manager and Structural Task Lead responsible for the PS&E for the two-lane interim configuration. He coordinated between TxDOT, the GEC, Georgetown Railroad, City of Georgetown, and Williamson County. He was also responsible for subconsultant coordination, QA/QC oversight, design scheduling, construction scheduling, estimate of probable construction costs, and bid phase services. David worked with **Tyler Brendlinger, PE, our proposed Structures Designer,** on structural designs. Tyler designed the structural elements of this project. Careful consideration was taken for potential impacts due to hauling vehicles in the quarry below, along with blast loading effects on substructure elements. The typical section was optimized to a deeper Tx I-Girder to eliminate a beam line for six-spans, lowering the overall bridge cost.

Williamson County, FM 3349 at US 79. David was the Structural Task Lead for the schematic development, the Senior Structural Technical Advisor for the development of the Phase 1 PS&E, and Constructability Reviewer responsible for verifying that the initial construction phases accommodated the complex structures. With the support of Tyler, David proposed a cost-effective steel structure bridge over UPRR and US 79 ML for the SBFR direction while only proposing a steel structure over UPRR and keeping a concrete girder over US 79 for the NBFR direction. David's project responsibilities included structural solutions that met vertical clearance requirements, and the demand in the initial phases of the project.

City of Round Rock, Kenney Fort Blvd. (Arterial A). David was the Structural Lead for Construction Engineering and Inspection (CEI) and Change-Order Design Project Manager for this project that included three bridges within a major urban arterial project. The project included a major railroad bridge overpass, and a water crossing connecting US 79 with an urban arterial. David was on-call and on the job regularly to direct and advise the client with successful solutions to these challenges.

Hays County, Kohlers Crossing over UPRR. Tyler is the Bridge Task Lead for this project. Tyler evaluated three potential alternatives, including two Tx I-Girders option bridges in conjunction with retaining walls built up to an economical height. The third option evaluated was a railroad through-plate girder bridge. He worked closely with roadway, utilities, and drainage teams to determine what the best alternative was based on cost, drainage considerations, and traffic operations. The recommended configuration was a multi-span Tx I-Girder bridge with frontage roads used to access adjacent properties. The Tx I-Girder spanned the entire UPRR ROW, using both normal and skewed substructures.

The chart below presents our relevant experience. For more project details, please refer to staff resumes in Appendix A.

Relevant Projects	Railroad Crossing	Floodplain Crossing	Steel Structure	Tx I-Girder Structure	Direct Connectors	Team Members Involved in Project
Southwest Bypass IH-35 to RM 2243	■	■	■	■	■	David Hohmann, Tyler Brendlinger, Felipe Tudtud, Philip Fulton, Shane Valentine, Brandon Hilbrich, Jacob Walker, Justin Carlton, Kemble White
FM 3349 at US 79	■	■	■	■	■	David Hohmann, Tyler Brendlinger, Felipe Tudtud, Philip Fulton, Brandon Hilbrich, Justin Carlton, Benedict Patrick
Kenney Fort Blvd. (Arterial A)	■	■	■	■		David Hohmann, Felipe Tudtud, Philip Fulton, Benedict Patrick
Kohlers Crossing over UPRR	■	■	■	■	■	David Hohmann, Tyler Brendlinger, Felipe Tudtud

PROJECT TEAM'S EXPERIENCE/QUALIFICATIONS PROVIDING ENVIRONMENTAL DOCUMENTATION AND CLEARANCE FOR ROADWAY PROJECTS IN CENTRAL TEXAS

Our Environmental Design Task Lead is **Shane Valentine, PG**. He has 24 years of project management experience with complex NEPA documentation, advanced planning, corridor planning, environmental studies, Edwards Aquifer regulations, geologic assessments and karst surveys, TCEQ water quality permits and compliance, and water pollution abatement plans (WPAPs). Shane has extensive knowledge of federal and state transportation and environmental laws and regulations, including 43 Texas Administrative Code, the National Environmental Policy Act (NEPA), 23 Code of Federal Regulations (CFR) 771, 23 CFR 450, and the Transportation Conformity Regulations (40 CFR, Parts 51 and 93).

TEAM'S EXPERIENCE/QUALIFICATIONS

Williamson County, O'Connor Blvd. Extension. This 1.7-mile $6M project connecting RM 620 to IH-45 was one of the more challenging projects to get to construction. While working on the Williamson County GEC, Shane developed the local environmental document following the decision to move forward with County funding. Shane drafted the "NEPA Light" documentation for the County funded construction of O'Connor Blvd. following cancellation of the TxDOT funded roadway due to karst related endangered species complications. He and **Kemble White, PhD, PG (Cambrian), our proposed Karst Task Lead,** drafted the environmental documentation for the roadway and assisted with the coordination and documentation of the project and karst impacts with the Williamson County Habitat Conservation Plan. Shane performed QA/QC of the archaeological survey report, coordinated of Right-of-Entry for field surveys for waters of the U.S., karst/geologic assessments, archaeological surveys, hazardous materials investigation, and threatened and endangered species coordination and mitigation.

TxDOT Austin District, US 290/SH 71 Oak Hill Parkway EIS. Shane was the Environmental Task Lead for this seven-mile, eight-lane urban, $640M highway improvement of the US 290 and SH 71 interchange in southwest Austin. As the Environmental Task Lead, Shane and **Terri Asendorf, our proposed Environmental Support**, were involved with and managed the technical studies, DEIS, FEIS, and ROD of particular interest was the geologic assessment/karst evaluation and water quality goals for the project. The geologic assessment was included in the USFWS formal Section 7 consultation for the endangered Barton Springs Salamander, and the WPAP developed for TCEQ water quality compliance.

Williamson County, Southwest Williamson County Regional Park. Shane led the Geologic Assessment and karst survey of the 800-acre Southwest Williamson County, Regional Park. He was responsible for producing the geologic assessment documentation for submittal to TCEQ for Edwards Aquifer Recharge Zone water quality permitting. The park contains dozens of high-quality karst features, including caves and sinkholes that provide habitat for endangered karst invertebrates. Shane assisted the County in the production of USFWS Section 7 and Section 10 consultation documents, permits, and negotiations of karst feature set-back limits and best management practices to meet the needs of the karst species and allow for the development of the park project.

The chart below presents our relevant experience. For more project details, please refer to staff resumes in Appendix A.

Relevant Projects	Williamson County	TCEQ Permitting	Karst	Waters of the U.S.	Endangered Species	Public Involvement	Team Members Involved in Project
O'Connor Blvd. Extension	■	■	■	■	■	■	Shane Valentine, Kemble White
US 290/SH 71 Oak Hill Pkwy		■	■	■	■	■	Shane Valentine, Terri Asendorf , Bereket Derie
Southwest Williamson County Regional Park	■	■	■	■	■		Shane Valentine
Williams Drive Improvements	■	■	■	■		■	Terri Asendorf
Southwest Bypass IH-35 to RM 2243	■	■	■	■	■	■	David Hohmann,Tyler Brendlinger, Felipe Tudtud, Philip Fulton, Shane Valentine, Brandon Hilbrich, Jacob Walker, Justin Carlton, Kemble White

AVAILABILITY

We recognize that our client's requirements vary throughout the development of the project, and we will adjust technical resource staffing as needed to meet your expectations. Our Project Manager, **Felipe Tudtud, PE**, will regularly review and assess staffing needs for the planning and design of Anderson Mill Road Extension and RM 620/SH 45 Roadway Extension. This will be accomplished through work plan meetings with task leads that will be held on a weekly basis and will include subconsultant staffing and deliverable scheduling as well. The table below lists the availability of our Project Manager, Task Leaders, and relevant staff as of the expected NTP date of December 2020. The team members listed here are fully committed and available to work on this project, and no team member listed will be replaced without prior approval by Williamson County.

Name	Project Role	% Availability to the County	Projects in Progress	% Committed to Current Workload	Completion Date
Felipe Tudtud, PE	Project Manager	70%	Williamson County, FM 3349 at US 79	20%	Aug. 2021
			TxDOT Austin District, SL 360 GEC	10%	Jun. 2023
Shane Valentine, PG	Deputy Project Manager/Environmental Task Lead	45%	TxDOT Austin District, IH-35 Capital Express	35%	Sep. 2021
			City of Austin, Corridor Mobility Program	15%	Late 2021
			TxDOT Corpus Christi District, US 77 Sinton Bypass	5%	Jul. 2021
Mark Borenstein, PE	Principal-in-Charge	30%	City of Austin, Corridor Mobility Program	50%	Dec. 2021
			Misc. Projects and Office Management	20%	On-Going
Philip Fulton, PE	Project Advisor	20%	TxDOT Austin District, IH-35 Capital Express	40%	Sep. 2021
			Williamson County, FM 3349 at US 79	30%	Aug. 2021
			City of Round Rock, CR 112 Schematic	10%	Mar. 2021
Allen Crozier, PE	QA/QC	25%	Hays County, Robert S. Light Blvd. Extension	15%	May. 2022
			TxDOT Austin District, SLC 360 GEC	45%	Jun. 2023
			Hays County, SH 21 Corridor Preservation Study	15%	Nov. 2020
Bob Leahey, PE	Schematic Design Task Lead/ RM 620 Extension Roadway Task Lead	30%	City of Austin, Corridor Mobility Program	70%	Dec. 2024
Jacob Walker, PE	Anderson Mill Road Extension Roadway Task Lead	50%	City of Taylor, City Engineering	20%	On-Going
			Hays County, Robert S. Light Blvd. Extension	20%	Mar. 2021
			City of Austin, Sidewalk Field Engineering	10%	On-Going

Name	Project Role	% Availability to the County	Projects in Progress	% Committed to Current Workload	Completion Date
Justin Carlton, PE	Roadway Design	50%	Williamson County, FM 3349 at US 79	50%	Aug. 2021
David Hohmann, PE	Structures Design Task Lead	60%	TxDOT Austin District, US 183 at IH-35 Direct Connector, Construction Phase Services	15%	Aug. 2021
			Hays County, Kohlers Crossing	10%	May. 2021
			TxDOT Bridge Division, Statewide IDIQ	10%	Dec. 2022
			Williamson County, FM 3349 at US 79	5%	Aug. 2021
Tyler Brendlinger, PE	Structures Design	65%	Williamson County, FM 3349 at US 79	30%	Aug. 2021
			NYSDOT, Kew Gardens Interchange	5%	Jan. 2021
Amanda Stahlnecker, PE	Railroad Coordination	10%	TxDOT, Grade Separation Study	20%	Jun. 2021
			UPRR, Englewood Yard	20%	Jan. 2021
			DART, D2 Subway	10%	Oct. 2020
			UPRR, Callaghan Siding Extension	10%	Nov. 2020
			UPRR, Gardendale and Yardbourough Siding Extension	10%	Feb. 2021
			Williamson County, FM 3349 at US 79	5%	Mar. 2021
			Misc. Projects	15%	On-Going
Brandon Hilbrich, PE, CFM	Drainage Design Task Lead	55%	Williamson County, FM 3349 at US 79	20%	Aug. 2021
			TxDOT Corpus Christi District, US 77 Sinton Bypass	10%	Dec. 2020
			City of Round Rock, CR 112	10%	Mar. 2021
			TxDOT Austin District, CTTS	5%	May. 2021
Lily Liu, PE, CFM	Drainage Design	50%	TxDOT Austin District, IH-35 Capital Express	20%	Sep. 2021
			UPRR, Englewood Yard Drainage Design Phase 2	15%	On-Going
			City of Austin, Williamson Creek Flood Mitigation	15%	On-Going
Derek Bohls, PE, CFM (LJA Engineering)	Drainage Design	60%	Williamson County, Liberty Hall Bypass	20%	Jan. 2020
			Williamson County, Southwest Bypass	20%	Jan. 2020

Name	Project Role	% Availability to the County	Projects in Progress	% Committed to Current Workload	Completion Date
Terri Asendorf	Environmental Support	40%	TxDOT Austin District, IH-35 Capital Express	25%	Sep. 2021
			City of Austin, Corridor Mobility Program	15%	Late 2021
			TxDOT Corpus Christi District, US 77 Sinton Bypass	10%	Jul. 2021
			TxDOT Lufkin District, US 59 Lufkin	10%	Late 2023
Kemble White, PhD, PG (Cambrian)	Karst	50%	WCCF, HCP Support Services	25%	To Be Determined
			TxDOT Austin District, SL 360 GEC	5%	Oct. 2021
			CTRMA, MoPac South	5%	2021
			Misc. Projects	15%	Dec. 2020
Bereket Derie, PhD, PG (Round Rock Geophysics, LLC)	Geophysics	50%	Confidential Project	20%	Confidential
			Confidential Project	20%	Confidential
			Confidential Project	10%	Confidential
Benedict Patrick, PE, PTOE	Traffic Operations/ Analysis	80%	City of Austin, Corridor Mobility Program	15%	Dec. 2021
			City of Round Rock, Traffic On-Call	5%	Apr. 2021
Jason Schwarz, PE (HVJ Associates, Inc.)	Geotechnical	30%	HNTB, US 181 Harbor Bridge GEC OVT	40%	Oct. 2025
			Atkins, Oak Hill Parkway	30%	Aug. 2024
Joe Webber, RPLS (McGray & McGray Land Surveyors, Inc.)	Survey	55%	Capital Metro, Orange Line	10%	Jan. 2021
			The Rios Group, QL-B SUE Survey Services	10%	Dec. 2020
			Williamson County, CR 282	10%	Nov. 2020
			Texas Parks & Wildlife, Texas Parks & Wildlife Survey RL	5%	Dec. 2020
			Misc. Projects	10%	On-Going

PROJECT UNDERSTANDING

Our team offers technical expertise and knowledge of local issues to complete this project successfully The following sections briefly discuss our understanding of the project and approach on key issues.

Environmental. Shane and his team will begin early constraints mapping and coordination with the designers to help select the alignment that avoids, reduces, or mitigates environmental impacts. Karst voids in this area may present structural and hydrogeologic constructability issues. Karst voids encountered during construction may require mitigation. The Bone Cave Harvestman (*Texella reyesi*) and Tooth Cave spider (*Tayshaneta myopica*) protected under the Endangered Species Act are known in this area. Karst surveys may need to include presence/absence investigations for endangered invertebrates. The Bone Cave Harvestmen can be mitigated by enrolling the project in the Williamson County Regional Habitat Conservation Plan (RHCP). The Tooth Cave Spider is not covered under the Williamson County RHCP and potential mitigation must be considered in project development. Jollyville Plateau Salamander (*Eurycea tonkawae*) are known to occur within springs and spring-fed channels in the Brushy Creek watershed, including the crossing at Lake Creek. An impact analysis will be necessary in this area, as well as areas where springs or spring-fed channels occur. For Environmental Clearance we anticipate a county level NEPA Lite documentation to cover applicable state and federal laws. However, if federal or state funds become available, the studies will be completed in an applicable TxDOT format that can be effortlessly submitted for TxDOT review and approval.

Drainage/Floodplain. The Anderson Mill Road extension crosses Rattan Creek within the Upper Brushy Creek Watershed Zone AE Floodplain. The RM 620 extension corridor crosses Davis Spring Branch, Lake Creek just downstream of NRCS Dam Site 8, and Rattan Creek. From experience on the CTTS Planning and Feasibility Study and FM 3349 Schematic, we aware of the current and planned future FEMA floodplain mapping updates in Williamson County and drainage design criteria changes for Atlas 14. Early coordination with the County Floodplain Administrator will be critical to establishing the baseline drainage condition and determining whether to use the City of Austin "surrogate design storm" approach or evaluate updating the project area with revised Atlas 14 rainfall data. During the schematic phase, detailed H&H models would be developed to establish revised existing conditions floodplain extents. The design intent will be to span the entire 100-year floodplain to provide no rise along each riverine system outside County ROW or easements. Impacts from additional impervious cover will be evaluated to determine detention requirements. From our experience working with UBCWCID on the Dam Risk Assessment Studies, the available Dam Sites 8 and 9 facility information will be incorporated in the existing conditions update and floodplain impact analysis.

Schematic/Roadway. From the CAMPO 2045 plan, both corridors will be a MAD 4, but with unknowns on the Robinson Ranch development and possible transit centers in this area, MAD 6 could be considered with an interim phase construction. The design team will evaluate multiple alignments and use an alignment analysis matrix to help with the decision process on the preferred alignment. We will evaluate impacts to: environment (cultural, wetlands, water quality, karst, wildlife habitats, and land use), engineering (ROW acreage, utility flood, and flood impacts), mobility (network connectivity, access and operations to Austin White Lime quarry), public input, and construction cost. We will present the results to the County, GEC, Commissioner Cook, and major stakeholders as needed. Traffic operations will need to be considered at the area of Pearson Ranch Road/FM 620/SH 45N due to the close vicinity of the two intersections. Although the proposal states that Anderson Mill Road will terminate at Loop 1, there is an opportunity to extend the roadway to FM 1325 or to connect to Grand Ave Pkwy. The team will utilize existing dedicated/reserved ROW as much as possible. We will coordinate with the TxDOT Austin District on future frontage road extensions to provide connectivity to Anderson Mill Road at Loop 1.

WPAP. The project lies within the Edwards Aquifer Recharge Zone requiring Best Management Practices (BMPs) to treat stormwater runoff from new impervious cover. Preliminary BMPs will be recommended such as vegetative filter strips, grassy swales, sand filter ponds, or jellyfish/storm troopers to assess ROW needs.

Bridge. We have preliminarily identified five features requiring grade separations to traverse. Our team has planned and designed structural solutions on projects with near-identical requirements in and around Williamson County within the last 10 years. The two bridges over the Capital Metro railroad are very similar to the SW Bypass Bridge over Georgetown Railroad and require a clear span of the railroad ROW using conventional prestressed concrete Tx I-Girder spans. The Rattan Creek Bridge will consist of a low-profile bridge using shallow, prestressed concrete beams or boxes for economy and hydraulic efficiency, similar to what we did on Kenney Fort Blvd. Finally, the crossing over McNeil/UPRR might go beyond the typical limits of an Tx I-Girder span, thus requiring steel structures like FM 3349 over US 79/UPRR crossing. A steel clear span of 200' will be required over the railroad ROW and McNeil Road. Each bridge will use TxDOT standards and precast bridge elements to the extent practical for an economical solution.

Stakeholder Coordination. The team will work proactively with the GEC and public involvement staff to develop exhibits necessary for coordination with UPRR, Capital Metro, RRISD, TxDOT, City of Austin, and Private Stakeholders, during the preliminary schematic design. The team will locate columns outside the railroad ROW.

Utilities. We will coordinate with the County's GEC to facilitate utility coordination and utility conflicts.

Appendix A: Resumes

Felipe Tudtud, PE
Project Manager

Felipe has 17 years of experience throughout Texas, including managing schematic and final design PS&E projects. His experiences include corridor planning, schematic development, urban and rural street reconstruction, pedestrian and bicycle facilities, budgeting, scheduling, employee supervision, project management, and construction management (including pre and post-construction activities).

EDUCATION
Bachelor of Science, Civil Engineering, University of Texas at Austin, 2004

REGISTRATIONS
Professional Engineer, TX, No. 104836

INDUSTRY TENURE
17 Years

HDR TENURE
5 Years

RELEVANT EXPERIENCE

Williamson County, FM 3349 at US 79, Williamson County, TX. Roadway Task Lead and Deputy Project Manager. This project involved the development of a 3.1-mile access control facility, including mainlanes, frontage roads, two major freeway interchanges, eight direct connectors, and shared-use path for Williamson County. He is currently the Roadway Task Leader for the PS&E development of the 3.1 mile Phase 1 Construction consisting of curb and gutter frontage roads. Felipe and the bridge group were able to propose a cost-effective bridge over UPRR and US 79 ML while accommodating for future developments that might require a separate rail or roadway network underneath the bridges in addition to the UPRR line. Felipe's project responsibilities include horizontal/vertical alignments, ROW determination, retaining wall design, vertical clearance calculations, typical sections, cost estimate, and cross-sections.

Williamson County, Corridor C SH 29 Bypass from SH 130 to SH 29, Georgetown, TX. Roadway Task Lead and Deputy Project Manager. Felipe was the Roadway Task Lead and Deputy Project Manager for the schematic development of a 4.5 mile new alignment access control facility, including mainlanes, frontage roads, three major freeway interchanges, eight direct connectors (DCs), and shared-use path for the County. He implemented the use of OpenRoads Technology since the team had multiple alternative routes and environmental constraints under consideration. Using OpenRoads technology helped reduce the time to develop a conceptual schematic and identify the limits of construction. Through this implementation, Felipe reduced the time for a redesign to consider different environmental constraints, accurately locate retaining walls, identify proposed ROW with better precision than 100-ft cross-sections, and create a 3D model for visualization purposes. Felipe's project responsibilities included horizontal/vertical alignments, retaining wall locations, vertical clearance calculations, typical sections, cross-section, quantities and estimate, and coordination with environmental, drainage, structures, and public involvement task leaders.

TxDOT Austin District, Loop 360 GEC, Austin, TX. GEC Project Manager. Felipe was the GEC Project Manager for the RM 2244 to Loop 1 segment. This segment is proposed to be a full access control facility, including mainlanes, frontage roads, three-grade separation intersections, and shared-use path for TxDOT Austin District. Felipe worked closely with the consultant designers to develop ramp configuration alternatives and overpass/underpass options to satisfy stakeholder comments. Through close coordination, the designers were able to eliminate options that were not unfeasible and provide documentation if requested by the stakeholders. As the GEC Project Manager

FELIPE TUDTUD, PE (CONTINUED)

for the Segment, Felipe's responsibilities included coordination with the environmental group, public involvement, utility group, and design consultants. Design consultants include roadway, drainage, and structure groups. Felipe had weekly meetings with the TxDOT Project Manager for coordination.

TxDOT Austin District, Central Texas Turnpike System Planning and Feasibility Study, Travis and Williamson Counties, TX. Schematic Task Lead. Felipe was the Schematic Task Leader overseeing conceptual schematic design improvements for Loop 1, SH 45N, SH 130, and SH 45SE toll facilities. The projects were broken up into short/mid/long-term enhancements based on a prioritization matrix for each of the corridors. He had weekly meetings with the traffic and design groups to break down this large project into smaller pieces. With this approach, multiple teams were able to continue working seamlessly. Felipe's project responsibilities included horizontal/vertical alignments, retaining wall locations, vertical clearance calculations, typical sections, cross-section, quantities and estimate, and coordination with the traffic, environmental, drainage, and structures group.

City of Round Rock, Kenney Fort Blvd. (Arterial A), Round Rock, TX. Schematic Engineer, Drainage Task Leader, and Lead Project Engineer. Felipe was the Schematic Engineer for the alignment alternatives and schematic of a 1.3 mile new six-lane major divided arterial for the City. The proposed road provided a connection between existing dead-end roads of Joe DiMaggio Blvd. and Forest Creek Dr. The schematic was for the six-lane major divided arterial and initial PS&E for a three-lane section. After the traffic impact study, the City decided to build the six-lane arterial. Felipe was the Drainage Task Leader and Lead Project Engineer for the PS&E. The project consisted of curb and gutter, shared-use paths, retaining walls, two bridge structures (UPRR railroad bridge and bridge over Brushy Creek), and a close storm sewer system from Joe DiMaggio Blvd. to Forest Creek Dr. Felipe's responsibilities included roadway drainage design, refinement of the horizontal/vertical alignments, cross-section generation, retaining wall layouts, signing and striping, SW3P, quantities and estimates, request for information questions, and coordination with subconsultants and surveyor.

TxDOT Austin District, IH-35 from RM 2243 to Inner Loop, Georgetown, TX. Deputy Project Manager and Roadway Task Lead. Felipe was the Deputy Project Manager and Roadway Task Lead for the schematic development of a 0.9 mile urban interstate interchange, including SB frontage road, braided ramps, cross street improvements, and shared-use path. The initial design on this project was a partial continuous flow intersection (CFI) due to traffic improvements. After several meetings with the GEC and TxDOT staff in which Felipe and others highlighted challenges with access to adjoining property owners, TxDOT requested the team to look at conventional interchange improvements. Felipe worked closely with the traffic lead and provided an alternative to the partial CFI. The conventional interchange improvement provided better access to property owners, and thus the design was pushed forward. Felipe led internal meetings with environmental, drainage, structures, and public involvement task leads. He was responsible for horizontal/vertical alignments, 3D model, retaining wall locations, vertical clearance calculations, conceptual traffic control plan, typical sections, cross-section, and quantities and estimates.

City of Georgetown, Southwest Bypass, Georgetown, TX. Lead Schematic Engineer and Drainage Task Lead. Felipe was the Lead Schematic Engineer for the development of a 1.8 mile new alignment access control facility for the City of Georgetown. This project included the design of a six-lane divided highway over the San Gabriel River from RM 2243 to SH 29 west of IH-35. Felipe was also the Drainage Task Lead for the PS&E interim project. This included ditch design, WPAP, erosion control, and culvert crossing. Felipe's responsibilities for the schematic included alternative alignments to avoid karst features, cross-section generation of the divided highway, preliminary water quality features, and quantities and cost estimates.

City of Georgetown, Wolf Ranch Parkway, Georgetown, TX. Roadway and Drainage Task Lead. Felipe was the Roadway and Drainage Task Lead for the schematic and PS&E. The schematic was for a new five-lane minor arterial ultimate section that connected the proposed SW Bypass to DB Woods. With a challenging existing terrain, horizontal/vertical alignments were designed to minimize the ROW limits and avoid major impacts to the known karst features in the area. The PS&E consisted

FELIPE TUDTUD, PE (CONTINUED)

of using the horizontal and vertical alignment of the ultimate section. This project is in the Edwards Aquifer Recharge Zone, and therefore Felipe led the effort in the preparation of a water pollution abatement plan, both permanent and temporary. In addition, Felipe's responsibilities included cross culvert analysis and design, SW3P, signing and striping, cross-section generation, quantities, and cost estimate, and coordination with the City and environmental subconsultants.

TxDOT Austin District, IH-35 from Rundberg Lane to US 290E, Austin, TX. Roadway Task Lead and Deputy Project Manager. This project involved the schematic development of a 1.2 mile urban interstate facility on IH-35 from Rundberg Lane to US 290E. The improvements included frontage roads, two major freeway interchanges, four DCs, two collector distributors, and a shared-use path. With the improvements located at the heart of a commercially developed corridor, minimizing stakeholder impacts was critical. Felipe created the horizontal/vertical alignments for four DCs along with the other alignments; IH-35 NB to US 183 NB (partially reconstructed DC), IH-35 SB to US 183 SB (new), US 183 NB to IH-35 NB (new), and IH-35 SB to US 183 NB (new). At the initial phase of the schematic, only two new DCs were proposed (IH-35 SB to US 183 SB and US 183 NB to IH-35 NB). Felipe further evaluated the TCP for IH-35 NB to US 183 NB. During the evaluation, it was determined that IH-35 SB to US 183 NB DC would be a great value to add to the project since it could be used as a detour route when IH-35 NB to US 183 NB was under construction. Felipe designed the DCs to meet future US 183 SB to IH-35 NB DC by verifying that future vertical clearances were met, the future DC could tie-in to US 183 NB to IH-35 NB DC, and reasonable vertical grades for DCs. Felipe used 3D modeling to refine the horizontal/vertical alignments and determined locations of retaining walls to avoid impacts to parking spaces and commercial buildings. Felipe's responsibilities included typical sections, cross-sections, quantities and estimate, participation in the public meeting and hearing, and coordination with other task leaders and subconsultants for the project.

TxDOT Pharr District, FM 676 from SH 364 to SH 107, Alton, TX. Project Manager. Felipe led the schematic development and PS&E of a 2.4 mile FM Road. The reconstruction consisted of improving a two-lane roadway to a four-lane plus a continuous left-turn lane, right-turn bays at major intersections on FM 676, and left-turn lanes on the intersecting streets for TxDOT Pharr District. As the Project Manager, Felipe participated in a public hearing and he listened to concerns from the residents in one area due to the roadway getting closer to their houses without ROW acquisition. Felipe talked through the design with the residents and other issues being solved and encouraged the residents to provide an official comment so the State could provide an official response. Felipe believes in holistic discussion to provide a more comprehensive design

TxDOT Lufkin District, US 59 from FM 2914 to SL 573, Shepherd and Cleveland, TX. Project Manager. Felipe led the schematic development of a 6.6 mile US highway conversion to future Interstate facility. The project included mainlanes, frontage roads, two overpasses, ramps, six creek crossings, and multiple wetland crossings. The TxDOT Project Manager stated that it was difficult to obtain approval on permits for wetland impacts on her other projects, so the team proactively recommended bridge structures to minimize impacts to the wetlands. Felipe led weekly internal meetings with the drainage, structures, and public involvement leads and held external project updates with TxDOT's Project Manager, and managed the schedule, budget, and quality of the design. Felipe supervised the schematic design, drainage report, and environmental assessment for the project.

TxDOT Austin District, Loop 82 Reconstruction Project, San Marcos, TX. Drainage Task Leader and Roadway Project Engineer. The project included the reconstruction of the five-lane roadway from Thorpe Lane to Charles Austin Drive. The project included the grade separation of Loop 82 and a new at-grade crossing for Texas State University students using the parking lot or going to the football games. Felipe designed the roadway storm sewer drainage, cross-section generation, and assisted in the refinement of the horizontal and vertical alignment of the roadway.

Shane Valentine, PG

Deputy Project Manager, Environmental Task Lead

Shane is a Professional Geoscientist registered in the State of Texas. He has 24 years of project management experience with complex National Environmental Policy Act (NEPA) documentation, advance planning, corridor planning and environmental studies, Edwards Aquifer regulations, geologic assessments, karst surveys, as well as Texas Commission on Environmental Quality (TCEQ) water quality permits and compliance. Shane has extensive knowledge of federal and state transportation and environmental laws and regulations, including the 43 Texas Administrative Code, the National Environmental Policy Act (NEPA), 23 Code of Federal Regulations (CFR) 771, 23 CFR 450, and the Transportation Conformity Regulations (40 CFR, Parts 51 and 93).

EDUCATION
Master of Science, Geological Sciences, University of Texas Austin, 2004

Bachelor of Science, Geology, Cornell College, 1997

INDUSTRY TENURE
24 Years

HDR TENURE
4.5 Years

RELEVANT EXPERIENCE

Williamson County, O'Connor Blvd. Extension, TX. GEC Environmental Lead. The 1.7-mile ~$6M O'Connor Blvd. Extension project connecting RM 620 to IH-45 was one of the more challenging projects to get to construction. While working on the Williamson County GEC, Shane developed the local environmental document following the decision to move forward with county funding. He drafted the "NEPA Light" documentation for the County funded construction of O'Connor Blvd. following cancellation of the TxDOT funded roadway due to karst related endangered species complications. He drafted the environmental documentation for the roadway and assisted with the coordination and documentation of the project and karst impacts with the Williamson County Habitat Conservation Plan. Shane performed QA/QC of the archaeological survey report, coordination of right-of-entry for field surveys for waters of the U.S., karst/geologic assessments, archaeological surveys, hazardous materials investigation, and threatened and endangered species coordination and mitigation.

TxDOT Austin District, US 290/71 Oak Hill Parkway Environmental Impact Statement (EIS), Austin, TX. Environmental Task Lead. Shane led the seven-mile, eight-lane urban, $640M highway improvement of the US 290 and SH 71 interchange in southwest Austin between Loop 1 (MoPAC) and FM 1826. As the Environmental Task Lead, he was involved with and managed the technical studies, Draft Environmental Impact Statement (DEIS), Final Environmental Impact Statement (FEIS), and Record of Decision (ROD). Of particular interest was the geologic assessment/karst evaluation and water quality goals for the project. The geologic assessment was included in the USFWS formal Section 7 consultation for endangered Barton Springs Salamander and the Water Pollution Abatement Plan (WPAP) developed for TCEQ water quality compliance.

Williamson County, Williams Drive Improvements Categorical Exclusion (CE) and Geologic Assessment, TX. Karst Task Lead. The two-mile, $20M Williams Drive improvements project reconstructed the Williams Drive intersection with IH-35, added and improved frontage roads, and included collector-distributor ramps and a shared-use path. Shane was responsible for a karst survey of areas in the Edwards Aquifer Recharge Zone and development of the Geologic Assessment document for submittal to TCEQ as part of the WPAP.

SHANE VALENTINE, PG (CONTINUED)

Southwest Williamson County, Regional Park, Leander, TX. Karst Investigation Lead. Shane led the Geologic Assessment and karst survey of the 800-acre SWWCRP. He was responsible for producing the geologic assessment documentation for submittal to TCEQ for Edwards Aquifer Recharge Zone water quality permitting. The park contains dozens of high-quality karst features including caves and sinkholes that provide habitat for endangered karst invertebrates. Shane assisted Williamson County in the production of USFWS Section 7 and Section 10 consultation documents, permits, and negotiations of karst feature set-back limits and best management practices to meet the needs of the karst species and allow for development of the park project.

Williamson County, RM 620 Interim Improvements, Williamson County, TX. Project Manager. Shane was the Project Manager for the NEPA document preparation. The project is located within the Edwards Aquifer Recharge Zone and therefore required a Water Pollution Abatement Plan and Geologic Assessment for TCEQ approval. In an effort to reduce traffic congestion and increase safety along RM 620 right-turn lanes were designed for the six busiest intersections on RM 620 between IH-35 and SH 45: Deep Wood Drive, Cornerwood Drive, Great Oaks Drive, Oaklands Drive, O'Connor Blvd. and Wyoming Springs Drive. The main environmental issue associated with these projects was the proximity of numerous karst features within the Edwards Aquifer Recharge Zone. These features are protected from a water quality standpoint by the TCEQ, and some are habitat for threatened or endangered species. The karst features were negotiated with the TCEQ and buffer zones were established for each in order to preserve water quality and endangered karst species.

TxDOT Dallas District, IH-35 improvements between US 380 and FM 3002, Denton, TX. Environmental Task Lead. This 15 mile project widened IH-35 from six to eight lanes, with frontage roads and replace the IH-35/US 380 intersection with a new multilevel interchange with direct connectors. Shane was the Environmental Task Lead for this project and managed the technical studies, Draft EA, public hearing, Final EA, and Finding of No Significant Impact (FONSI). The project included the relocation of more than 20 residents and business due to tight ROW constraints, numerous individual WOUS crossings, archaeological surveys, and a lesson learned to involve the environmental team in design discussions throughout the project. A late stage design change shifted the alignment close to a historic residence that had the potential to cause a Section 4(f) impact. Working with the TxDOT District and Design team, we were able to shift the design away from this structure to avoid impacts.

TxDOT Corpus Christi District, US 181 Harbor Bridge Project EIS, Corpus Christi, TX. Environmental Task Leader. The $1.2B, US 181 Harbor Bridge replaces the existing Corpus Christi Harbor Bridge connecting downtown Corpus Christi to Rincon Point (North Beach) across the Corpus Christi Ship Channel, approximately 1,200 ft west of the original bridge. The Corpus Christi Ship Channel serves the Port of Corpus Christi, and the new bridge will permit larger (post-Panamax) ships to pass beneath, with a 205-foot clearance compared to the existing 138 feet. The project included reconstruction of portions of US 181, IH-37, and the Crosstown Expressway (SH 286), including a new interchange at IH-37 and the Crosstown Expressway in downtown Corpus Christi that will realign how the bridge connects to these freeway corridors to the south and eliminate existing design deficiencies. Shane Valentine was responsible for oversight for the DEIS and FEIS process and schedule management to reduce the schedule by over one year. He provided guidance and coordination on the NEPA team response to DEIS and FEIS comments from the TxDOT Environmental Division, Design Division, FHWA, HUD, USACE, and EPA. Shane provided guidance and review to the engineering and EIS team, coordinated between the procurement and NEPA team, and assisted with NEPA compliance, USACE, and USCG permit applications. He also provided guidance on preparation of a Community based Livability Plan to serve as environmental justice mitigation for the project.

Mark Borenstein, PE

Principal-in-Charge

Mark has 24 years of experience in civil engineering and management of transportation facilities including extensive experience with public involvement on complex and controversial projects. He also has vast experience in other areas of plan development such as bridge design, drainage design, transportation studies, roadway design, ADA compliance, planning and design of pedestrian and bicycle facilities, and the incorporation of aesthetic plans in transportation projects. He has served as Project Manager on numerous projects and programs for local municipalities, Counties, and TxDOT and has experience working on mega-programs throughout the Unites States.

EDUCATION

Master of Science, Civil Engineering (Emphasis Structural Engineering/ Minor Geotechnical Engineering), Cornell University, 1995

Bachelor of Science, Civil Engineering, Bucknell University, 1994

REGISTRATIONS

Professional Engineer, TX, No. 92239

Professional Engineer, LA, No. 35825

Professional Engineer, MA, No. 41416

INDUSTRY TENURE

24 Years

HDR TENURE

21 Years

RELEVANT EXPERIENCE

City of Austin, Corridor Mobility Program, Austin, TX. Project Manager. We are providing program management, project delivery and staff augmentation for the City of Austin's 2016 Mobility Bond Corridor Program. The 2016 Mobility Bond is the City's largest transportation bond to date. Voters approved $720M in funds for local, corridor and regional transportation and mobility improvements. The City allocated $482M for Corridor Improvements Projects. The Mobility Bond Corridor Program is an eight-year program to prioritize and implement mobility improvements recommended in the City's Corridor Mobility Plans for nine crucial principal arterials in Austin's transportation network. The cost to implement the recommendations in the Corridor Mobility Plans exceeds the amount of funding available through the Mobility Bond. We assisted the City in defining identifiable metrics to prioritize recommendations brought forth for the Corridor Improvements. These included: reduction in congestion; improved level-of-service and reduced delay at intersections for the modes of travel; connectivity; and improved effectiveness of transit operations within the corridors and throughout the system. Other considerations included: preservation of existing affordable housing and local businesses on the corridors; opportunities for development of new affordable housing along the corridors; geographic dispersion of funding; and opportunities to facilitate increased supply of mixed-income housing. Our team developed evaluation criteria and a prioritization methodology to assist the City in identifying which infrastructure recommendations should be funded through the 2016 Mobility Bond. An Excel-based Prioritization Model was then developed to facilitate a flexible, but data-intensive, assessment of each of the 34 recommendations. We are working with the City to implement and oversee improvements recommended in the Corridor Construction Program through the phases of project development. Our program delivery services included advising environmental studies, topographic and boundary surveying, preliminary engineering, final design, development of specifications and estimates, construction project, sequencing, procurement methods, small and minority business outreach and engagement, and performance monitoring. We are also augmenting the City's communications staff to develop an extensive communications and community outreach plan, to inform the public of the prioritization process and the resulting Corridor Construction Program. Additionally, we are assisting the City with utility coordination, real estate services, professional services contract management, risk management, and development of robust program management information systems and project controls.

MARK BORENSTEIN, PE (CONTINUED)

TxDOT Austin District/City of Austin, MoPac Mobility Improvements, Austin, TX. Project Manager. Mark led this study and PS&E for the MoPac bicycle Bridge at Barton Creek. This MoPac corridor is a primary route for both recreational and commuter bicycle traffic. No reasonable alternative route was available for bicycle traffic to cross Barton Creek or Loop 360 to continue along this popular corridor. Through the course of the preliminary analysis an alternatives study was completed that included the development of a shared-use path from the southern terminus of the sidewalks along the MoPac Frontage Road at Tamarron Blvd. and Tuscan Terrace to south of Barton Creek. The preferred alignment was developed considering bicycle traffic patterns, options for separating bicycles from the mainlanes, and merging bicycles with vehicular traffic on the frontage roads without creating a safety hazard, and safety improvements to the frontage roads to accommodate the merges. While the project goals did not require full accommodations for pedestrian use, the preferred alignment was successfully developed considering pedestrian access and the design is ADA compliant.

City of San Marcos, Aquarena Springs Drive Corridor Improvement Project, San Marcos, TX. Project Manager. Mark was responsible for the development of the schematic, environmental document and PS&E for the corridor enhancement project. The program included the reconstruction of the five-lane roadway with an at-grade crossing of the UPRR as railroad grade separation as well accommodations for pedestrians, bicycles and implementation of innovative intersection coordinated to enhance mobility for modes of transportation. Mark developed multiple projects to maintain connectivity for the nearby intersections and access to adjacent properties including the Texas State Stadium and Texas State University. The key to the success of the project was Mark's hands-on approach to public involvement and public outreach. Mark met individually with representatives from Texas State University to outline their issues and develop solutions to gain their support. In addition, Mark met with representatives from Save Our Springs and other environmental stakeholder groups early in the process to develop a comprehensive approach to drainage and water quality impacts to the many endangered species of Spring Lake and the San Marcos River. Exhibits describing the projects impacts as well as illustrations and renderings were prepared to provide options and alternatives to gain consensus for a successful project for parties. We conducted a series of workshops with representatives of 15 University departments that brought the University into the design process.

City of Round Rock, Kenney Fort Blvd. UPPR Bridge, Round Rock, TX. Design Engineer. Mark led the PS&E for the new construction of a four-span underpass at US 79. The project featured a 160 foot steel railroad underpass bridge which will provide access for the four-lane divide arterial roadway. ADA compliant pedestrian access was accommodated with the addition of eight foot wide sidewalks and controlled pedestrian crossings. The roadway and pedestrian facilities provide a much needed and safe grade separation access across a major highway and UPRR rail line.

City of Round Rock, CR 122 Reconstruction, Round Rock, TX. Project Manager. Mark led the reconstruction of CR 122 over Brushy Creek. As part of the TxDOT bridge replacement program, Mark led the project to develop the schematic, environmental document, and PS&E for the complete reconstruction and widening of the roadway from a two-lane rural section to a four-lane divided urban section. Mark oversaw the completion of the Environmental Documents, development and coordination of the railroad agreement, FEMA coordination, utility relocation, and production of the bid documents, which were prepared for and reviewed by the TxDOT Austin District. The project included an at-grade railroad crossing, signal design with railroad preemption at the intersection of US 79 located 75' from the railroad tracks, railroad coordination, and utility relocation. Mark led the railroad coordination under an expedited schedule. The at-grade crossing was built in three phases. Mark coordinated with the UPRR during construction so that UPRR personnel were prepared for each phase of construction verifying there were no delays in the construction schedule.

Philip Fulton, PE
Project Advisor

Philip is a Senior Roadway Project Manager in HDR's Round Rock office. He has 35 years of experience managing transportation design projects from urban street reconstruction to rural FM roads and complex freeway/toll road facilities. His experience includes traditional PS&E development for city, county, and TxDOT clients, as well as alternative delivery P3 projects. Philip's office management experience also includes managing HDR's highway/bridge department, completing employee evaluations, quality control, and mentoring junior staff. His responsibilities also include completing QA/QC reviews for many of the projects in HDR's Austin, Round Rock, and San Antonio offices for municipal, county, and TxDOT clients. Philip also has experience on several GEC and Program Management Consultant (PMC) contracts. This experience includes reviews of preliminary engineering reports, schematic, and PS&E deliverables packages to verify compliance with program design criteria and consistency with client expectations.

EDUCATION
Master of Business Administration, University of Texas at Austin, 1989

Bachelor of Science, Engineering, State University of New York, 1983

REGISTRATIONS
Professional Engineer, TX, No. 73469

INDUSTRY TENURE
35 Years

HDR TENURE
13 Years

RELEVANT EXPERIENCE

Williamson County, FM 3349 at US 79, Williamson County, TX. Project Manager. Philip is the Project Manager for development of the ultimate schematic for a fully directional interchange over the UPRR and US 79 including ultimate drainage design, ROW determination, and UPRR Exhibits. Philip currently is developing the PS&E package for the Phase 1 Interim project.

City of Georgetown, Southwest Bypass from FM 2243 to Wolf Ranch Parkway, Georgetown, TX and Williamson County, Southwest Bypass from IH-35 to FM 2243, Williamson County, TX. Schematic Task Lead. Philip led the schematic development for these two segments of the Southwest Bypass, including interchanges at SH 29 and IH-35. The initial schematic design included roadway geometry, bridge layouts, preliminary drainage design, and incorporation of water quality BMPs in accordance with the TCEQ Edwards Aquifer Rules. Once these two projects advanced into the PS&E phase, Philip completed quality control reviews at each stage of project development.

TxDOT Austin District, SL 360 Program GEC, Austin, TX. Project Sponsor. Philip was the Project Sponsor for the overpass projects at Spicewood Springs Road and at Lakewood Drive. He provided design direction to the Design Consultant and completed detailed QC reviews for schematic and PS&E roadway, drainage, and structural submittal packages. He also was responsible for coordinating the ready-to-let process, which included environmental, ROW, and utility program staff.

City of Austin, Corridor Mobility Program, Austin, TX. Technical Reviewer. Philip performed QC reviews for submittals by design consultants, including schematic design, traffic control plans, cost estimates, Preliminary Engineering Reports (PERs), design criteria, and traffic reports. His QC reviews included the following projects in the corridor program: North Lamar Blvd., South Lamar Blvd., Burnet Road, Airport Blvd., East MLK Blvd., East Riverside Drive, Guadalupe Street, William Cannon Drive, and Slaughter Lane. Philip reviewed the following PERs and cost estimates from the substandard street program: Circle S. Road, Cooper Lane, Davis Lane, FM 1626, Latta Drive/Brush Country, and Ross Road

PHILIP FULTON, PE (CONTINUED)

TxDOT Dallas District, IH-35E Managed Lanes, Dallas, TX. Segment 1 Roadway Design Manager. This project included a 5.5-mile segment of interstate reconstruction. This segment included a three-level interchange with Belt Line Road over two separate railroads (Burlington Northern Santa Fe Corp and Fort Worth and Western Railroad). He completed coordination with the structures team to calculate horizontal and vertical clearances, span lengths, and structure depths for both Exhibit "A" permit documents. Additional responsibilities included the development of corridor-wide general notes, specifications, and standards. Responsible for completing quality control reviews in accordance with the development contract and Design Quality Management Plan.

City of Round Rock, Kenney Fort Blvd. (Arterial A), Round Rock, TX. Deputy Project Manager. This project included a six-lane major arterial on a new alignment with two stream crossings and a UPRR underpass. Philip completed roadway geometric design, storm sewer design, retaining wall geometry, traffic control plans, stormwater pollution prevention plan, and signing and striping as well as Exhibit "A" for UPRR permitting. He also coordinated the utility adjustments, geotechnical design, and the engineering design with adjacent segments of this major corridor.

TxDOT Austin District/Texas Turnpike Authority Segments, 1-4, SH 130, Central, TX. Segment 2 Roadway Design Manager. Philip was responsible for the roadway design of Sections 5 through 10, including the schematic refinements, grading and drainage packages, and 100% final design packages. He coordinated roadway design with other disciplines, including drainage, traffic control, utility relocations, and structural. Philip developed design task protocols, standard details, specifications, and general notes. Philip also completed technical and interdisciplinary reviews and documentation for other segments. Section 5 included a three-level interchange with the mainlanes over the UPRR and the frontage roads in an underpass. He completed a 3D model of the interchange used to determine bridge header banks and retaining wall geometry, and coordinated bridge layouts and Exhibit "A" permit documents.

City of San Marcos, Loop 82 at UPRR Overpass, San Marcos, TX. QC Manager. This project included a new UPRR overpass and realigned at-grade street/pedestrian crossing. Philip completed detailed QC reviews of the schematic and PS&E deliverables at each milestone submittal, including preparation of Exhibit A for permitting and utility coordination for the relocation of city water/wastewater lines.

TxDOT Austin District, Loop 1 Segment 2 Toll Road, Austin, TX. Deputy Project Manager. Philip was responsible for PS&E of the two-mile toll road extension. He oversaw plan production and subconsultant management and task leaders for roadway geometry, retaining wall design, signing, markings, and traffic control plans. Philip reviewed plans for QA/QC and coordination between design disciplines and utility conflicts.

Hays County, Priority Road Program GEC, Hays County, TX. Technical QC Oversight. Philip provided the technical QC oversight for the plan development for the individual projects in the program, which included 22 separate projects. This included the preparation of comment tracking logs and comment closeout. Other responsibilities included a review of consultant project scope and fee, management of technical submittal reviews as well as coordination with TxDOT and design consultant staff. Philip attended comment review/resolution meetings with TxDOT Austin District personnel and the consultant.

Technical Quality Control Reviews, Urban Street Reconstruction and Highway Projects, Statewide, TX. QC Reviewer. As a QC reviewer in the Round Rock office, Philip is responsible for QC review of PS&E projects throughout Central Texas. Examples include City of San Antonio - Reed Road Improvements, TxDOT Austin District - SH 45 at Parmer Lane, TxDOT Waco District – FM 236, City of Cedar Park – Little Elm St., Universal City - Kitty Hawk Road, City of New Braunfels - Walnut Avenue Reconstruction, City of Austin – Bolm Road, and City of Pflugerville, Pflugerville Parkway.

PHILIP FULTON, PE (CONTINUED)

City of Killeen, SH 195/SH 201 Widening, Killeen, TX. Deputy Project Manager. Philip prepared the PS&E package for the widening of SH 201 for three miles under TxDOT's Pass-Through Financing Program. Improvements included the widening of an existing two-lane facility by two additional travel lanes, raised median, signing, pavement markings, traffic control, erosion control, pavement assessment, pavement design, utility coordination, and field surveying. The PS&E package used city bidding documents and TxDOT specifications.

City of Pflugerville, Pflugerville Parkway, Pflugerville, TX. Transportation Engineer. This project included the reconstruction and extension of Pflugerville Parkway from a two- lane to a four-lane arterial for five miles. Philip prepared final PS&E documents and provided construction phase services. The project incorporated TxDOT criteria based on the 4c funding provided by CAMPO. The design included roadway geometry, traffic control plan, signing, pavement markings, utility relocations, and storm sewer systems.

TxDOT Pharr District, US 281 Reconstruction, Pharr, TX. Deputy Project Manager. This project included the seven-mile schematic and four-mile PS&E for urban freeway reconstruction. He completed design including roadway geometry, retaining wall design, utility coordination, signing, traffic control plan, small roadside signing, large overhead signing, and pavement markings, and design of intelligent transportation system (ITS) relocations including detector loops, variable message signs, and cabinets. Philip coordinated subconsultants for drainage, illumination, and traffic signals and attended coordination meetings as necessary to use existing irrigation channels for outfall drainage and to define drainage easements.

Allen Crozier, PE
QA/QC

Allen has 29 years of transportation design experience with 20 years of experience in leading multi-discipline design teams on transportation planning and design projects. Allen has developed a reputation for consistently delivering projects with quality results. He has proven experience successfully leading diverse teams of professionals and providing interdisciplinary coordination between architects and civil site design staff (roadway, structural, H&H, traffic control, utilities and environmental) to reach desired results. He has also been responsible for leading the coordination of utility relocations, ROW acquisitions, water and wastewater designs, preparation of hydrology and hydraulic studies and reports, and directing on-site construction inspection activities. In addition to his project design and management experience, Allen also has significant civil construction experience, which enables him to assist in developing construction details, which lower the potential problems during construction. Due to this experience, Allen understands the importance of having construction documents that clearly define the work to be performed and long-term performance requirements.

EDUCATION
Master of Science, Civil Engineering (Structures), Texas A&M University System, 1992

Bachelor of Science, Civil Engineering, Texas A&M University System, 1990

REGISTRATIONS
Professional Engineer, TX, No. 81450

Professional Engineer, AZ, No. 41694

Professional Engineer, UT, No. 7618909-2202

INDUSTRY TENURE
29 Years

HDR TENURE
13 Years

RELEVANT EXPERIENCE

Hays County, Robert S. Light Blvd. Extension Project (Buda Truck Bypass), Buda, TX. Project Manager. Allen led the preparation of the NEPA compliant environmental assessment document, design schematic, ROW and maps, and preparation of PS&E for the extension of Robert S. Light Blvd. approximately 1.8-miles from RM 967 to FM 1626 across Edwards Aquifer recharge, contributing and transition zones. The project included the addition of dedicated left-turn lanes from RM 967 and FM 2770 onto the Truck Bypass, traffic signal warrant studies and safety lighting at the RM 967, FM 2770 and FM 1626 intersections, utility coordination, survey, geotechnical studies, pavement design, H&H design, water pollution abatement plan, signing, pavement marking, bridge design and UPRR coordination. The design schematic showed the proposed ultimate section with two 12-ft lanes and 10-ft shoulders in each direction with a 48-ft (edge of travel way to edge of travel way) center grassy median. The environmental document cleared the full ROW width for the proposed ultimate section.

Hays County, 2008 Priority Road Bond Program, Hays County, TX. Project Manager. We were retained by Hays County to provide program management services for their $58M road construction program. We are responsible for overseeing the development of the phased improvement program. This includes securing and managing the engineering and management professionals providing design, geotechnical, landscape design, utility relocation and coordination, environmental and legal services for the road bond program. Allen was responsible for reviewing and negotiating consultant scopes and fees, reviewing and approving consultant invoices, coordinating technical reviews of submittals, serving as the County representative at construction progress meetings as well as coordination with county commissioners, judge, engineer, attorney, auditor and overall project coordination with project design consultants for projects located in four County precincts.

ALLEN CROZIER, PE (CONTINUED)

City of Kyle, Lehman Road Reconstruction, Kyle, TX. Project Manager. This project consisted of the full depth reconstruction and widening of 1.6 miles of Lehman Road from FM 150 to Goforth Road in the City of Kyle, Texas. The existing roadway surface was uneven and narrow due to having 2 – 10' lanes. The roadway also had low water crossings at Plum Creek and an unnamed tributary to Plum Creek which overtopped under very low frequency rain events. In addition, a portion of the roadway was within a floodplain created by a soil conservation service dam, therefore, once the roadway is overtopped, it remained closed for up to two to four weeks after a significant rain event. Lehman High School was on the northern end of the project limits. Lehman Road was a primary route for school buses servicing this school. When the roadway was overtopped, the detour became significant. We proposed widening the road to a four lane section at the intersection with FM 150 and Goforth Road with a continuous left-turn lane in between. The project scope of work included the preparation of a due diligence environmental document, acquisition of ROW, survey, utility coordination, subsurface utility engineering, preparation of a design schematic, preparation of PS&E documents, and bid phase and construction phase services.

City of Gainesville, Pecan Creek Flood Damage Reduction Project, Gainesville, TX. Project Manager. This project consisted of the replacement of six bridge structures as part of the Pecan Creek Flood Damage Reduction project for the City of Gainesville, Texas. The Pecan Creek channel was widened to increase capacity and minimize flooding during extreme rain events by the United States Army Corps of Engineers (USACE). As a result, bridges on six of the roadways needed replacement to accommodate the new channel section. One on-system and one off-system bridge replacement were completed through a contract with the Wichita Falls District of TxDOT. The remaining bridge replacements were part of the contract with the City. The scope of work for both contracts included the preparation of the Categorical Exclusion environmental documents, utility relocation coordination as well as development of the complete PS&E package including of the horizontal/vertical alignments, typical sections, hydraulic design, traffic control plans, stormwater pollution prevention plans, signing, striping, removal details, bridge layouts and bridge details. Allen personally performed bridge designs for the project. Bridge designs included minimizing the superstructure depth to obtain a two foot freeboard over the 25-year design event for the on-system bridge and over the 10 year design event for the off-system bridges. The minimal superstructure depth permitted the proposed vertical profile to closely match the existing profile reducing the need for additional ROW minimizing the roadway reconstruction required. Since both projects ran concurrently with the design of the channel improvement project, close coordination with the TxDOT Wichita Falls District and Gainesville Area office staff, USACE, utility companies, and the City of Gainesville was required to verify successful completion of construction documents for all parties involved. Allen also provided construction management services for the City on this project. The City provided daily field construction inspection and material testing services. We were responsible for review and approval of material test reports, issue notifications of unacceptable work as necessary, review and processing of contractor pay applications, respond to contractor requests for information, review and processing of contractor change order requests, as well as coordinate and lead monthly construction progress meetings.

Bob Leahey, PE

Schematic Design Task Lead/RM 620 Extension Roadway Task Lead

Bob is HDR's Texas Highways and Local Roads Business Class Leader. He has 33 years of expertise in multi discipline/multi-modal roadway schematic development, roadway design (urban and rural), schematic design and PS&E for urban and rural projects utilizing both traditional and alternative project delivery methods. He has led project development activities on numerous projects requiring various regulatory agency approvals.

EDUCATION
Bachelor of Science, Civil Engineering, University of Texas at Austin, 2004

REGISTRATIONS
Professional Engineer, TX, No. 60983

INDUSTRY TENURE
33 Years

HDR TENURE
19 Years

RELEVANT EXPERIENCE

City of Austin, Corridor Mobility Program, Austin, TX. QA/QC Manager. We are providing program management, project delivery, and staff augmentation for the City of Austin's 2016 Mobility Bond Corridor Program. The 2016 Mobility Bond is the City's largest transportation bond to date. Voters approved $720M in funds for local, corridor and regional transportation and mobility improvements. $482M is allocated for Corridor Improvements Projects. The Mobility Bond Corridor Program is an eight year, long-term program to prioritize and implement mobility improvements recommended in the City's Corridor Mobility Plans for nine crucial roadways in Austin's transportation network. The cost to implement the recommendations in the Corridor Mobility Plans exceeds the amount of funding available through the Mobility Bond. We worked with the City to develop a set of metrics that will be used to prioritize the nine corridors based on mobility and quality of life. We performed extensive VISSIM modeling of 2035 conditions along the corridors to help inform the prioritization process. A Prioritization Report was produced and will be used to develop a Corridor Construction Program, with recommendations on allocating funding amongst the nine corridors. We will work with the City to implement and oversee improvements recommended in the Corridor Construction Program. Program delivery includes advising engineering, final design, sequencing, method of project delivery, construction, community outreach and engagement, and performance monitoring. We are augmenting the City's communications staff to develop an extensive communications and community outreach plan, to help inform the public of the prioritization process, and the resulting Corridor Construction Program.

TxDOT Austin District, IH-35 Feasibility Study, Williamson County, TX. Project Manager. Bob was in charge of coordinating the engineering, public involvement, and environmental services associated with the identification and development of conceptual mobility solutions, feasibility analysis of those concepts, and preparation of an implementation plan to guide development of IH-35 corridor between SH 130 and RM 1431 in Williamson County.

TxDOT Austin District, 183N, Williamson County, TX. Principal-in-Charge. Bob was responsible for the coordination of tasks required to complete environmental studies and geometric schematic development for the US 183 North Improvements Project from RM 620/SH 45 to MoPac. Proposed improvements included adding lanes along existing US 183, as well as direct connectors from US 183 and MoPac. The environmental study and community outreach program launched summer 2013. Bob managed our resources and developed and monitored the task schedule and budget. We led activities included development of the Hazardous Materials

BOB LEAHEY, PE (CONTINUED)

investigations associated with the Environmental Assessment, investigations of geology and soils associated with bridge foundation design, visual resources and 3D animations associated with public involvement, and evaluation of alternatives. Bob also oversaw the geometric schematic design and QC process for preparation and evaluation of the preferred alternative.

TxDOT Austin District, US 290 Corridor Study, Austin, TX. Project Principal. We developed VISSIM models to evaluate the impact of low-cost, innovative traffic engineering solutions for seven intersections along US 290 near Oak Hill, one of the most congested corridors in Austin. We developed three alternative scenarios with various innovative concepts. The proposed improvements included additional turn-lanes at both the FM 1826 and Convict Hill Road intersections, a median U-turn configuration at Joe Tanner Blvd., and reconfiguration of the William Cannon Dr. and SH 71 intersections to partial CFIs. Analysis results indicated over a 50 percent reduction in delay and travel time savings along the corridor. We prepared preliminary schematics and a cost-estimate for the proposed alternatives. These improvements were partially funded ($4M) by the City of Austin 2010 Mobility Bond Program. The improvements are open to traffic and providing significant congestion relief.

City of New Braunfels, Walnut Avenue Reconstruction, New Braunfels, TX. Project Principal. We provided design services for the reconstruction and upgrade of Walnut Avenue. The project extended 1.6 miles from IH-35 to Landa Street. The existing roadway was approximately 48 feet wide with two lanes in each direction and a fifth lane for left-turn movements at signalized intersections. The City requested that the roadway be reconstructed to four through lanes, a center left-turn lane at intersections, and a raised landscaped median for control of access. The design also included a storm sewer system, bridge widening, design of a multi-use pedestrian trail, landscaped parks, tree protection, traffic signals, grading plan, and SW3P. Considerable coordination was involved due to the tree protection ordinance and the utility adjustments for the sanitary sewer and waterline, along with the underground conversion of overhead utilities. We also secured railroad agreements from Union Pacific for the adjustment of gate arms and then boring of the storm sewer trunk lines at two crossings.

City of Universal City, Kitty Hawk Road Reconstruction Project, Universal City, TX. Project Principal. We provided design services for the reconstruction of Kitty Hawk Road to include concrete curbs, sidewalks, driveways, culvert replacement, and drainage. The existing roadway from Pat Booker Road to Loop 1604 is approximately 64 feet wide with two lanes in each direction and a raised median and turn lanes for the majority of the roadway limits. We prepared the Traffic Control Plan, roadway horizontal and vertical geometry, culvert design, storm sewer design, signing and striping, SW3P, cost estimating and quantities, and specifications.

Central Texas Regional Mobility Authority, 183A Turnpike, Austin, TX. Project Engineer. The US 183A Turnpike project was an 11.6 mile, $165M divided multi-lane turnpike which included frontage roads, ramps, mainlane and ramp toll facilities, and 22 bridges. We were on the General Engineering Consultant team for the Central Texas Regional Mobility Authority (CTRMA). As the Program Manager for the CTRMA, we provided oversight of the selection of the Comprehensive Development Agreement (CDA) Developer and managed the CDA contract on the project. This project required complex traffic control plans to manage traffic at tie-in points along existing US 183, as well as its connection to the SH 45N turnpike project. Access to numerous commercial and residential areas, which are adjacent to the project, were also managed through the project's traffic control plans.

City of Austin, Austin to Manor - Rail to Trail, Austin, TX. Principal-in-Charge, QA/QC Manager. We were selected for the Austin to Manor Trail, a new trail with rest areas project. Our responsibilities included design, conducting public meetings, permitting, TxDOT coordination, construction contract administration, and construction administration services. The trail is approximately 2.70 miles in length, 10' wide concrete, and 2' wide grass shoulders on both sides to provide a nominal width of 14 feet. The entire trail was constructed of concrete and included a pedestrian bridge, culverts, signage, benches, and trail connections to surrounding neighborhoods.

BOB LEAHEY, PE (CONTINUED)

City of Georgetown, Southwest Inner Loop, SH 29 to Leander Road, Georgetown, TX. Schematic Design Task Lead. We prepared an alternative alignment investigation, schematic design, and PS&E for construction of interim improvements. Key issues and challenges included coordination with TxDOT and Williamson County, a crossing of the South Fork of the San Gabriel River, karst features, endangered species and the Edwards Aquifer. We developed intersection/ interchange options at the two major crossings, Leander Road and SH 29.

TxDOT Ft. Worth District, SH 183 Rehabilitation and Bridge Widening, Fort Worth, TX. Project Engineer. Our team widened this six-lane urban freeway to include safety shoulders and replaced the concrete deck and two interior bent caps. The team designed approximately 2,500 feet of roadway approach on the SH 183 UPRR and Vickery Boulevard Overpass, two drilled shaft retaining walls and two soil nailed retaining walls.

TxDOT Ft. Worth District, US 180 Overpass of the UPRR and Town Creek, Fort Worth, TX. Roadway Task Leader. We developed the PS&E to replace a 770-foot long bridge and roadway approaches over Town Creek and the UPRR. We also prepared a plan to maximize traffic flow during construction. The bridge layout was developed to construct the bridge in three phases in order to replace the two existing bridges and maintain traffic. The project included a preliminary schematic and PS&E plans and detailed aesthetic enhancements. A soil stability analysis was also performed.

TxDOT San Antonio District, US 281 - Loop 1604 Revisions, San Antonio, TX. Project Manager. We designed the revised geometric alignments to allow for the addition of proposed tolled managed lanes along Loop 1604 and direct connectors that feed traffic into and out of the proposed managed lanes of Loop 1604 onto the proposed general purpose mainlanes of Loop 1604 and US 281, as well as the proposed tolled mainlanes along 281 N. We provided associated cost estimates and constructability reviews for each of the proposed eight direct connecting bridge structures and approach roadways.

TxDOT Dallas District, US 75 Reconstruction, Dallas, TX. Roadway Task Leader. We designed the reconstruction of 3.3 miles of four-lane urban freeway with frontage roads to eight mainlanes with new frontage roads and new ramps. The project includes three diamond interchanges and requires retaining walls, bridges, drainage, traffic control plans, signing and marking, illumination, and traffic signals.

TxDOT Pharr District, US 77/83 Soil Nail Walls, San Benito, TX. Project Manager. This project reconstructed and widened 6.1 miles of an existing four-lane expressway to six lanes designed to full interstate highway standards. We designed three soil nail walls for the contractor to be used as temporary shoring during phased construction.

City of San Antonio, Reed Road Improvements - Culebra to Military, San Antonio, TX. Project Principal. We provided preliminary engineering and final design services for the Reed Road: Culebra to Military project, a $6.1M project to reconstruct and widen approximately 5,800 feet of roadway from a two-lane non-curbed section to three-lane section to include left-turn lanes, bicycle lanes, curbs, sidewalks, driveways, underground storm drain system and traffic signals. The scope of services included preparation of a Preliminary Engineering Report that outlined the controlling design criteria and set vertical and horizontal alignment allowing the ROW needs to be determined. Final design services included preparation of plans, specifications, and estimates.

Samsung Semiconductor Inc., Samsung, Parmer Lane-Dessau Road Traffic Study, Austin, TX. Schematic Design Task Lead. We proposed an innovative intersection design to improve mobility in the area and provide continued access to Samsung. Samsung, the City and TxDOT worked cooperatively to fund this project which included the conversion of the existing intersection to a continuous flow intersection (CFI). Analysis of the CFI indicated that delay could be reduced by 67% and 48% in 2015 and 2020, respectively, compared to no-build conditions.

BOB LEAHEY, PE (CONTINUED)

TxDOT Corpus Christi District, Regional Parkway Corridor Study, Corpus Christi, TX. Project Manager. Bob led this $1.4M study that will determine the feasibility of a new corridor to connect with the far south side of Corpus Christi. This feasibility assessment will determine whether existing roadways are sufficient, need to be expanded or if a new corridor is needed. If a new corridor does appear beneficial, then the assessment will determine the type of transportation facility needed (for example, a freeway, parkway, major arterial, or other type of transportation corridor) and generally where it might be located. While a specific route may not be determined until another phase of study, this assessment will assist local governments and landowners in development and mobility planning.

Corpus Christi Metropolitan Planning Organization (CCMPO), Regional Parkway PEL Study, Corpus Christi, TX. Project Manager. We served as prime consultant to the CCMPO in work associated with a Planning and Environmental Linkages (PEL) Study to identify alignment alternatives and environmental constraints analyses for approximately 17 miles of a new location corridor. The $860K study encompassed an area extending from SH 286 to PR 22 on Padre Island. The CCMPO, in cooperation with the City initiated the Regional Parkway PEL to further refine transportation needs and potential route alignment alternatives for two of the seven segments of independent utility identified in the previously completed Regional Parkway Mobility Corridor (RPMC) Feasibility Study. A comprehensive public involvement process was undertaken as a part of the Study. There were several opportunities for public engagement and coordination with public agencies. The PEL resulted in a highest ranked alignment alternative ready to be taken forward.

TxDOT San Antonio District, IH-35 Central PEL Study Report, San Antonio, TX. Project Manager. We served as prime consultant to TxDOT, to prepare the $1.25M IH-35 Central PEL. The study was conducted in cooperation with the Alamo Area Metropolitan Planning Organization and identified transportation needs and potential improvements for IH-35 from the intersection with I-37/US 281 to US 90 in downtown San Antonio. There were multiple agency coordination meetings, a series of public meetings and meetings with the MPO Policy Board, MPO Technical Advisory Committee, and FHWA. The agency coordination meetings were held in advance of the public meetings to allow for a preview of the information and refinements as deemed appropriate based on stakeholder input and feedback. The PEL concluded that a "program of projects" approach was best suited in meeting the need and purpose of the study.

Missouri DOT Headquarters, MoDOT - Route 367 Improvements PMC, St. Louis, MO. Senior Project Manager. Bob helped direct HDR's design team efforts on State Route 367 in St. Louis, Missouri, providing access from downtown St. Louis to north St. Louis County. The existing four-lane divided the highway with at-grade intersections that was upgraded to a freeway section with grade-separated interchanges and one-way frontage roads. The southern portion was upgraded to a five-lane parkway with planted raised median. The work included ROW acquisition, environmental and geotechnical surveys, necessary permitting, local agency coordination and extensive public involvement, schematic development and design work.

Kyle Stanton, PE

Roadway Design

Kyle has seven years of experience in transportation and civil engineering projects. His main expertise includes urban and rural street reconstruction projects, pedestrian and bicycle facility projects, trail design, schematic development, cost estimating, and construction inspection.

EDUCATION
Bachelor of Science, Civil Engineering, Oregon State University, 2013

REGISTRATIONS
Professional Engineer, TX, No. 137790

INDUSTRY TENURE
7 Years

HDR TENURE
7 Years

RELEVANT EXPERIENCE

Williamson County, FM 3349 at US 79, Williamson County, TX. Design Engineer. Kyle is leading the geometric design tasks for the schematic development of a 3.1-mile access control facility, including mainlanes, frontage roads, two major freeway interchanges, eight direct connectors, and a shared-use path for Williamson County. His project responsibilities include the geometric design of a five-level interchange, including horizontal/vertical alignments for the ultimate and interim schematic design.

City of Round Rock, CR 112 Widening, Round Rock, TX. Lead Roadway Designer. We developed a design to widen two-lane CR 112 to a six-lane arterial urban street between CR 117 and CR 110. Kyle is the Lead Roadway Designer on the project. His tasks include geometric design, including horizontal/vertical alignments, signing and striping layout, corridor modeling, intersection design, and cost estimate

Washington County, 234th and TV Highway Intersection Improvements, Hillsboro, OR. Lead Roadway Engineer. We designed traffic and safety improvements including roadway widening, bike lanes, landscape strips, and sidewalks. The project included the installation of Tri-Met transit stops, railroad crossings with new gates, arms, and signals as well as additional safety measures with the installation of new traffic signals. Kyle was the Lead Roadway Engineer on the project and assisted the Project Manager on management tasks as well. His tasks included geometric design of the road including horizontal/vertical alignments, detailed corridor modeling, organizing team meetings to track progress, coordinate and assign tasks to team, and coordinating with the client regularly.

City of Bend, 14th Street Reconstruction, Bend, OR. Design Engineer. We provided the City with conceptual roadway design plans to improve safety, manage congestion, improve operations and increase multi-modal activity. Design Improvements evaluated included sidewalks, bike lanes, transit stops, stormwater facilities, landscaping strips, and improved pedestrian crossings. Kyle's tasks included geometric design of the road including horizontal/vertical alignments, detailed corridor modeling, grading plans, signing and striping plans, coordinating with the Client regularly, and coordinating the design with all disciplines.

City of Bend, Avenue Improvements, Bend, OR. Design Engineer. We recently completed 30% roadway design plans aimed at enhancing roadway safety and encouraging non-motorized vehicle travel along this busy commercial corridor. Kyle's tasks included geometric design of the road including horizontal/vertical alignments, ADA ramps, drainage, signing and striping plans, cost estimates, and final sheet production.

KYLE STANTON, PE (CONTINUED)

City of Hillsboro, Golden Road and Cedar Street Bike and Pedestrian Improvements, Hillsboro, OR. Design Engineer. We are working with the City to improve these collector streets to meet the City's standard cross-section for a two-lane collector with 36 feet between curbs. Improvements included curb and gutter, bike lanes, landscape strips, street, trees, street lighting, and sidewalks. Both streets include storm sewer and stormwater quality improvements as well as modifications to the City waterlines. Kyle's tasks included developing horizontal/vertical alignments, grading plans, ROW impacts to existing parcels, erosion control plans, signing and striping plans, and final sheet production.

Clackamas County, Boyer Drive Extension, Happy Valley, OR. Design Engineer. We provided the County with preliminary and final engineering design plans, public involvement, ROW, and bid preparation services. We developed design criteria for roadway section, storm drainage facilities, bike and pedestrian facilities, sidewalks, traffic signal modifications, signing, striping, lighting, and retaining walls. Kyle's tasks included developing the proposed roadway alignment; geometric design of the roadway (vertical/horizontal); design of the raised cycle track and signing and striping; identifying new ROW and impacts to existing parcels; and production of a sheet set that included roadway plans, profiles, storm drainage sheets, signing and striping plans, removal plans, and utility plans.

Clark County Washington, Sunset Falls Rehabilitation, Yacolt, WA. Design Engineer. Kyle designed guardrail, and striping; developed quantity calculations, cost estimate, and specifications for this pavement rehabilitation project.

Bonneville Power Administration, Castle Rock Substation, Castle Rock, WA. Design Engineer. The Castle Rock Substation Project includes a new 500kV substation, new entrance road, and a detention pond. Project tasks included: drafting work on the substation plan set; development of plan and detail sheets for site development, erosion control, and drainage plans, designing the drainage plan layout for the substation site, preliminary substation site grading, detention pond grading, and transmission line access road design.

Jacob Walker, PE

Anderson Mill Road Extension Roadway Task Lead

Jacob has nine years of experience in the management and design of transportation improvement projects for numerous counties, local municipalities, agencies in Central Texas, as well as multiple TxDOT districts. He has expertise in multiple design disciplines, including complex roadway designs, traffic control designs, railroad crossings, drainage system designs, construction cost estimation, floodplain mitigation, stormwater pollution plan designs, bicycle, pedestrian, ADA designs, signing and pavement marking designs, construction sequencing, TCEQ permitting and stakeholder coordination.

EDUCATION
Bachelor of Science, Civil Engineering, Texas A&M, 2011

REGISTRATIONS
Professional Engineer, TX, No. 122057

INDUSTRY TENURE
9 Years

HDR TENURE
7 Years

RELEVANT EXPERIENCE

Williamson County, Southwest Bypass IH-35 to RM 2243, Williamson County, TX. Deputy Project Manager and Roadway Task Lead. Jacob led the schematic development of a 1.6-mile new alignment access control facility and a two-lane interim configuration PS&E development, including a grade separated crossing over the Georgetown Railroad. Jacob was responsible for the interim and ultimate schematics and phased PS&E designs. He was also responsible for establishing design criteria, coordinating design through the City, GEC, County, and TxDOT, and producing 3D corridor modeling to use in plan development and stakeholder coordination/visualizations. Jacob also led efforts for cost estimating, TCEQ permitting, design & construction scheduling, and construction phase services.

City of Georgetown, Southwest Bypass and Wolf Ranch Parkway, Georgetown, TX. Roadway Task Lead. This two-mile, two-lane greenfield project connects DB Wood Drive to Leander Road (RM 2243) as part of a new bypass around the City of Georgetown. Jacob was responsible for the PS&E development for the Wolf Ranch Parkway connection, which included divided roadway geometric design, water quality calculations, TCEQ permitting, sidewalk and shared-use path design, ditch design, storm sewer design, cross culvert design, retaining wall layouts, traffic control, and signing and striping layouts. He designed retaining walls, sidewalks, and cross culverts so that the future widening to a four-lane facility could maintain the vegetative filter strips and grassy swales, preventing the need for a future water quality pond.

Hays County, Robert S. Light Blvd. Extension Project (Buda Truck Bypass), Buda, TX. Roadway Task Lead. The project included design schematic, ROW determination and mapping, and preparation of PS&Es. The extension of Robert S. Light Blvd. was approximately 1.8 miles and consisted primarily of new location roadway across the Edwards Aquifer recharge, contributing, and transition zones. The project included the addition of dedicated turn-lanes from RM 967 and FM 2770 onto Robert S. Light Blvd. as well as a grade separated crossing of the UPRR. Jacob's responsibilities included leading roadway design efforts throughout schematic development and PS&E consisting of ROW development, ultimate and interim roadway geometrics, 3D corridor modeling, bridge structure layouts, earthwork and grading, parallel drainage, signing and striping, UPRR Exhibit A preparation, retaining walls, and intersection layouts. He also led the coordination efforts of subconsultants, including survey, traffic control, roadway drainage, erosion control, water quality design, and TCEQ permitting.

JACOB WALKER, PE (CONTINUED)

City of Taylor, 2019 Infrastructure Bond Street Projects, Taylor, TX. Project Manager. The City is reconstructing three local roads and one collector street as part of their 2019 Infrastructure Bond to update street conditions, drainage, and utilities. In addition to serving as City Engineer, Jacob serves as HDR's Project Manager for this design project. Jacob's project management efforts include schematic alternative development for varying roadway widths, traffic calming measures, and pedestrian improvements as well as full PS&E efforts including roadway geometrics in highly constrained ROW, traffic control design, urban drainage design, driveway design, a-grade crossing of the UPRR, hydraulics, utility coordination, water/wastewater design, easement acquisition, public involvement, stakeholder communication, and TxDOT coordination.

City of Kyle, Lehman Road Improvements, Kyle, TX. Roadway, Drainage Task Lead. Lehman Road was a full-depth reconstruction and widening of 1.6 miles to provide additional capacity and eliminate two low-water crossings. Jacob led roadway design efforts, including three design schematic alternatives and alternative analysis, a final design schematic, ROW acquisition exhibits, preparation of PS&E documents, Soil Conservation Services (SCS), Reservoir floodplain mitigation, and bid and construction phase services. His design responsibilities encompassed multiple disciplines and met TxDOT standards and specifications. Designs included vertical and horizontal geometrics, intersection design, retaining wall design, bridge layouts, 3D modeling, phased traffic control, hydrology, storm sewer hydraulics, ditch and culvert design, channel grading, utility coordination and adjustments, pedestrian and ADA facilities, SCS floodplain mitigation design, erosion control, signing and striping, and coordination and inclusion of adjacent developments into the design plans. Jacob's design balanced cut and fill quantities to control earthwork costs as well as coordinated with the geotechnical engineer to design the roadway and ditches to prevent damage from the shrink/swell associated with the high PI soils. He has continued to lead construction administration through processing and reviewing submittals, change orders, RFIs, and field coordination.

City of College Station, University Drive Pedestrian Improvements Project, College Station, TX. Deputy Project Manager, Engineering Task Lead. Jacob developed roadway alternatives along the corridor to improve pedestrian safety and incorporate the City's bicycle plan while maintaining vehicular operations. The City of College Station sponsored the project, although the project was on a TxDOT facility. Jacob coordinated with Texas A&M University, TxDOT, and the City. He led the design, including PS&E for roadway geometry, median installation, sidewalk installation, pavement markings, traffic control, traffic signal layout, pavement mill and overlay, erosion control, landscaping, and minor drainage modifications.

City of Round Rock, Gattis School Road Intersection, Round Rock, TX. Design Engineer. We made recommendations for interim and long-term improvements for the intersection of Gattis School and South Mays. The scope of services included preparation of a six-lane schematic to identify intersection improvements and a PS&E package for the interim short-term improvements at Gattis School Road and Mays Street. Jacob's design efforts included roadway widening for a right-turn lane, intersection improvements, safety enhancements, traffic control design, signing and striping, signal layout, pavement mill and overlay, pedestrian facilities, storm drainage, erosion control, cost estimating, and construction scheduling.

City of Cedar Park, Little Elm Trail, Cedar Park, TX. Roadway Task Lead. Jacob led the roadway design efforts associated with the reconstruction of Little Elm Trail and Fire Lane near the Twin Lakes Family YMCA. Jacob led design geometrics through 3D modeling with OpenRoads, designed traffic control, earthwork cut and fill, operational and safety enhancements, ditch, and culvert design, H&H, signing, and striping, utility coordination, cost estimating, and construction scheduling. Jacob led design efforts to avoid conflicts with the PEC substation, fire training facility, and City Maintenance Facility, as well as providing continual access to the facilities.

JACOB WALKER, PE (CONTINUED)

TxDOT Laredo District, State Loop 20, Laredo, TX. Roadway Engineer. This project included the PS&E design for the reconstruction of a five-lane arterial facility, including converting the intersection with Clark Ave. to an overpass with frontage roads and turnarounds and a new bridge over the KCS Railroad. Jacob designed the horizontal and vertical geometrics for the ramps, frontage roads, side streets, turnarounds, and driveways. He also designed removal plans, signing and striping, bridge layouts, super elevations, erosion control, pedestrian facilities, retaining walls along the corridor, and intersection grading.

Intersection Improvements Projects, SH 21 and Marino Road (Bryan, TX), US 290 and Scenic Brook Road (Austin, TX), Lohmans Crossing and Lohmans Spur (Lakeway, TX), Bolm Lane and Airport Blvd. (Austin, TX), Gattis School Road and Mays Street (Round Rock, TX), RM 2243 and SW Bypass (Georgetown, TX), University Drive and South College Ave. (College Station, TX). Roadway Task Lead. Roadway Engineer. Jacob designed or led design for the roadway aspects of various intersection improvement projects inclusive of right-turn lanes, right and left turn lanes, acceleration lanes, deceleration lanes, signal layout realignments, median installations, and pedestrian/ bicycle improvements. Jacob's efforts included signal layouts, widening geometrics and details, intersection grading, mill and overlay details, phased traffic control design, erosion control, TCEQ permitting, sidewalk and bicycle facility design, signing and striping, safety enhancements, 3D modeling using OpenRoads, ditch and culvert design, and driveway design.

Justin Carlton, PE

Roadway Design

Justin has seven years of experience in the design of roadway transportation projects for numerous TxDOT districts, counties, agencies, and local municipalities. Justin's roadway expertise includes complex geometric design, signing and pavement marking design, erosion control (SW3P) design, traffic control plan design, pedestrian/ADA design, railroad crossings, construction cost estimating, construction sequencing, TCEQ permitting including BMP design, and H&H analysis including complex storm sewer systems, culverts, and bridges.

EDUCATION
Master of Engineering, Civil Engineering, Texas A&M University, 2014

Bachelor of Science, Civil Engineering, Texas A&M University, 2011

REGISTRATIONS
Professional Engineer, TX, No. 127593

INDUSTRY TENURE
7 Years

HDR TENURE
6 Years

RELEVANT EXPERIENCE

Williamson County, IH-35 to Southwest from RM 2243, Williamson County, TX. Roadway Design Engineer, TCEQ Permits. Segments 1 & 2 form a two-mile bypass between Leander Road (RM 2243) and the IH-35 SBFR, which passes through the Texas Crushed Stone active quarry. Justin's design utilized rock cuts to balance the project earthwork and minimize the vertical grades needed to enter and exit the quarry area, which greatly reduced the anticipated project costs. Justin's responsibilities also included PS&E for signing, striping, traffic control, and erosion control. TCEQ permitting was challenging for this project due to the unique design constraints and revisions requested during the design process. He wrote, submitted, and obtained approval for three separate WPAPs and three separate Exception Requests, without a delay to the project construction timeline.

Williamson County, FM 3349 at US 79, Williamson County, TX. Drainage Design Engineer. This project was a 3.1-mile access control facility, including mainlanes, frontage roads, two major freeway interchanges, eight direct connectors, and a shared-use path for Williamson County. Justin assisted in the development of the updated HEC-HMS hydrology and HEC-RAS 1D hydraulic models for the major watersheds and seven minor culverts and bridge class culvert crossings within the project area to determine ROW needs based on drainage requirements, including mitigation improvements.

City of Georgetown, Southwest Bypass and Wolf Ranch Parkway, Georgetown, TX. Roadway and Drainage Design Engineer. This two-mile, two-lane green field project connects DB Wood Drive to Leander Road (RM 2243) as part of a new bypass around the City of Georgetown. Justin was responsible for the development of the PS&E for the Wolf Ranch Parkway connection, which included divided roadway geometric design, water quality calculations, TCEQ permitting, sidewalk and shared use path design, ditch design, storm sewer design, cross culvert design, retaining wall layouts, traffic control, and signing and striping layouts. Justin's design verified that the retaining walls, sidewalks, and cross culverts were designed such that the future widening to a four-lane facility could maintain the vegetative filter strips and grassy swales, preventing the need for a future water quality pond.

City of Taylor, 2019 Infrastructure Bond Street Projects, Taylor, TX. Roadway and Drainage Task Lead. The City is reconstructing three local roads and one collector street as part of their 2019 Infrastructure Bond to update street conditions, drainage, and utilities. Justin led the roadway and drainage PS&E efforts including roadway geometrics in highly constrained ROW, traffic control design, storm sewer and culvert design, driveway design, pedestrian elements, an at-grade crossing of UPRR, and construction cost estimating.

JUSTIN CARLTON, PE (CONTINUED)

Palo Pinto County Municipal Water District, Turkey Peak Reservoir, Palo Pinto County, TX. Roadway and Drainage Task Lead. The Turkey Peak Dam and Reservoir project consists of PS&E for 4.8 miles of two-lane rural highway reconstruction and 2.1 miles of new two-lane roadway due to the inundation of an existing TxDOT facility. Justin was responsible for the development and oversight of the PS&E roadway design, drainage design, erosion control, traffic control, and signing and striping. Careful iteration of the roadway geometrics with the 18 cross culverts and 46 driveway culverts allowed him to fit the widened section into the existing footprint and minimize the required ROW.

City of Leander, Hero Way, Leander, TX. Drainage Design Engineer. We were hired to prepare PS&E for the conversion of a 2.7 mile two-lane collector with roadside ditches to a five-lane arterial with enclosed storm sewer. Justin was responsible for the design of 4.2 miles of storm sewer system, which included extensive off-site flows. The largest outfall consisted of a 12x12 box culvert, a 100' diversion weir, and an extended detention pond. The design also included over 3,000 feet of grassy swales with slotted curb.

EDUCATION
Bachelor of Science, Civil Engineering - Structures, Texas A&M, 1982

REGISTRATIONS
Professional Engineer, TX, No. 60983

INDUSTRY TENURE
38 Years

HDR TENURE
8 Years

David Hohmann, PE

Structures Design Task Lead

David has 38 years of bridge planning, design, and project management experience throughout the state of Texas. David was a Senior Bridge Design Engineer, the statewide Director of Bridge Design, and ultimately became the Director of the Bridge Division during his 29-year tenure with TxDOT. As the Director of the Bridge Division, he had statewide oversight responsibilities for bridge-related planning, project development, design, construction, and inspection activities. He managed resources on large bridges over water, interchange, and viaduct projects totaling over $1B. At HDR, David plans and develops small and large transportation projects around the state of Texas for cities, counties, railroads, and TxDOT. He has expertise in various aspects of a project, from the first steps in planning to long after the project is built, using his knowledge of long-term inspection and maintenance principles. This cradle-to-retirement perspective enables him to make decisions that get the best value at not only construction, but also long-term value through the efficient application of best practices during design and construction.

RELEVANT EXPERIENCE

Williamson County, IH-35 to Southwest from FM 2243, Phase 2, Williamson County, TX. Project Manager and Structural Task Lead. David was responsible for the PS&E for the two-lane interim configuration consisting of ROW determination, geometric design, retaining wall design, bridge structures, signing and striping, drainage design, water quality, and TCEQ permitting, erosion control, traffic control phasing, and utility and railroad coordination according to TxDOT standards and specifications. David coordinated with TxDOT, the GEC, City of Georgetown, Williamson County, and subconsultants. He also provided QA/QC coordination, design scheduling, construction scheduling, estimate of probable construction costs, and bid phase services.

Williamson County, FM 3349 at US 79, Williamson County, TX. Structural Task Lead. David was the Structural Task Leader for the schematic development of a 3.1 mile access control facility including mainlanes, frontage roads, two major freeway interchanges, eight direct connectors, and shared use path for Williamson County. He is the Senior Structural technical Advisor for the development of the Phase 1 Construction PS&E and constructability reviewer responsible for verifying that the initial construction phases accommodate the ultimate complex structures coming later. David and the bridge designers proposed a cost effective bridge over UPRR and US 79 mainlane while accommodating for future developments to allow for a separate rail and/or roadway network underneath the bridges in addition to the UPRR line. David's project responsibilities include structural solutions that meet vertical clearance requirements as well as the demand in the initial phases and accommodate the ultimate project demands.

City of Round Rock, Kenney Fort Blvd. (Arterial A), Round Rock, TX. Structural Lead. David was the Structural Lead for Construction Engineering and Inspection for this project that includes three bridges within a major urban arterial project. The project includes a major UPRR bridge, a widening, and a major water crossing. The railroad bridge has had several significant construction challenges including revising special shoring to accommodate

DAVID HOHMANN, PE (CONTINUED)

variable geotechnical conditions as well as challenges associated with the structural steel erection, bolting, and fit-up. David was on-call and on the job regularly to direct HDR CEI staff and advise the client on successful solutions to these challenges. Total construction value is $19M and responsibilities include change-orders, revisions, and construction quality assurance.

Hays County, Kohlers Crossing over UPRR, Kyle, TX. Bridge Task Lead. David is serving as the Bridge Task Lead for this grade separation project at the intersection of Kohler's and the UPRR. The grade separation will greatly improve mobility and safety and eliminate vehicle/train conflicts and traffic disruptions. HDR's scope includes developing preliminary design and feasibility reports for both underpass and overpass structures at the location in order to attain the best value for the long-term viability of this rapidly-growing area of the state. David led the pursuit response and Statement of Qualifications, constructability reviews and solutions, and general structures direction and expertise.

City of Georgetown, Southwest from FM 2243 to Wolf Ranch Parkway, Phase 1, Georgetown, TX. Structural Task Lead. This two-mile, two-lane greenfield project connects DB Wood Drive to Leander Road (RM 2243) as part of a new bypass around the City of Georgetown. David was responsible for the development of structural PS&E for the Wolf Ranch Parkway connection, which included cross culvert design, retaining wall layouts, and traffic control coordination. David was responsible for the structural QA/QC coordination, design scheduling, structural construction scheduling, estimate of probable construction costs, and structure-related bid phase services.

TxDOT, Statewide Bridge Design Indefinite Delivery and Indefinite Quantity Contract, Statewide, TX. Project Manager and Structural Task Lead. David led the development of complete bridge and roadway PS&E projects for both on-and-off-system bridges. These services included preparing roadway and bridge design, H&H design, traffic signal design, survey, geotechnical data collection, and construction phase services necessary to support the design process. To date, we have been assigned five separate work authorizations for fourteen bridges from around the state. These bridges are primarily conventional TxDOT bridges with prestressed concrete beam superstructures and a combination of cast-in-place drilled shafts and precast concrete driven piling foundations. Most of the projects are funded by and subject to the federal-aid program that provides funding to enable states to improve the condition of highway bridges through replacement, rehabilitation, and systematic preventive maintenance known as the Highway Bridge Program (HBP). David's responsibilities included structural design oversight, constructability review, construction phase services, construction scheduling, and critical path development, drainage design, roadway design, geotechnical design coordination, and traffic control plan oversight.

TxDOT Austin District, US 183 at IH-35 Direct Connector Project, Travis County, TX. Project Manager. HDR was the EOR for the IH-35 NB to US 183 NB direct connector. We designed the replacement structure and planned the demolition of a portion of the existing post-tensioned segmental bridge. We designed the extended replacement spans needed to increase the bridge length and flatten the steep grade that is problematic for larger vehicles and tentative drivers. The new design included TxDOT U-Beam superstructure elements, highly aesthetic bents to complement the existing aesthetic bents, and post-tensioned bridge substructure elements to accelerate construction. The direct connector is over 1,400 ft. long with 50 ft. tall, single column bents. We completed the design in 2017. The expected opening is in 2021. David's responsibilities included structural design oversight, constructability review, construction phase services, construction scheduling, and critical path development, drainage design oversight, roadway design oversight, geotechnical design coordination, and traffic control plan oversight.

TxDOT Dallas District, IH-35E Managed Lanes, Dallas, TX. Structural Design Lead. David supervised professional/technical staff in the production of bridge plans for more than 90 bridges for this $1B corridor improvement project. The bridges required a final load rating, and widenings required an as-built load rating. As the Structural Design Lead for the overall project, David established design

DAVID HOHMANN, PE (CONTINUED)

and construction standards and policies for the project. He coordinated bridge design issues with the lead roadway engineer, lead traffic control planner, and the lead geotechnical engineer throughout the design planning, execution, and construction. David had the ultimate responsibility for verifying that the project plans and delivery complied with the Technical Provisions established by TxDOT during procurement. David reviewed structural plans and attended comment resolution meetings between the contractor, the GEC, and TxDOT representatives. Two design firms were involved in the joint-venture, so David's responsibilities also included verification of consistency throughout plans, project delivery methods, and constructability.

TxDOT Austin District, Lake Marble Falls Bridge, US 281, Marble Falls, TX. TxDOT Bridge Division Design Section Director. The Lake Marble Falls Bridge is a balanced-cantilever post-tensioned segmental bridge with a construction cost of $29.7M. David was directly involved in the overall management of the project's design resources, construction cost estimates for the bridge alternates, and meeting funding eligibility criteria. In addition, he was the primary point of contact on design and funding issues with the Federal Highway Administration and a co-leader of the Value Engineering Team that considered the bridge alternatives and the project criteria during the early phase of the project.

TxDOT Fort Worth District, West 7th Street Bridge, Fort Worth, TX. TxDOT Bridge Division Design Section Director. The West 7th Street Bridge replacement project is $25.7M, made up by a series of precast concrete network arch spans over a park and flood-controlled river. As the TxDOT Bridge Division Design Section Director, David was the Manager-in-Charge of the section that performed the structural design and construction cost estimates for the bridge and alternates. He was also responsible for satisfying funding eligibility criteria for the project. In addition, he was TxDOT's primary point of contact on both the complex design and the multi-sourced funding coordination with the City of Fort Worth and the Federal Highway Administration. David coordinated resources for the preparation of structural PS&E, constructability reviews, and also coordinated construction issue resolutions and shop plan approval throughout project construction.

TxDOT Austin District, US 183 Elevated, Travis County, TX. Project Manager. David managed and oversaw this massive urban project that includes the interchange at US 183 and IH-35 and the elevated freeway in North Austin from IH-35 to just south of Burnet Road. The bridges cover 1.4 million square feet with a construction cost of $60M. The direct connectors are precast balanced cantilever segmental and the mainlanes are span-by-span precast segmental construction. David managed and was responsible for the preparation of structural PS&E, constructability reviews, and also coordinated change-orders, construction issue resolution, and shop plan approval throughout project construction.

Tyler Brendlinger, PE

Structures Design

Tyler has nine years of experience designing bridges and transportation structures in Texas. He has designed multiple on and off-system bridge replacements utilizing both custom designs, and TxDOT Standard Bridges. He is well versed in the TxDOT LRFD Bridge Design Manual as well as the TxDOT Bridge Detailing Guide, as well as the TxDOT Roadway Design Manual. He also has significant experience on large projects across the country, leading the design of both concrete and steel bridges for various DOT clients and design build projects.

EDUCATION
Master of Engineering, Civil Engineering, Texas A&M, College Station, 2012

Bachelor of Science, Civil Engineering, Texas A&M, College Station, 2011

REGISTRATIONS
Professional Engineer, TX, No. 122057

INDUSTRY TENURE
9 Years

HDR TENURE
7 Years

RELEVANT EXPERIENCE

Williamson County, IH-35 to Southwest from RM 2243, Williamson County, TX. Structures Lead. This project included PS&E for the two-lane interim configuration consisting of ROW determination, geometric design, retaining wall design, bridge structures, signing and striping, drainage design, water quality, and TCEQ permitting, erosion control, traffic control phasing, and utility and railroad coordination according to TxDOT standards and specifications. Tyler designed the structural elements of this project. Careful consideration was taken for potential impacts due to hauling vehicles in the quarry below, along with blast loading effects on substructure elements. The typical section was optimized to a deeper Tx I-Girder to eliminate a beam line for six-spans, lowering the overall bridge cost.

Williamson County, FM 3349 at US 79, Williamson County, TX. Bridge Support and Structures Task Lead. As bridge support, Tyler evaluated varying span configurations, substructure options and completed preliminary design of multiple bridges including freeway interchanges and eight direct connectors. Framing included both Tx I-Girders, continuous steel Tx I-Girders and a simple span Steel I Tx I-Girder section to provide cost effective solutions over US 79 and UPRR ROW. The final schematic included clearance to accommodate future developments that could require separate rail lines.

TxDOT Atlanta District, SH-98 over Anderson Creek Bowie County, TX. Bridge Task Lead. Tyler performed the roles of Bridge Task Lead and Deputy Project Manager on this project, which consisted of two separate bridge replacements on the same alignment. Both structures were phased to allow for traffic control. The existing bridges consisted of concrete pan girder spans, and were replaced with Tx I-Girder bridges, while raising the profile to provide clearance to 100 year water surface elevation below. The existing bridges were also lengthened in order to provide a 3:1 slope for stone protection rip rap into the channels below. The substructures for this project were similar to TxDOT standard bridges of similar style, but had to be modified for phasing of the project. The addition of phasing also required the use of temporary special shoring and superstructure analysis for final and temporary conditions. Tyler led bridge design tasks for this project, along with coordination for channel grading, and roadway geometry.

Hays County, Kohlers Crossing over UPRR, Kyle, TX. Bridge Task Lead. Tyler evaluated three potential alternatives including two Tx I-Girder option bridges in conjunction with retaining walls built up to an economical height.

TYLER BRENDLINGER, PE (CONTINUED)

The third option evaluated was a Railroad through-plate Tx I-Girder bridge. Tyler worked closely with the roadway team, utilities, and drainage team to determine a what the best recommended alternative was based on cost, drainage considerations, and traffic operations. The recommended configuration is a multi-span Tx I-Girder bridge with frontage roads used to access adjacent properties. The Tx I-Girders span the entire UPRR ROW using both normal and skewed substructures.

TxDOT Bryan District, CR 301 over Oak Branch, Burleson County, TX. Bridge Task Lead. This project was an off-system bridge replacement of an existing steel and timber bridge. Tyler led the effort on elements of this project except for hydraulics, which still required close coordination with the H&H team. The alignments and profiles for the bridge needed to satisfy category six funding, creating geometric challenges. Additionally, in order to maintain traffic flow, a temporary detour had to be designed as part of the project, consisting of precast concrete box culverts and temporary pavement adjacent to the final bridge location. A temporary construction easement was required for the detour. The primary aspect affecting this bridge design was the water surface elevation constraints. Limiting hydraulic impacts within the ROW required use of a shallow box beams.

Harris County Toll Road Authority, Beltway 8 Ship Channel Bridge, Houston, TX. Superstructure Design Lead. Tyler led the superstructure design team and performed much of the superstructure design or checking on. This $1B project consisted of twin structures replacing the existing Beltway 8 Bridge over the Houston Ship Channel. Tyler led the superstructure design for spans of the south approach structures. The two structures each consisted of 42 spans of Tx I-Girders. Unique design challenges included custom strand patterns in beams to increase fire resistance for rail lines below, skewed and flared alignments, and design for finger joint connection to the main span structure. The modification for increased fire resistance was to provide Tx I-Girders over railroad with increased cover to strands – removing strands from the bottom grid. Design for the superstructure at the finger joint including partial removal of Tx I-Girder top flange, detailing of a diaphragm to support the joint, and evaluating Tx I-Girders for stresses at multiple stages, particularly during construction, when stressing the beams would result in tension in the top of web where the flange had been removed.

Amanda Stahlnecker, PE

Railroad Coordination

Amanda has 16 years of rail experience including feasibility studies, design of mainline, industry and rail yard tracks and facilities, plan preparation, cost estimation, project management, and construction support. She has significant experience in UPRR projects, including design and construction support. She also has wide-ranging experience working with public agencies related to railroad projects, including quiet zones, industrial track connections, and public projects.

EDUCATION
Bachelor of Science, Civil Engineering, University of Nebraska, Lincoln, 2003

REGISTRATIONS
Professional Engineer, TX, No. 124571

INDUSTRY TENURE
16 Years

HDR TENURE
14 Years

RELEVANT EXPERIENCE

UPRR, Brazos Yard, Hearne, TX. Deputy Project Manager. Amanda provided design and permitting services, from concept through final construction plans for the UPRR planned classification yard facility and mainline improvements. It is one of the largest and most complex greenfield infrastructure projects ever undertaken by UPRR with preliminary and final design of new classification yard facilities and necessary subdivision capacity improvement projects along five mainline subdivisions with a cumulative study area of approximately 2,000 acres. Amanda also provided coordination with TxDOT and Robertson County for work within their ROW.

Blackstone Commercial Property Advisors, BNSF Quiet Zone, Oklahoma City, OK. Project Manager. Amanda provided preliminary investigation of three options that could be considered for quiet zone development, including exhibit development and opinion of probable construction costs for the at-grade railroad crossing of Wilshire Boulevard and BNSF Railway in Oklahoma City, OK. She coordinated with the City of Oklahoma City, FRA, and BNSF.

Dallas Area Rapid Transit, General Planning Consultant 6 - Cotton Belt Corridor, Dallas, TX. Engineering Lead. Amanda provided 10% Preliminary Engineering and Environmental Services for the Cotton Belt Corridor from the existing Dallas Area Rapid Transit Red Line to Dallas/Fort Worth International Airport Terminal B Station (DFW Airport).

TxDOT Fort Worth District, IH-820 Corridor Study, Fort Worth, TX. Railroad Coordination Lead. This project included traffic projection, operational analysis, interstate access justification, and railroad coordination support for the widening of the IH-820/IH-20/US 287 interchange in Fort Worth, Texas. Amanda provided compliance with UPRR Public Projects Guidelines for submission of 10% documents.

Denver Transit Partners, Eagle P3 Project, Denver, CO. Track Design Lead. The Eagle P3 Project extended commuter rail from the Denver city center on three new commuter rail lines to multiple suburban locations and Denver International Airport. Amanda provided rail system planning and design. The design included 36 miles of commuter rail track and systems, corridor-wide drainage and utility work, 14 stations, 29 at-grade crossings, 36 bridges, and relocation of four miles of BNSF mainline tracks. East Corridor efforts included design coordination with UPRR due to proximity of the proposed commuter line to their facilities.

AMANDA STAHLNECKER, PE (CONTINUED)

UPRR, Odessa Transload Facility, Odessa, TX. Project Manager. The Odessa Transload Facility was a multidisciplinary and multi-office coordination project within HDR and UPRR to build a transload facility in Odessa, Texas. Amanda led the design to generate a built-out facility, operated by a third-party switcher serving two sand transload operations and one pipe transload operation with a storage yard. She also led the proposed utility service coordination, topographic survey, geotechnical investigation, and coordination with TxDOT for access into the site.

VIA Metropolitan Transit, North-Central Corridor, San Antonio, TX. Freight Rail Corridor Lead. The purpose of the study was to assess the feasibility of high-capacity transit service, including light rail and bus rapid transit, within the North-Central Corridor. The North-Central corridor links downtown San Antonio with commercial centers in the north, as well as a potential transit connection to the San Antonio International Airport. Amanda explored the feasibility of introducing high-capacity transit to accommodate growth, expedite transit service in the corridor, transit-supportive development at key locations, multi-modal connectivity. Her efforts included on-site assessments of adjacent freight rail corridors and impacts to the community.

City of Idaho Falls, D Street Underpass Idaho Falls, Bonneville, ID. Track Design Task Manager. We designed a railroad underpass for three lanes of traffic and a pedestrian path below UPRR tracks. The project included a steel-beam span bridge, retaining walls, roadway realignment, and an at-grade railroad pedestrian crossing. The underpass is a heavily used grade-separated crossing of the UPRR in the vicinity of downtown Idaho Falls. Amanda is coordinating extensively with UPRR to minimize impacts on the active rail line, including designing a shoo-fly.

Brandon Hilbrich, PE, CFM

Drainage Design Task Lead

Brandon has 11 years of experience leading, managing conducting water resources, stormwater management, and transportation drainage projects including floodplain mitigation studies, watershed master plans, and capital improvement project design/construction phase services. His experience includes complex 1D/2D Hydrologic and Hydraulic (H&H) modeling throughout Texas, bridge scour analysis and protection design as well as developing design documents for storm drain, channel and detention drainage improvements. He has extensive experience in developing Conditional Letter of Map Revisions (CLOMRs)/ Letter of Map Revision (LOMRs) and has a broad understanding of Federal Emergency Management Agency (FEMA) standards. He is knowledgeable in a suite of software including ArcGIS, HEC-HMS, Bentley Products, HEC-RAS 1D/2D and XPSWMM 1D/2D. He is experienced in developing construction plans, estimates, and specifications for roadway and drainage infrastructure projects.

EDUCATION
Master of Engineering, Texas A&M University, 2009

Bachelor of Science, Civil Engineering, Texas A&M University, 2008

REGISTRATIONS
Professional Engineer, TX, No. 112938

Certified Floodplain Manager, TX, No. 1849-10N

INDUSTRY TENURE
11 Years

HDR TENURE
6 Years

RELEVANT EXPERIENCE

Williamson County, FM 3349 at US 79, Williamson County, TX. Drainage Lead. Brandon lead drainage efforts to evaluate the schematic design of the FM 3349 grade-separated overpass crossing the UPRR and US 79. Drainage efforts included coordination with FEMA and local Floodplain Administrator to acquire best available FEMA H&H models and establish implementation of NOAA Atlas 14 rainfall data. The H&H analysis included developing updated HEC-HMS hydrology and HEC-RAS 1D hydraulic models for the major watersheds and seven minor culvert and bridge class culverts crossings within the project area to determine ROW needs based on drainage requirements including mitigation improvements. Brandon is leading the interim frontage road PS&E identified during the schematic phase. Interim design includes the design of cross drainage culverts, roadside ditches, and detention facilities to mitigate adverse downstream impacts beyond the TxDOT ROW.

Williamson County, Southwest Bypass from IH-35 to FM 2243, Williamson County, TX. H&H Task Lead. Brandon was responsible for designing the required detention and retention basins for the Phase I, Phase II, and ultimate condition roadway project. Analyses included developing existing and proposed flow conditions and sizing each detention/retention basin using design flows and/or historic rainfall data as a quarry is located within the project area, providing unique constraints. He evaluated floodplain impacts to one FEMA regulated Zone AE floodplain within the Phase I project limits which required coordination with the local Floodplain Administrator.

Upper Brushy Creek Watershed-Wide Dam Assessments & Prioritization, Williamson County, TX. H&H Technical Review. Brandon performed QC reviews for dam assessments and a risk-based prioritization of the UBCWCID's 23 existing flood detention dams including inspections and data collection, dam breach analysis modeling and mapping updates, potential failure mode analyses, risk assessments, and development of a 10-year capital improvements plan. The project also included EAP updates and risk communication support.

BRANDON HILBRICH, PE, CFM (CONTINUED)

City of Round Rock, County Road 112 from CR 117 to CR 110, Round Rock, TX. Complex Drainage Lead. Brandon is leading the schematic and PS&E drainage efforts to evaluate the schematic design of the CR 112 Road expansion from a two-lane existing road to an ultimate conditions six-lane divided urban road. Drainage efforts included coordination with FEMA and local Floodplain Administrator to acquire best available FEMA H&H models and establish implementation of NOAA Atlas 14 rainfall data. The H&H analysis included developing updated HEC-HMS hydrology and HEC-RAS 1D hydraulic models for the watershed and one minor culvert, two bridge class culverts and one bridge crossing within the project area to determine ROW needs based on drainage requirements including mitigation improvements.

TxDOT Austin District, Central Texas Turnpike System Planning and Feasibility Study, Travis and Williamson Counties, TX. Complex Drainage Lead. Brandon led external drainage feasibility analysis for roadway expansion Schematic project on Loop 1 (3.1 miles), SH 45N (11 miles), SH 130 (46 miles), and SH 45 SE (seven miles) in Travis and Williamson Counties. Brandon's efforts included coordinating with several regulatory agencies and local Floodplain Administrators to acquire available effective H&H models, cataloging over 300 cross drainage structures based on survey and as-builts, and developing existing conditions HEC-HMS hydrology and HEC-RAS hydraulic models for over 100 minor culverts, bridge-class culverts, and bridges in conformance with the TxDOT HDM. Additionally, he developed the approach to implement hydrology methodologies as outlined in the HDM with new NOAA Atlas 14 rainfall data. Approach included the development of intensity-duration-frequency and depth-duration-frequency curves for four site specific rainfall zones along the project corridor.

TxDOT Fort Worth District, SH 183 at UPRR, Tarrant County, TX. Drainage Design Lead. Brandon led internal and external drainage design efforts for roadway underpass reconstruction PS&E project on SH 183 near Lebow Channel in Tarrant County. Efforts included evaluating necessary channel improvement and floodplain impacts in HEC-HMS and HEC-RAS due to roadway improvements. Identified flood mitigation alternatives and channel scour countermeasures.

TxDOT Bryan District, Off-System Bridge Replacements, Burleson County, TX. Drainage Task Lead. Brandon led the H&H modeling and design efforts for three off-system bridge replacement PS&E projects at Oak Branch, Porter Branch, and Birch Creek in Burleson County. Efforts included developing flowrates, 1D HEC-RAS hydraulic models and bridge scour in accordance with hydraulic design manual. Completed impact analysis beyond TxDOT ROW and coordinated with local Floodplain Administration on FEMA floodplain impacts.

TxDOT Beaumont District, On-System and Off-System Bridge Replacements, Newton and Hardin Counties, TX. Drainage Task Lead. Brandon led H&H modeling and design efforts for two off-system bridge replacement PS&E projects at CR 4212 at Sabine River Branch in Newton County and Village Creek Road at Village Creek Branch in Hardin County. His efforts included developing flowrates, 1D HEC-RAS hydraulic models and bridge scour in accordance with hydraulic design manual. He completed the impact analysis beyond TxDOT ROW and coordinated with local Floodplain Administration on FEMA floodplain impacts.

TxDOT Corpus Christi District, US 77 Relief Route, Nueces County, TX. Complex Drainage Lead. Brandon is leading the complex drainage design efforts for roadway improvements construction Schematic, Environmental, and PS&E project on US 77 around Sinton, TX from Business South to Chiltipin Creek Bridge in Nueces County. Complex H&H efforts included coordination with FEMA and local Floodplain Administrator on effective floodplain information and developing XPSWMM 1D/2D external drainage and floodplain impact analysis and HEC-RAS 2D hydraulic model to evaluate bridge scour at Chiltipin Creek.

BRANDON HILBRICH, PE, CFM (CONTINUED)

TxDOT Yoakum District, IH-10 Improvements between Little Bernard Creek and Koy Road, Austin County, TX. Water Resources Engineer. Brandon was tasked with the technical review for detailed impact analysis for roadway corridor schematic project on IH-10 near Allen Creek in Sealy (TxDOT Yoakum District). Reviewed 1D XPSWMM model development to evaluate impacts of proposed roadway improvements which included multiple mitigation improvements including roadside linear detention ditches, cross drainage structures and major detention ponds.

TxDOT El Paso District, IH-10 from FM 1905 to US 85 Interchange, El Paso County, TX. Water Resource Engineer. Brandon was tasked with performing drainage evaluation for proposed roadway schematic project on IH-10 from FM 1905 to the IH-10/US 85 Interchange (approximately 14 miles) in the City of El Paso (TxDOT El Paso District). Drainage evaluation included developing hydrology models for over 70 drainage structures using the hydrology methodology (HEC-HMS), incorporating upstream regional detentions and the Borderline Diversion Channel impacts. He developed over 70 hydraulic models minor/bridge-class culverts and bridge structures using HY-8 and HEC-RAS software. Complex hydraulic analyses included tailwater considerations due to downstream regional detention facilities. Developed regional detention outlet rating curve using TR-29 methodology for two-way covered risers.

TxDOT Austin District, IH-35 at Williamson Drive, Williamson County, TX. Water Resources Engineer. Brandon was tasked with development of the proposed storm drain layout for roadway schematic project on IH-35 at Williams Drive in Williamson County. Tasks included delineation subbasins along entire corridor, identifying inlet locations and capacity per HEC-22 methodology, and determine preliminary storm drain sizes.

City of San Antonio, Hemisfair Redevelopment Project, Bexar County, TX. Water Resources Engineer. As H&H Task Lead, he developed the H&H 1D/2D XPSWMMM master plan model for Downtown San Antonio Hemisfair Park bond project which includes a complex storm drain system network. He was also responsible for evaluating existing, proposed (Phase 1), and ultimate development (multiple phase) conditions. Brandon evaluated several ultimate development drainage infrastructure improvements associated with Hemisfair Park redevelopment including local storm drainage systems, on-site detention facilities, and main trunk line upsizing. He developed drainage construction plan sheets, cost estimates, and specifications.

Lily Liu, PE, CFM
Drainage Design

Lily has eight years of experience in water resources and civil engineering projects related to H&H models for water resources studies. She has performed numerous civil engineering projects including: hydraulic design of bridges, culverts and storm sewers; erosion assessments and analysis of streambank stabilization projects; hydrologic watershed modeling; rainfall/runoff analyses; design of both regional and on-site detention ponds; reservoir operations and design; dam breaching analyses; Section 404 and FEMA permitting; TCEQ and City of Austin water quality permitting.

EDUCATION
Master of Science, Civil Engineering, University of Texas at Austin, 2013

Bachelor of Science, Water Resources and Environmental Engineering, Shaanxi University of Science and Technology, China, 2011

REGISTRATIONS
Professional Engineer, TX, No. 123440

Certified Floodplain Manager, No. 3+95-14N

INDUSTRY TENURE
8 Years

HDR TENURE
1 Year

RELEVANT EXPERIENCE

Williamson County, CR 110 (Schematic Design), Williamson County, TX. Hydraulics Support. Lily provided preliminary culvert design options for CR 110 roadway schematic development. Lily used HEC-HMS to develop flow rates for FEMA and non-FEMA culverts. She analyzed existing and proposed locations of all culverts within proposed project limits. The project also required determination of flood storage effects on the downstream Paloma Lake Dam. Developed preliminary drainage report to be used as an aide in determining the final roadway profile and design parameters.

Williamson County, CR 110 (PS&E Design), Williamson County, TX. H&H Support. Lily provided drainage engineering for PS&E phase services. She developed hydrology and designed hydraulic structures including interim cross culverts, driveway culverts, and ultimate storm drain design for full build out of future roadway improvements. In addition to development of H&H parameters for bridge class culverts, the design also included development of channel modifications within the ROW to transition between existing channel geometry to the proposed crossing culverts. Roadside channel shear stresses were determined to specify appropriate liner types including rock riprap aprons at outfalls, grass liners for ditches and concrete flumes for extreme high velocity locations.

City of Austin, Corridor F ROW, Liberty Hill, TX. H&H Support. Lily performed the preliminary drainage, water quality, and detention design to determine a maximum potential ROW footprint for environmental impacts assessment. ROW need was determined for adequate accommodation of roadway geometry, shared use path, drainage facilities, and detention/water quality ponds. Lily's duties also included meeting with design team regularly, coordinate roadway and drainage project engineers, and facilitate coordination of corridor work with adjacent projects.

City of Austin, William Cannon Drive Corridor Mobility Program, Austin, TX. Project Engineer. Lily performed schematic level drainage impact analysis and water quality design for the additional side walks through the corridor. The existing and proposed impervious cover were calculated for both on-site and off-site drainage areas. Runoffs were calculated using rational method at each outfall. Detention volumes were designed using HEC-HMS. TSS removals were calculated to meet both TCEQ Edwards Aquifer Rules and COA Barton Spring Zone requirements. StormCAD was utilized to evaluate existing storm sewer capacities.

LILY LIU, PE, CFM (CONTINUED)

TxDOT/City of Austin, RM 620 at RM 2222 Regional Mobility Improvements, Austin, TX. Project Engineer. Lily was responsible for schematic and PS&E level drainage design for RM 2222 roadway improvements from River Place Blvd. to RM 620 and a new bypass road about a mile north of Steiner Ranch Road to RM 2222. Lily designed cross culverts, storm drain trunklines, laterals, manholes and inlets to accommodate the proposed roadway widenings with curbs and medians. Lily performed erosion analysis at the proposed system outfall and cost estimate for different construction phases.

TxDOT Austin District, Mobility 35 Central 7, Travis County, TX. Project Engineer. As Task Lead, Lily performed the schematic level drainage analysis for the central seven miles of IH-35. The team evaluated hydrologic impacts of increased impervious cover for transportation improvements along seven miles of IH-35 through downtown Austin. Multiple options were accessed and proposed to mitigate hydraulic impacts due to increased peak flows, undersized conveyance system and catastrophic tail water conditions. Scour analyses and erosion impacts were quantified for outfall. Impacts to regional drainage plans, such as the Waller Creek Tunnel, are being coordinated with City and State stakeholders. Potential locations for pump station for the depressed sections were identified.

TxDOT Austin District, Mobility 35 North 16, Travis County/Williamson County, TX. Project Engineer. Lily performed schematic level hydrologic impact analysis for transportation improvements along 16 miles of IH-35 from the County line to midtown Austin. Culvert hydraulic functions were analyzed in HY-8 and HEC-RAS. Proposed non-bridge-class culverts were designed to meet the TxDOT design criteria. Brushy Creek Bridge were analyzed for proposed condition based on FEMA effective hydraulic model. Alternatives to meet the designed flood event with no adverse impact were evaluated. Scour analyses and erosion impacts were quantified for each outfall. BMPs were designed to mitigate water quality impacts according to Texas Commission on Environmental Quality over the Edwards Aquifer.

TxDOT Cibolo District, FM 1103 Roadway Widening, Cibolo, TX. Project Engineer. Lily's responsibilities included schematic level hydrologic and hydraulic design of two FEMA crossings and internal storm sewer trunk line design. The project overlaps an on-going construction at Main Street and extends east towards Rodeo Way. Two bridge class culverts were identified as the outfalls of the internal drainage system. NRCS hydrograph method and SCS curve number method were utilized for calculating external runoffs. The percentage of impervious cover for fully developed condition were calculated per City of Cibolo planned zoning files. Atlas 14 precipitation date was incorporated in the hydrologic calculations. The existing bridges did not meet current TxDOT design criteria and were undersized. Multiple options were analyzed to improve the level of service without having an adverse impact. Limited channel grading were proposed to provide additional conveyance.

TxDOT Abiliene District, FM 89 Roadway Improvements, Abilene, TX. Project Engineer. Lily was responsible for performing a complex above and sub-surface 2D hydraulic study for the proposed FM 89 roadway improvements in Abilene, Texas. The existing and proposed runoffs were computed to access the increase in peak flows caused by the proposed improvements including rehabilitation of pavement long FM 89, the additional ADA compliant sidewalks on both side of the road, and the addition of curb and gutter with storm sewer systems. EPA SWMM model was utilized for modeling the proposed inlets, leterals and trunklines. The surface detention structures to mitigate the increase in the peak runoffs at project outfalls were simulated in SWMM model to help city make decisions on mitigating the impact from the proposed roadway improvements.

TxDOT Austin District, RM 1826 Roadway Widening, Hays County, TX. H&H Support. This project included the widening of a 2.2-mile section of RM1826 from Travis County line to Nutty Brown Road in Hays County, Texas. Lily calculated peak flows for seven stream crossings, designed four culvert crossings using HY-8 and modeled the hydraulics of three proposed culvert structures crossing FEMA Zone AE floodplains using HEC-RAS. Peak flows for the two Zone AE crossings were calculated

LILY LIU, PE, CFM (CONTINUED)

using the SCS curve number method in HEC-HMS. Lily calculated the peak flows for the two Zone AE crossings using TxDOT regional regression equations to check against the HEC-HMS results and delineated the external drainage areas for all cross culverts as well as the internal drainage areas for proposed roadway. In all, Lily designed a total of 21 proposed driveway culverts and six side street cross culverts with a minimum capacity of five-year storm event to provide a better drainage system for the proposed roadway. She created the hydrology summary sheet and hydraulic summary sheet as well as seven culvert layout sheets and also assisted in preparing the cost estimate sheet for the proposed drainage structures.

TxDOT Tyler District, SH 135 Roadway Widening, Gregg County, TX. AAEIT. Lily performed the drainage analysis for this roadway widening project along SH 135 from 1.8 miles north of FM 1252 in Liberty City, north to US 271 in Gladewater (4.5 mi). SH 135 over Prairie Creek Bridge and SH 135 over Little Caney Creek Bridge are two FEMA Zone A crossings. Lily's responsibility included H&H analyses on eight cross culverts and two bridge crossings and calculated peak flows. She also designed proposed culverts to accommodate the proposed roadway improvements. She created culvert layout sheets and other hydraulic data sheets.

Terri Asendorf

Environmental Support

Terri is an Environmental Planner, Project Manager, and Architectural Historian with 13 years of experience preparing and managing NEPA studies and cultural resources projects. She serves as project manager and task leader for EAs and EISs for highway, transit, and infrastructure projects, and coordinates Section 106 projects with SHPOs throughout the U.S.. She has significant experience coordinating Section 4(f) resources for DOTs. Terri is a member of the Historical Architecture Review Commission for the City of Georgetown, Texas.

EDUCATION
Master of Science, University of Texas at Austin, 2005

Bachelor of Arts, English Literature, Virginia Commonwealth University, 1992

INDUSTRY TENURE
13 Years

HDR TENURE
3 Years

RELEVANT EXPERIENCE

TxDOT Austin District, US 290/71 Oak Hill Parkway EIS, Austin, TX. Deputy Environmental Task Lead. US 290 and SH 71 through Oak Hill act as a gateway to the hill country and serve as a critical route to Austin for the residents of Oak Hill, Lakeway, Bee Cave, Dripping Springs, and other growing communities. The project looked at improvements to increase capacity, improve safety and connectivity, and preserve the community of the Oak Hill Neighborhood along SH 71 from Silvermine Drive to US 290 in Travis County, a distance of approximately 6.7-miles. As a result of public comment, the project includes a transition area along US 290 from FM 1826 to the west of Circle Drive. Terri authored portions of the draft and final EIS including the executive summary, Record of Decision (ROD), and EPIC. Terri also attended meetings with TxDOT, the CTRMA, and reviewed technical reports and coordinated assignments among staff.

TxDOT Austin District, Williams Drive, Georgetown, TX. Environmental QC. This project was part of the Mobility 35 Program. The location of the project was Williams Drive in Georgetown, between IH-35 from North Austin Avenue to Rivery Blvd., a distance of approximately 2.15 miles. The project proposed reconstruction of the Williams Drive interchange, the addition and modification of frontage roads, construction of collector-distributor ramps, and the construction of a shared-use path. Terri performed QC for technical reports and assisted with coordination of the historic resources PCR.

TxDOT Austin District, Business 79 Widening and Drainage Improvements, Taylor, TX. Deputy Environmental Project Manager. This project included road widening and drainage improvements to Business 79 for two-miles of Business 79/2nd Street through historic downtown Taylor. Terri prepared the TxDOT CE and conducted a historic resources survey through the downtown historic district in Taylor which included historic sidewalks. She also prepared historic resources survey report and coordinated with TxDOT.

TxDOT Austin District, IH-35E Austin, TX. Deputy Environmental Task Lead. The City of Austin Corridor Mobility Program is working on designing and constructing corridors that support mobility, livability, and other outcomes outlined by the Austin City Council for the 2016 Mobility Bond Program. Nine key corridors were identified to help improve the overall transportation network. They are major thoroughfares for getting around, destinations for residents and visitors, and home to businesses as well as many Austinites. These corridors are nearly at the end of the design and environmental phase

TERRI ASENDORF (CONTINUED)

and will be entering into the construction phase in late 2020. Terri is responsible for coordinating environmental clearances for the nine corridors and providing environmental oversight. She coordinates technical reports and reviews with the City PMs, environmental consultants, and TxDOT Environmental Coordinators.

City of Dripping Springs, Sportsplex Sidewalk Project, Dripping Springs, TX. Environmental Project Manager. This project included the installation of sidewalks connecting US 290 to Dripping Springs High School using a TxDOT grant. Terri coordinated technical reports among the resource specialists, design PM, and TxDOT environmental coordinator. She reviewed technical reports and historic resources PCR.

TxDOT Dallas District, IH-35 Widening and Reconstruction Project and Environmental Assessment, Denton, TX. Environmental Project Manager. The project proposed to widen IH-35 from US 380 in the city of Denton to FM 3002 in Cooke County, requiring approximately 245 acres of new ROW along the 15-mile corridor and traversed urban and rural areas. Environmental constraints included a National Register-eligible residence within the proposed ROW. We redesigned the project to avoid demolition and a potentially lengthy Section 4(f) evaluation. The City of Sanger-owned parkland also required Section 4(f) coordination, which resulted in a diminished finding. Terri's responsibilities included preparing an EA and FONSI, which included Section 4(f) resources, a quantitative MSAT Analysis, CO TAQA Analysis, a traffic noise analysis and a noise wall/workshop. Terri managed resource specialists, reviewed technical reports, and coordinated reviews and comments with the TxDOT Dallas District. She wrote the EA using information from the technical reports and helped conduct the public hearing.

Benedict Patrick, PE, PTOE

Traffic Operations/Analysis

Benedict is a Professional Engineer and a Professional Traffic Operations Engineer in Texas with 20 years of experience in various types of transportation projects. He earned a Master's degree in Civil Engineering from Texas A&M University. Benedict serves as Project Manager and Traffic Engineering Design Lead for comparable projects in various cities and counties, including Williamson County. His expertise includes traffic engineering studies, traffic signal timing, traffic operation evaluations for freeways and highways, traffic impact analysis, traffic signal design, traffic control plans, pavement marking and signing plans, roadway impact fees, minor roadway design, highway railroad signal preemption, pedestrian and bicycle facilities, development of plans, specification, and estimates, bid documents, and construction services. He routinely attends neighborhood meetings, planning commission meetings, and city council meetings and serves as the liaison for his projects. He has extensive experience in coordination with local municipalities and stakeholders.

EDUCATION

Master of Engineering, Civil Engineering, Texas A&M University, 2001

Bachelor of Engineering, Civil Engineering, BMS College of Engineering Bangalore, 1997

REGISTRATIONS

Professional Traffic Operations Engineer, TX, No. 1881

Professional Engineer, TX, No. 96710

INDUSTRY TENURE

20 Years

HDR TENURE

18 Years

RELEVANT EXPERIENCE

City of Round Rock, On-Call Traffic Operation Engineering Service Contracts, Round Rock, TX. Project Manager. Benedict is serving as the Project Manager on multiple traffic on-call contracts for the City of Round Rock since 2011. As part of this contract, Benedict managed and led 22 different work authorizations. The various work authorizations included: developing concept schematics and cost estimates for construction of turn lanes on arterial streets; preparation of PS&E plans and bid documents for construction of a right-turn lane on an arterial street; update of the City's Transportation Criteria Manual; analysis of a proposed modern roundabout adjacent to downtown using Vissim; signal timing plan/implementation on US 79 (from IH-35 to Redbud Lane) and RM 620 (from IH-35 to Wyoming Springs Drive); traffic analysis and report preparation; preparation of a survey exhibit for Logan Drive extension; traffic signal design PS&E, bid documents, and construction services for six traffic signals; and a traffic study to evaluate the impact of removing the roundabout at Round Rock Avenue and Blair Street in downtown Round Rock. He successfully delivered quality work on an aggressive schedule for the work authorizations. Benedict's tasks included project management, preparation of scope/fee for work authorizations, coordination and meeting with City, meetings with subconsultants and project team, field review, review of analysis/report, signal design, scheduling QA/QC, coordination with contractor on signal design construction projects, reviewing construction pay applications from the contractor, and maintaining the overall schedule, budget, and quality of work.

City of Round Rock, US 79 and Harrell Parkway, Round Rock, TX. Project Manager. Benedict is serving as the Project Manager for roadway improvements project along US 79 at Harrell Parkway and Brushy Creek Plant Road as part of the Kalahari Water Resort development. PS&E plans include roadway extensions; addition of acceleration and deceleration turn-lanes; signal design; photometric analysis; illumination design; pavement marking/signing; drainage modifications; installation of water pipes under US 79; utility relocations; security gate for the water treatment plant; pavement design; and traffic control plans. The roadway extensions included crossing

BENEDICT PATRICK, PE, PTOE (CONTINUED)

the UPRR rail line, which necessitated the preparation of Exhibit A and railroad preemption forms for the traffic signal. Extensive coordination was required with TxDOT, the City, and UPRR to obtain permits and let the project. We developed PS&E plans and project manual and assisted the City in bidding the project. We are currently providing construction services on this project. Benedict's tasks included project management, coordination with various discipline leads and subconsultants in preparation of the design plans, attending bi-weekly meetings with the City and Contractor, meetings with UPRR, meetings with TxDOT for PS&E plan approval, preparation of various TxDOT forms as part of PS&E submittal, review of PS&E plans and project manual, signal design, review and approve change orders, respond to RFI's from contractor, field visits during construction, invoicing, and review of pay applications from contractor.

City of Leander, Old FM 2243 (Hero Way) Reconstruction, Leander, TX. Traffic Task Lead. We were contracted by the City of Leander to perform data collection, preliminary engineering, alternatives analysis, and PS&E development for the redevelopment of a 2.7-mile section of Old FM 2243 (Hero Way) between US 183 and Lakeline Blvd. As part of the alternative analysis, Benedict developed forecasted traffic volumes and performed traffic operational analysis for existing and forecasted conditions using Synchro to identify improvements. We incorporated the improvements into the schematic and PS&E development. Benedict also led the temporary and permanent signal designs for three intersections as part of this project.

City of Round Rock, Signal Design Related Project Work, Round Rock, TX. Signal Design Task Lead. Benedict has prepared numerous traffic signal design PS&E sets for the City. Benedict's tasks included detailed field inventory, coordination with the power company, preparation of existing and proposed signal layouts, pavement marking, ADA compliant pedestrian ramp design, conductor/conduit schedule, signing, signal phasing, vehicle detection, emergency vehicle preemption, elevations, foundation design, quantity estimates, and cost estimates. We also provided bid and construction services as part of the signal design on projects where we were the prime consultant. Some examples include: Gattis School Road and Red Bud Lane, Sam Bass Road and Chisholm Trail, and Gattis School Road and Meister Lane.

City of Round Rock, Gattis School Road Widening Project, Round Rock, TX. Traffic Task Lead. We developed schematic design plans for widening Gattis School Road to a six-lane divided section from west of Greenlawn Blvd. to the east of Red Bud Lane. As part of this project, Benedict completed the corridor analysis using VISSIM to identify roadway/intersection improvements such as the need for turn lanes, and queue storage lengths. Seventeen intersections were analyzed for existing, no-build, and build conditions for both the AM and PM peak periods. Benedict's recommendations from the traffic analysis were incorporated into the design schematic.

City of Round Rock, Meister Lane, Round Rock, TX. Traffic Task Lead. This project involved upgrading Meister Lane from a two-lane undivided roadway to a three-lane curb and gutter facility with a continuous center turn lane from SH 45 westbound Frontage Road to Gattis School Road. Benedict performed traffic analysis using Synchro software to evaluate intersection operations and designed the traffic signal for the intersection of Gattis School Road and Meister Lane. We completed the preliminary traffic analysis and developed PS&E for this project, which included roadway design, drainage, traffic control plans, pavement marking/signing, signal design, and illumination. We prepared the PS&E plan set according to City's Design and Construction Standards. The project opened to traffic on schedule and under budget.

City of Austin, Robert Mueller Municipal Airport Redevelopment Project, Austin, TX. Project Manager. Benedict led this project and developed PS&E plans for pavement marking, signing, signalization, and traffic control plans. The project represented unique challenges as it is a major trip generator and required multi-agency coordination. Benedict successfully coordinated with TxDOT and City of Austin for the design and approval of pavement marking/signing and traffic

BENEDICT PATRICK, PE, PTOE (CONTINUED)

control plans. Unique design elements included - pavement marking/signing for roundabouts to provide safe operations, pavement marking/signing for bicycle lanes and cycle tracks, and enhanced pedestrian crosswalks and signing. The plan set included layout sheets, design details, quantities, and specifications.

City of Round Rock, Public Library TIA, Round Rock, TX. Project Manager. Benedict served as the Project Manager and performed Traffic Impact Analysis (TIA) for a proposed 65,000 SF public library located near downtown Round Rock. As part of this project, we collected data at 16 intersections; computed trip generation; developed distribution spreadsheets; forecasted volumes for no-build and build conditions; performed capacity analysis for existing and forecasted conditions to evaluate traffic operations; performed pedestrian evaluation due to the proximity of the library to C.D. Fulkes Middle School; developed recommendations to mitigate impacts; developed pro-rata percent for fiscal contributions; and prepared TIA report summarizing the methodology, analysis, results, and recommendations. Benedict's tasks included project management, meeting with City, review of traffic forecasts and analysis, report writing, and maintaining the overall schedule, budget, and quality of work.

TxDOT, On-Call Contract 36-536P5133, Statewide, TX. Traffic Task Lead. We completed two work authorizations under this on-call contract. Work authorization 1 was for the TxDOT Austin District and included signal design at 21 intersections, flashing beacon design at 11 intersections, illumination design, curve advisory warning signs, and high friction pavement surface overlay at three locations. Some of these intersections were part of the HSIP funding, and we prepared two separate PS&E plan sets per TxDOT standards and specifications. The standard submittals also contained supplemental documents, including general notes, construction schedule, cost estimates, ROW letter, and forms for TxDOT letting. The signal design also included the design of ADA compliant pedestrian ramps, drainage modifications, minor roadway design, illumination, and pavement marking/signing. Illumination design for IH-35 frontage roads at Rundberg Lane included photometric analysis to identify lighting needs and preparation of illumination design plans. Work Authorization 2 was for the TxDOT Amarillo District and included signal warrant analysis at eight intersections, Rectangular Rapid Flashing Beacon evaluation at a midblock school crossing and speed zone studies for nine roadways totaling approximately 49 miles. Deliverables included technical reports for traffic studies and strip maps for the speed studies.

DEREK BOHLS, PE, CFM
DRAINAGE DESIGN
ROUND ROCK OFFICE

LJA ENGINEERING

EDUCATION
2004, BS, Civil Engineering
University of Texas at Austin

PROFESSIONAL LICENSE
2009, Professional Engineer: Texas #103424

2014, Certified Floodplain Manager: #2671-14N

TXDOT PRECERTIFICATION
Employee Sequence No. 18360
Categories: 2.5.1, 10.1.1, 10.2.1,
10.3.1, 10.5.1, 10.7.1

EXPERIENCE
Total: 16 Years // Firm: 8 Years

AVAILABILITY
- **Liberty Hill Bypass 20%**
- **Southwest Bypass 20%**
- **Availability to the County 60%**

SUMMARY OF QUALIFICATIONS
Derek has 16 years of H&H design experience on transportation projects across the state of Texas. His responsibilities include schematic development and design, PS&E, rural and urban drainage design, water quality regulations and permitting, floodplain analysis, scour analysis, water quality BMP design, impact analysis, storm sewer design, culvert design, erosion control plans, energy dissipater design, and hydrologic modeling for projects. Derek has been involved in large projects such as the MoPac Improvement Project, North Tarrant Expressway, and US 281; as well as many traditional PS&E projects such as New Hope Drive (two phases), North Mays Street, and Weiss Lane. Derek is proficient with Microstation, GeoPak, HEC-RAS, HEC HMS,
XP SWMM, ArcGIS, and HY-8.

DEREK BOHLS, PE, CFM
DRAINAGE DESIGN

1 | US 281 PHASE 2

San Antonio, Texas

Client: TxDOT // Completed: 2021 (est) // Cost: $188M // Characteristics: Urban Freeway with Frontage Roads, Mainlanes, Impact/Detention Analysis, Grade Separations Relevance: Controlled Access Facility, Added Capacity, Interim/Ultimate Design, PS&E, Edward's Aquifer Protection Zone, FEMA Streams, Bridge

Roles & Responsibilities: Derek successfully led the drainage on the SH 281 Phase 2 improvement project in the San Antonio District which included converting a 4-lane highway into a controlled access freeway with ramps and frontage roads. The design included cross culverts, storm sewer, roadside ditches, and outlet protection. The project also lies completely within the Edward's Aquifer Recharge and Contributing Zones. On and off-site drainage areas and hydrographs were produced to determine peak flow impacts due to the project. All increases were documented within the drainage report and detention solutions were applied in areas where the roadway was at the top of the drainage basin, or where outfalls tied into smaller downstream systems that could not handle the increased peak flows. Outlet velocities were minimized to reduce susceptibility to scour and erosion. All design was confirmed to meet all Environmental commitments.

2 | NEW HOPE DRIVE PHASE I

Cedar Park, Texas

Client: City of Cedar Park // Completed: 2019 // Cost: $8M // Characteristics: Urban 4-lane Divided, Impact/Detention Analysis // Relevance: Added Capacity, Interim/Ultimate Design, Schematic, PS&E, ROW Identification, Traffic Studies, Public Involvement, Edward's Aquifer Protection Zone, FEMA Streams, Bridge

Roles & Responsibilities: Derek was the Project Manager of schematic and PS&E development for a new construction 4-lane divided urban roadway in Cedar Park, Texas from Cottonwood Creek Trail to Ronald Reagan Boulevard (Phase 1), and from Ronald Reagan Boulevard to CR 175 (Phase 2). Derek coordinated the design of all aspects of the project including roadway, drainage, bridge, water quality, detention, retaining walls, ROW acquisition, Survey, Geotechnical, traffic, ADA, and public involvement components. Phase 1 of the project was design and constructed on time and under budget while Phase 2 of the project is currently under environmental review at TxDOT.

3 | NORTH MAYS EXTENSION

Williamson County, Texas

Client: Williamson County // Completed: 2018 // Cost: $14M // Characteristics: Urban Ultimate 4-lane, Interim 2-lane // Relevance: Added Capacity, Interim/Ultimate Design, Schematic, PS&E, ROW Identification, Traffic Studies, Public Involvement, Edward's Aquifer Protection Zone, FEMA Streams, Bridge

Roles & Responsibilities: Derek was the Drainage Task Lead and Water Quality Lead for a new construction roadway in Round Rock, Texas. Derek performed floodplain analysis on a FEMA crossings using HEC-RAS and HEC-HMS; coordinated with the Upper Brushy Creek Water Control & Improvement District regarding development in the designated inundation easement behind Dam #11. Proposed bridge geometry design; drainage design for PS&E including storm sewer, ditch and cross culvert design using Geopak Drainage, HY-8; and water quality design. Prepared Water Pollution Abatement Plan to be submitted to TCEQ for approval.

DEREK BOHLS, PE,CFM
DRAINAGE DESIGN

4 | NORTH-SOUTH CONNECTOR
New Braunfels, Texas

Client: City of New Braunfels // Completed: 2018 // Cost: $3.2M // Characteristics: Interim 2-lane Arterial, Ultimate 4-lane Divided Arterial, Impact/Detention Analysis // Relevance: Added Capacity, Interim/Ultimate Design, Schematic, ROW Identification, Traffic Studies, Public Involvement
Roles & Responsibilities: Derek was the Project Manager of schematic development for a new construction 4-lane divided urban roadway in New Braunfels, Texas from Alves Lane to IH 35. Derek coordinated the design of all aspects of the project including roadway, drainage, water quality, detention, ROW needs, Survey, traffic, ADA, and public involvement components. The project set the proposed limits of construction of the ultimate 4-lane road and interim 2-lane alternative in order to identify proposed ROW.

5 | RED BUD LANE
Round Rock, Texas

Client: City of Round Rock // Completed: Ongoing // Cost: $15M // Characteristics: Roadway Widening to 5-lane Urban // Relevance: Added Capacity, Interim/Ultimate Design, Schematic, PS&E, ROW Identification, Traffic Studies, Public Involvement, FEMA Streams
Roles & Responsibilities: Derek was the Project Manager of schematic and PS&E development for a reconstruction/widening of a proposed 5-lane urban roadway in Round Rock, Texas from Forest Ridge Boulevard to Gattis School Road. Derek coordinated the design of all aspects of the project including roadway, drainage, water quality, detention, retaining walls, ROW acquisition, survey, geotechnical, traffic, SUE, ADA, and public involvement components.

6 | MEADOWS AREA DRAINAGE STUDY
Round Rock, Texas

Client: City of Round Rock // Year Completed: Analysis 2018 // Construction Cost: NA Characteristics: 2-D Flood Modeling, Preliminary Engineering, 2-D Drainage Analysis, Impact/Detention Analysis // Relevance: Interim/Ultimate Design, ROW Identification, FEMA Streams
Roles & Responsibilities: Derek was the Project Manager on a comprehensive drainage study of both the Meadows and Greater Round Rock West subdivision area in Round Rock, Texas. Study included 2-D hydrologic and hydraulic analysis of a 200-acre developed area with multiple locations of historic flooding issues. Developed an existing 2-D model detailing land use, infiltration, and 1-D existing conveyance features, and applying rain on grid inflow methodology. Calibrated the model with existing rainfall data from a 2015 event, and captured video footage of flooding within the area during the same event. Created inundation map of entire area, highlighted structures within the study area with anticipated inundation. Developed potential solutions to reduce flooding within the areas and modeled in 2-D to create a proposed inundation map. Estimated costs of each improvement including storm sewer improvements, grading, utility relocation, traffic control, and ROW/easements.

7 | WEISS LANE
Pflugerville, Texas

Client: City of Pflugerville // Completed: 2016 // Cost: $18M // Characteristics: Urban/Rural 4-lane Divided, Impact/Detention Analysis // Relevance: Added Capacity, Interim/Ultimate Design, Schematic, PS&E, ROW Identification, Traffic Studies, Public Involvement, FEMA Streams, Bridge

DEREK BOHLS, PE, CFM
DRAINAGE DESIGN

Roles & Responsibilities: Derek was the Drainage Task Lead for 3 miles of roadway improvements in Pflugerville, Texas. Derek performed floodplain analysis on three FEMA stream crossings with new bridge locations using HEC-RAS and HEC-HMS; coordinated with the local floodplain administrator. Proposed bridge geometry design; drainage design for PS&E including storm sewer, ditch and cross culvert design using GEOPAK Drainage, and HY-8.

8 | FM 685

Williamson County, Texas

Client: City of Hutto // Completed: 2017 // Cost: $14M // Characteristics: Rural 4-lane Divided, Impact/Detention Analysis // Relevance: Added Capacity, Interim/Ultimate Design, Schematic, PS&E, ROW Identification, Traffic Studies, Public Involvement, FEMA Streams, Bridge

Roles & Responsibilities: Derek was Drainage Lead for the widening of FM 685 from US 79 to SH 130 in Hutto, Texas. Project widened existing roadway and added curb and gutter with a storm sewer system that outfalled into Brushy Creek. Project funded with Proposition 12 funds which required and accelerated schedule to meet the construction deadline. Responsible for drainage design, hydraulic analysis of Brushy Creek Bridges, cross culverts, erosion control, and PS&E.

9 | MOPAC IMPROVEMENT PROJECT

Austin, Texas

Client: Central Texas Regional Mobility Authority // Completed: 2018 // Cost: $200M Characteristics: Control of Access High Speed Roadway // Relevance: Controlled Access Facility, Added Capacity, PS&E, ROW Identification, Public Involvement, Edward's Aquifer Protection Zone, FEMA Streams, Bridge

Roles & Responsibilities: Derek was the Lead Drainage Engineer in designing over 75 storm sewer systems along the project corridor. Design included dynamically modeling all storm sewer systems in an effort to create inline detention to mitigate peak flow increases at the outfalls. Retrofitted existing storm sewer systems to utilize existing infrastructure. Conducted a floodplain study on Walnut Creek and submitted the results to the local floodplain administrator.

10 | RONALD REAGAN BOULEVARD NORTH PHASE 4

Williamson County, Texas

Client: Williamson County // Completed: 2013 // Cost: $20M // Characteristics: Rural Ultimate 4-lane Divided // Relevance: Ronald Reagan Corridor, Interim/Ultimate Design, Schematic, PS&E, ROW Identification, Traffic Studies, Public Involvement, Edward's Aquifer Protection Zone, FEMA Streams, Bridge

Roles & Responsibilities: Derek was the Drainage Lead for a project involving floodplain analysis on three FEMA crossings using HEC-RAS and HEC-HMS including: proposed bridge geometry design and channel mitigation, drainage design for Schematic/PS&E including ditch and cross culvert design in accordance with the Protocol for Sustainable Roadsides Manual. Coordinated ROW needs based on preliminary drainage design. Designed temporary and permanent best management practices including TSS load removal calculations along with the preparation and submission of the Water Pollution Abatement Plan in accordance with TCEQ.

McGRAY and McGRAY LAND SURVEYORS, INC.

Joe D. Webber, Jr.
Survey
Texas Registered Professional Land Surveyor, No. 4552
TXDOT Pre-Certified in Categories 15.1.1, 15.2.1, 15.2.2, 15.3.5
TXDOT Employee Seq. Number: 000011062 TXDOT Firm Seq. Number: 00000526

EDUCATION / LICENSES

TSPS approved seminars (as student and instructor)
1986/Registered Professional Land Surveyor/Texas No. 4552

EMPLOYMENT HISTORY

Cotton Surveying Company, Houston, TX – 15 yrs
SURVCON, Inc., Houston, TX – 5 yrs
SURVCON, Inc., Austin, TX – 10 yrs
Surveying And Mapping, LLC, Austin, TX – 3 yrs
McGray & McGray, Austin, TX – 4 yrs

MEMBERSHIPS, RECOGNITIONS, PROFESSIONAL SERVICE

Member of Texas Society of Professional Surveyors
Member of National Society of Professional Surveying
Member of various service, civic, and business organizations
Presented the "Surveyor of the Year" award by TSPS, October 2010
TSPS Liaison to TXDOT COGS committee
TSPS Governmental Affairs Committee

PROFESSIONAL EXPERIENCE

Mr. Webber has over 49 years of experience in land surveying, with 37 years in project management. His experience has included becoming a Principal at SURVCON and managing the Austin, TX office for 10 years. His responsibilities include coordination of services connected with the project and supervision of field services, supervision of office work, analysis of data, land title and boundary research and analysis, including TSPS Category 1A surveys, ALTA/NSPS surveys, plats, descriptions, right-of-way maps, and quality assurance. Mr. Webber has experience in land title and boundary, right-of-way, route, locative, construction, engineering design, topographic, asbuilt, utility, tree, obstruction, aerial photography control, horizontal control and vertical control. He is involved in and oversees the production of AutoCAD and MicroStation surveys, reports, cut sheets, plats, descriptions and right-of-way maps. He is responsible for coordinating and communicating with clients from the proposal stage to completion.

REPRESENTATIVE PROJECTS

Hutto Bond Program/HNTB/CTRMA/City of Hutto – Mr. Webber, as Project Manager, worked closely with HNTB to establish scope for this multi-phase project involving five intersections. Control was established and topographic surveys with 1' contours provided, locating all visible features, manholes, and trees 4" and larger. Also provided were ownership and deed information for tracts adjacent to ROW lines of the roadways within the project areas. Existing ROW was established, and Mr. Webber continues to monitor field crew and office production progress for the third phase of this project, 2019-2020

McGRAY and McGRAY LAND SURVEYORS, INC.

Joe D. Webber, Jr., R.P.L.S.

US 183A Phase III PS&E – Williamson County/RTG/CTRMA – Mr. Webber supervised surveying services for the additional design survey requested along the west side of US 183A for the proposed Shared Use Path, monitoring field crew and office production progress throughout the project, 2019

US 183A from Hero Way to US 29 – Williamson County/WSP/CTRMA/Williamson County – Mr. Webber supervised aerial mapping and supplemental LiDAR services for US 183A Phase III for the preliminary design monitoring field crew and office productions progress. Project included locating tree surveys and bridge survey of the existing structure crossing San Gabriel River between the existing lanes, 2019

South Lamar Corridor Improvements, Austin, TX/City of Austin Corridor Mobility Program – Mr. Webber provided staff surveyor support for mobile mapping project. Ninety-eight mobile mapping targets were set, and obscured areas were surveyed using terrestrial scanning and conventional and GPS/RTK survey methods, 2019

US 183 From Mopac to LP 45/WSP/CTRMA/Travis County – Mr. Webber worked closely with WSP and the CTRMA to re-establish survey control and provide the client with a new aerial map of the project. He also supervised a) supplemental design survey for areas that were obscured in the aerial mapping, b) establishing nine (9) deep well monuments throughout the 9-mile project, c) establishing the right-of-way lines where proposed sidewalks are to be constructed and d) locating detention ponds for future drainage easements created for the proposed improvements, all while monitoring field crew and office production progress, 2018-2019

Linden Road Bridge #415 Replacement Project/Garver/Travis County – Mr. Webber provided the research for all the adjacent properties and created right-of-entry letters. He supervised a) establishing horizontal & vertical control, b) design topographic survey of the proposed area, c) detailed bridge survey of the existing structure, d) hydraulic cross sections as determined by the engineer, and e) boundary survey to establish the right-of-way lines of Linden Road for the creation of permanent & construction easements, continually monitoring field crew and office production progress, 2018-2019

Bullick Hollow Road Left Turn Lane Project/LAN/Travis County – Mr. Webber worked with the LCRA to obtain surveys that would establish the existing right-of-way of Bullick Hollow Road. He supervised a) establishing horizontal & vertical for the project, b) design topographic survey of the proposed area and c) establish the right-of-way line of Linden Road for the creation of permanent & construction easements, located all above ground features, and monitored field crew and office production progress, 2018

2018 Pavement Rehabilitation Project, Pflugerville, Texas/Dannenbaum/City of Pflugerville – Mr. Webber provided research for all the adjacent properties and had a map created of the subject area which defined the location of the street right-of-way lines. He supervised a) establishing horizontal & vertical control, b) design topographic survey of the proposed area and c) product for the final deliverable. He also continually monitored field crew and office production progress, 2017-2018

CR 366 Improvements Project/Garver/Williamson County – Mr. Webber worked closely with the PM for GARVER to obtain the data they needed for a proposed roadway widening project. He coordinated with an aerial mapping team member to perform aerial LiDAR flight in conjunction with

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Joe D. Webber, Jr., R.P.L.S.

supplemental design topographic survey for area defined by GARVER. Mr. Webber supervised a) establishing horizontal & vertical control for the project, which included setting two (2) deep well benchmarks, b) design topographic survey of the proposed area, c) detailed bridge survey of the existing structure, e) hydraulic cross sections, as determined by the engineer, and e) boundary survey to establish right-of-way lines of CR 366 and Carlos G. Parker, 2017-2018

FM 110/LJA/Hays County – Mr. Webber provided the research for all the adjacent properties and created right-of-entry letters. He supervised a) establishing horizontal & vertical control, b) design of topographic survey of the proposed area, c) the preparation of parcel plats & legal descriptions for proposed acquisitions and d) setting the proposed corners for the proposed parcels, monitoring field crew and office production progress, 2018

Austin Cemetery Reclaimed Water Project/Freese and Nichols/Austin – Mr. Webber supervised a) establishing horizontal & vertical control, b) design topographic survey of 16,300 linear feet of streets (between the existing right-of-way lines). This included locating surface evidence of all utilities, physical features that may be affected by construction, manhole, flowline, valve, inlet and outlet information for storm sewer infrastructure and trees 8" in diameter and greater, c) creation of a map of the adjacent subdivisions to define the existing right-of-way lines, d) coordinate with the Geotech to locate boreholes. He also monitored field crew and office technician production progress, 2016-2017

SH 138 Design Survey/SAM, LLC/TxDOT Austin District/Williamson County, TX – Mr. Webber was Senior Project Manager responsible for surveying support of roadway improvements project for SH 138 from SH 195 to US 183 (6.352 miles), supervised crews who established primary control, setting TxDOT Type II ROW monuments, and installed 38 mobile LIDAR targets, channel cross sections for hydraulic survey upstream and downstream at Salado Creek, Berry Creek, and Berry Creek Tributary were provided, kept tabs on field hours and progress to ensure efficiency, made weekly status reports, 2016

SH 130 Aerial Mapping/SAM, LLC/TxDOT Austin District/ Williamson and Travis Counties, TX – Mr. Webber was Senior Project Manager responsible for surveying support of aerial mapping project for Segments 2 and 3 of SH 130, supervised crews establishing approximately 200 panels, establishing approximately 88 secondary control points (including One-Call effort), and providing approximately 26 ground truthing cross sections, provided coordinates for all targets and cross sections, keeping tabs on field hours and progress to ensure efficiency, providing weekly status reports directly to TxDOT, 2016

Prior to Employment with McGray & McGray -

Williamson Co. Bridge & Infrastructure – Williamson County Expo Center, Taylor, TX

Mr. Webber was Senior Project Manager responsible for an engineering design (topographic) and tree survey of the existing arena along with improvements within the Expo Center or future expansion. Researched the subject and adjacent properties to locate existing utilities and create new easement documents & exhibits for a proposed P.U.E. Due to the nature of the soils in the area, and after discussing with Bob Daigh, three (3) benchmarks were set that were driven to refusal within the project area. The final product was delivered in Microstation V8i. Completed: July, 2015
Contact: Bob Daigh, PE, Williamson County Road & Bridge

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Joe D. Webber, Jr., R.P.L.S.

Williamson County Expo Center & Access Road, Taylor, TX
Mr. Webber was Senior Project Manager responsible for an engineering design (topographic) survey from the north existing edge of pavement of Chandler Road extending south approximately 1.1 miles to the south right-of-way line of Carlos G. Parker NE Boulevard (at its intersection with Northpark Blvd), 300 feet in width centered along the proposed East Williamson County Events Center Access Road alignment. This survey was done in conjunction with work being performed by K. Friese & Associates. The final product was delivered in Microstation V8i.
Completed: May, 2015 Contact: Bob Daigh, PE, Williamson County Road & Bridge

Williamson County Road & Bridge – CR 110, Williamson County, TX
Mr. Webber was Senior Project Manager responsible for supplemental topographic survey of CR 110, from US 29 south to US 79, and final staking of the proposed right-of-way. Mr. Webber met with Dannenbaum Engineering when they took over the project after which field surveys were conducted of areas that had been modified since the original mobile mapping done a few years earlier. Mr. Webber oversaw the production of a right-of-way strip map and parcel plats with descriptions for proposed right-of-way acquisitions and easements. The location of the proposed parcels were staked so the appraiser(s) could make a visual inspection of the areas. Upon acceptance of the parcels, Mr. Webber oversaw the setting of the final parcel corners and deliveries. The final product was delivered in Microstation V8i.
Completed: March, 2015 Contact: Tom Arndt, PE, Dannenbaum Engineering

San Gabriel Ranch Road, Williamson County, Texas
Sr. Project Manager responsible for surveying along San Gabriel Ranch Road for the creation of drainage easements and re-establishing the Right-Of-Way for San Gabriel Ranch Road, Chaparral Drive, and Corral Lane. This project was to determine encroachments of fences and other private improvements that were within the right-of-way lines of each of the streets. This required reconstructing the subdivision blocks that surrounded these streets to define the right-of-way lines and computing search points for property corners along the roads. Many of the boundary corners were destroyed, therefore Mr. Webber was closely involved with the analysis of the monumentation found to determine the accuracy of their location. Once the final alignment of the right-of-way lines were determined, encroachment data was provided to Williamson County. Once County Engineering determined where additional easements were needed, Mr. Webber supervised the staking and creation of an easement plat & description for each location. This project included boundary, construction, analysis, and field staking. The final product for this was delivered in Autocad Civil 3D.
Completed: February, 2015
Contact: Kon Kwon, PE, Williamson County Engineering Department

Bridgefarmer - SE Inner Loop Road Project located in front of the Williamson County Road & Bridge Office, Williamson County, TX
Mr. Webber was Senior Project Manager responsible for an engineering design (topographic) survey of the SE Inner Loop Road – from north of Belmont Drive to the most southern driveway of the City of Georgetown Sub-station, approximately 3,700 feet, with limits extending a minimum of 25 feet beyond apparent ROW.

Cambrian

Kemble White Ph.D., P.G. **Karst**

Expertise

Karst Hydrogeology and Biology of the Edwards Aquifer

Endangered Species Act Compliance

State and Municipal Edwards Aquifer Rules Compliance

Karst Preserve Design

Biological Assessments

Habitat Conservation Planning

Education and Training

Ph.D., Geology; University of Mississippi, Oxford; 2006

M.S., Engineering Geology; University of Mississippi, Oxford; 1997

B.A., Geology, Biology; University of Mississippi, Oxford; 1995

Karst Hydrology of the Edwards Aquifer; Western Kentucky University; 1999

Dr. White has specialized in land-use issues unique to the Central Texas growth corridor since the 1990s. His trusted perspective on complicated karst due-diligence issues has resulted in a long list of repeat clients and high-profile projects. His focus is the Endangered Species Act and water quality regulations pertaining to caves, springs and the Edwards aquifer. He helps his clients find the middle ground between the needs of resource protection and human population growth. Dr. White's specialties include regulatory issues surrounding endangered karst invertebrates and *Eurycea* salamanders, expert witness testimony, land use planning in environmentally sensitive areas, public outreach, preserve design, habitat conservation planning, Texas Commission on Environmental Quality (TCEQ) Geological Assessments and associated reports, City of Austin Environmental Assessments, and consulting on caves encountered during construction. He has a particular depth of experience with transportation projects.

Over the course of his career Dr. White has made a significant contribution to the state of Texas cave science and to the conservation of karst resources. His doctorate was on biospeleology, the study of caves and cave life. His research on *Cicurina* spp. cave spider genetics and the evolution of their habitat was published in *Geology*, the world's flagship peer-reviewed earth sciences journal. He has discovered many new locations for rare and endangered species and two new species have been named in his honor. His karst survey work has contributed to the establishment of thousands of acres of preserve land within the Edwards Aquifer recharge and contributing zones through land acquisitions programs, including the ESA Section 6 program. At the invitation of the U.S. Fish and Wildlife Service, he served on the recovery team for the Bexar County endangered karst invertebrates from 2002 to 2013.

Dr. White was a primary author of the Williamson County Regional Habitat Conservation Plan. Since 2008 he has worked with the Williamson County Conservation Foundation and the USFWS to develop karst preserves to recover Williamson County's endangered karst invertebrates so that they may be removed from the Endangered species list.

Dr. White has worked as a close advisor to Williamson County leadership on technical, regulatory and policy issues during the listing process for the northern Edwards Aquifer salamanders. Since 2012, he has served on the technical working group for the Georgetown and Jollyville Plateau

Cambrian

Kemble White Ph.D., P.G. **Karst**

License and Permits

Texas Professional Geoscientist, #3863

USFWS 10(a)1(b) scientific permit covering Central Texas karst invertebrates and *Eurycea* salamanders (TE 37416B-0)

salamanders. His technical work and consulting experience were instrumental in developing the special 4(d) rule for the Georgetown salamander published by the USFWS in 2015.

After fifteen years as lead karst expert for one of the largest environmental firms in the country, Dr. White founded Cambrian Environmental in 2014.

Selected Project Experience

Williamson County Conservation Foundation - Williamson County Regional Habitat Conservation Plan/Environmental Impact Statement (RHCP/EIS), Williamson County, TX (2008 – Present) - Dr. White co-authored the RHCP/EIS in support of an ESA 10(a) permit for incidental take of two endangered songbirds, and two endangered karst invertebrates, the Bone Cave harvestman and Coffin Cave mold beetle. Following approval in 2008, the RHCP has evolved into one of the most successful RHCPs in the country. It has served as the primary mitigation vehicle for many Williamson County Road Bond projects including improvements to IH-35, SH 195, Ronald Reagan Blvd., R.M. 620, O'Connor Road, and many others. Dr. White continues to provide implementation services on RHCP preserves including biological monitoring of dozens of caves and several springs on RHCP preserve land.

Williamson County Engineer - Cambria Cavern Environmental Services, Round Rock, TX (February – September 2018) - Cambrian provided comprehensive karst services to the Williamson County Engineer following the collapse of a major sinkhole in the Round Rock area. Dr. White led the effort which included exploration and mapping of the cave, assisting with safety protocols, compliance and mitigation reporting to the TCEQ, collaborating with engineering consultants on the mitigation plan, providing construction inspection services, and responding to information requests from the County public information officer. The high-profile project was completed successfully despite intense media attention in a high litigation-potential situation.

TxDOT and the Central Texas Regional Mobility Authority - State Highway 45 Southwest, Travis and Hays Counties, TX (2013 – 2018) - Cambrian provided a wide range of karst services on a controversial new roadway located in the Barton Springs recharge zone. Services included conducting a karst terrain feature survey, a TCEQ Geologic Assessment,

Cambrian

Kemble White Ph.D., P.G. **Karst**

endangered karst invertebrate due-diligence investigations, Barton Springs and Austin Blind salamander technical reports, and attending numerous meetings with the project team, local officials, and the public. Dr. White participated as a key member of the project karst technical working group along with a wide variety of state, local, and Federal officials. The project would include construction of approximately 3 miles of managed lanes between Mo-Pac Expressway and FM 1626 through Travis and Hays Counties.

TxDOT – Mobility 35 Williams Drive project, Georgetown, TX (2018-2019) - Dr. White coordinated karst environmental studies for a major improvements project to a Federal highway in sensitive karst terrain. Studies included components of a Texas Commission on Environmental Quality (TCEQ) geologic assessment, excavation and endangered karst invertebrate presence/absence investigations in a newly-discovered cave, and presence/absence surveys for threatened Eurycea salamanders in a newly-documented spring run. These karst studies supported the project NEPA documentation and Dr. White participated in the formal section 7 consultation for the project along with staff from the TxDOT Environmental Affairs Division, the Austin District and the USFWS Austin ESFO. Due in part to the thoroughness of karst studies this project passed the formal consultation completeness check in record time.

TxDOT – Mobility 35 from RM 2243 to RM 1431, Georgetown, TX (2018-2019) - Dr. White coordinated a geophysical study and authored a Texas Commission on Environmental Quality (TCEQ) geologic assessment for the project that will cross over Inner Space Cavern, a cave system containing listed endangered species that is also open for public cave tours. Dr. White worked with the geophysicist (Blake Weissling of San Antonio) to layout electrical resistivity lines used to image karst features. The project will improve the RM 2243 and RM 1431 intersections with the interstate while reversing ramps along IH 35 southbound. Conducting geophysical studies in karst terrain is becoming more common for roadway projects, especially where projects are in the vicinity of caves known to contain listed species. The geologic assessment describes potential hydrological impacts to Inner Space Cavern and also inventories potentially sensitive and manmade recharge features, as well as discharge features present in the project area.

Cambrian

Kemble White Ph.D., P.G. **Karst**

TxDOT and the Wilco Road Bond Program – State Highway 195 Karst Investigations and Biological Assessment, Williamson County, Texas (2012-2015). - In support of an Environmental Assessment Re-Evaluation, Dr. White led karst feature excavations, habitat evaluations and endangered karst invertebrate presence/absence surveys for a major improvements project to SH 195 between IH-35 and the Bell County line. Two species of endangered invertebrate were determined to occur within the project limits and adverse effects were evaluated. Dr. White participated extensively in the Section 7 Endangered Species Act consultation along with the Wilco Road Bond project team and various elected officials. Dr. White also led the technical effort in identifying and acquiring suitable mitigation preserves.

City of Georgetown - Southwest Bypass / Wolf Ranch Parkway, Georgetown, TX (2014 – March 2016). Cambrian was sub-contracted through SWCA Environmental Consultants and HDR Engineering to provide karst services for an approximately 3-mile roadway. Dr. White conducted a TCEQ Geologic Assessment, an endangered karst invertebrate due-diligence study including a full presence/absence survey for a newly discovered cave, and assisted with the project participation in the Williamson County RHCP. Dr. White also conducted the due-diligence studies required under the City of Georgetown Edwards Aquifer water quality ordinance which supports the USFWS special 4(d) rule for activities with the potential to harm the threatened Georgetown Salamander.

City of Georgetown - San Gabriel Park Phase 1 Karst Services, Georgetown, TX (2015-2018). - Under subcontract to RVi Planning, Cambrian provided a series of karst services in support of a major parks improvement project which included ecological restoration of the historic San Gabriel Springs. Dr. White assisted in developing the project Endangered Species Act compliance strategy, informal coordination with the USFWS, conducting a USFWS presence/absence survey for Georgetown salamanders. Dr. White also assisting landscape architects in the ecological design, and providing endangered species inspection services during the construction phase.

HVJ ASSOCIATES

JASON SCHWARZ, PE
Geotechnical

Education BS, Civil Engineering, The University of Texas at Austin, 2002
License Professional Engineer, Texas – No. 99343

TxDOT Precertifications 12.1.1, 12.1.2, 12.1.3, 12.2.1
14.1.1, 14.2.1, 14.3.1, 14.5.1

Office Location: 4201 Freidrich Lane, #110, Austin TX 78744
Industry & HVJ Tenure: 18 years

Experience Summary

Jason Schwarz has more than 18 years of experience in performing soil analysis testing in a geotechnical laboratory, geotechnical field oversight, and construction materials field inspection and testing. He has performed drilled pier inspection, monitored concrete placement, measured concrete properties, and prepared concrete samples during placement. He has measured soil-in-place density and moisture content using nuclear density equipment and performed various other construction materials testing, written reports, and managed construction materials testing projects. Mr. Schwarz has performed and is very familiar with both laboratory and field testing in accordance with ASTM, TxDOT, NICET, FAA, and AASHTO.

Relevant Project Experience

CR200 at Bold Sundown & CR 200 fr RR to CR 201, Williamson County, Texas. Project Manager for improvement of operations at the intersection of Bold Sundown and CR200 as well as provide a full reconstruction of CR200 from the railroad tracks to CR 201 in Williamson County. Improvements included notch and widening of CR200 with the addition of a left turn lane in the northbound direction at the intersection with Bold Sundown (approximately 900 feet). HVJ performed a geotechnical investigation. HVJ previously performed a geotechnical investigation and pavement design for CR 200 within these limits under the schematic phase of the project. The next phase of the project involved additional borings nearer to the intersection of Bold Sundown to verify the subsurface conditions and pavement layer thicknesses. **Relevance to the RFQ:** Project management experience and geotechnical investigation for road project.

Texas Bagdad Road, FM 2243 to North of CR280, City of Leander, Leander, Texas. Project Manager providing geotechnical engineering services for the proposed Texas Bagdad Road expansion. The existing section was a rural road 24 feet wide with two lanes and was proposed to be upgraded to an urban section with curbs and gutters 60 feet wide with five lanes. As part of the design phase, Mr. Schwarz conducted a geotechnical investigation and developed an

HVJ ASSOCIATES, INC.
Jason Schwarz, PE

asphaltic concrete pavement design for the reconstruction of Bagdad Road and for the new alignment of Park Road. **Relevance to the RFQ:** Project management experience and geotechnical investigation for road project.

FM 112 at West Brushy Creek Relief, TxDOT Austin District, Williamson County, Texas. Project Engineer for a geotechnical investigation to provide design and construction recommendations for deep foundations for the on-system bridge replacements in Williamson County. The project included the replacement of the East Brushy Creek Relief Bridge, which is 20 feet wide and 200 feet long, and the West Brushy Creek Relief Bridge, which is 20 feet wide and 100 feet long. Under Mr. Schwarz's supervision, four borings were drilled to a depth of 70 feet below existing grade. Additional bulk samples were obtained from the creek bed and sieve analysis tests were run to determine the potential for scour. Recommendations included friction curves and end bearing curves for drilled shaft foundations. **Relevance to the RFQ:** Project management experience and investigation to provide design and construction recommendations for road project.

Heatherwilde Boulevard and Wells Branch Parkway, Travis County, Austin, Texas. Project Manager responsible for signing and sealing daily inspection reports and providing engineers concurrence letter at the completion of the project for the four- to six-lane, two-mile long divided highway. Mr. Schwarz oversaw inspection and testing of soils, concrete and asphalt during construction of divided highway with retaining walls, storm drains, construction of a new water line, and water quality ponds. His knowledge of construction and contractibility of roadways is highly valuable during geotechnical design phase. **Relevance to the RFQ:** Project management experience for inspection and testing of soils, concrete and asphalt during construction for divided highway project.

Bee Creek Road Extension, Travis County, Austin, Texas. Project Manager for a geotechnical investigation for the improvement of the existing Bee Creek Road from State Highway 71 to the newly constructed Highland Boulevard. The existing 2-lane road is to be expanded to a 4-lane arterial with bike lane, sidewalk, raised median, curb/gutter along with drainage/water quality infrastructures. The length of this segment of the road is approximately 1.2 miles. Mr. Schwarz provided geotechnical analysis needed for pavement design, foundation design, slope stability design and retaining wall design, as required. Cement stabilization was used to strengthen existing limestone subgrade to make base material. Mr. Schwarz also reviewed the construction documents at the various submittal phases to confirm HVJ's geotechnical recommendations were properly addressed. **Relevance to the RFQ:** Project management experience for geotechnical analysis needed for pavement design, foundation design, slope stability design and retaining wall design for road extension.

HVJ ASSOCIATES, INC.
Jason Schwarz, PE

New Hope Road, Cedar Park, City of Cedar Park, Texas. Project Manager for the geotechnical investigation for 0.62 miles of new road along an existing alignment of New Hope Road, from the eastern edge of the Gann Ranch Subdivision to Lakeline Boulevard, and 0.59 miles of new location roadway from FM 1431 to the eastern edge of Gann Ranch Subdivision. Mr. Schwarz led the GEO team in fulfilling project objective of obtaining sufficient information on the in-situ soil conditions along the proposed alignment to develop pavement thickness design recommendations for a pavement overlay in the existing alignment and the new pavement design for the new alignment. **Relevance to the RFQ:** Project management experience for geotechnical investigation for new roadway.

RM 1431, TxDOT Austin District, Cedar Park, Texas. Staff Engineer for a geotechnical investigation for RM 1431 improvements, from a two-lane roadway to widening and realigning to a divided highway with two lanes in both directions. Project alignment is 2,000 feet north of Trails End Road to 200 feet southeast of Vista Oaks Drive, approximately 2.5 miles. The investigation provided MSE wall and pavement design recommendations. One segment of RM 1431 included a 45-foot MSE wall supported by rock nails. Mr. Schwarz engineered the Pavement Design Report prepared to meet TxDOT Austin District requirements. HVJ developed subgrade design parameters based on the geotechnical investigation as well as FWD data collected by TxDOT. TxDOT's Georgetown Area Office provided traffic analyses for highway design. Flexible pavement thickness designs using FPS19W were calculated for two base types: flexible crushed stone and HMAC. **Relevance to the RFQ:** Geotechnical investigation for roadway project.

Dr. BEREKET M. DERIE, PhD, PG
Geophysics
Round Rock Geophysics, LLC
P.O. BOX 5668 Round Rock, Texas 78683
Ph. 512.496.8728
E-Mail: Bderie@RoundRockGeo.com

EXPERIENCE:

- **Principal and Chief Executive Officer: Round Rock Geophysics LLC. - Round Rock, Texas, From February 2010 to present**
    - Manages and conducts geophysical surveys for engineering and environmental applications in all states of USA and internationally
    - Mentors new employees on the use and applications of different geophysical methods
    - Leads the company's marketing efforts
    - Overseas the overall performance of the company

- **Principal and Chief Executive Officer: Round Rock Geosciences LLC. - Round Rock, Texas, From June 2008 to 2010**
    - Established and managed Round Rock Geosciences LLC (later named as Round Rock Geophysics), a private consulting firm
    - Designed and successfully completed Geophysical Surveys for UXOs, utiilties, wind farms and other applications in TX, OK, OR, ID, NM, CO, CA, OH, ND, SD, NE, etc…
    - Represented the company in professional and social meetings together with the manager of the company

- **Geophysics Department Manager, Renewable Resource Consultants - Austin, Texas, From Dec. 2007 to June 2008**
    - Established and managed the geophysics department of the company
    - Designed and managed geophysical surveys for wind farms in Texas and New Mexico
    - Managed and participated in the marketing efforts of the company

- **Senior Geophysicist and Project Manager, AOA Geophysics - Austin, Texas, From July 2005 – Dec. 2007**
    - Managed and conducted geophysical surveys both onshore and offshore.
    - Managed and conducted geophysical surveys for engineering and environmental projects in Texas and Georgia

- Worked as a team member for deep water oil exploration along the coasts of India and Indonesia
- Conducted Magnetotelluric field measurements as part of the earth quake research program of the government of Japan

- **GIS team member, AVISTA Utilities - Spokane, WA, From June – July 2005**
  - Acted a team member to digitize utility lines in parts of Washington state

- **Geophysicist, US Geological Survey - Spokane, WA, From January - Nov. 2005**
  - Participated in the US-Array research project-funded by National Science Foundation (NSF) to map crustal rock formations of the north American continent
  - Conducted regional Magnetotelluric measurements along profile lines crossing the state of Montana

- **Senior Geophysicist, Govt. of Eritrea - Asmara, Eritrea, From Jan. 1999 – Nov. 2004**
  - Managed and conducted geophysical surveys for ground water exploration for rural areas of Eritrea, NE Africa through the combined use of Electrical, Seismic, Electromagnetic and Magnetic methods
  - Advised university students on the use of geophysical methods and their applications
  - Developed and managed a joint geophysics research between Eritrean and Israeli geophysicists for ground water exploration in coastal areas, funded by US Development Agency (USDA)

- **Geophysicist, Govt. of Ethiopia - Ethiopian Mining Enterprises, From Feb. 1998 – Jan. 1999**
  - Conducted Integrated Geophysical Well Logging Measurements for coal exploration in the western part of Ethiopia, near South Sudan boarder.

EDUCATION:

- **PhD:** Louhgborough University – UK
  Thesis: "The Integrated Use of Geophysical Methods for Groundwater Exploration in Hard Rock Areas"
  Water Resource Management Course: Egypt Water Research Institute, Egypt
- **GIS and GPS for Sustainable Environmental Development:** University of Wales, Bangor, UK
- **Master of Science in Geophysics:** Addis Ababa University, Ethiopia
- **Bachelor of Science:** Addis Ababa University, Ethiopia

REGISTRATION: Registered as a Professional Geophysicist (PG) in the state of Texas.

EXPERTISE: Ground Penetrating Radar (GPR), Electrical Resistivity, Thermal Resistivity, Spontaneous Potential, Induced Polarization, Seismic Refraction, Seismic Reflection, Multi-Channel Analysis of Surface Waves, Spectral Analysis of Surface Waves, Refraction Microtremor (ReMi), Cross-Hole and
Down-Hole Seismic, Magnetic, Electromagnetic (EM-61, EM 34, EM 47 and EM 57) and Gravity.
Expertise Related to UnExploded Ordinancers:
I have been using EM-61 and Oasis Mantaj and Surfer for UXO application projects in different parts Texas since 2010. The most recent project was completed in Camp Swift, central TX
COUNTRIES VISITED: Ethiopia, Eritrea, Egypt, UK, USA, Mexico, Canada, India, Indonesia

CITIZENSHIP: USA

Appendix B: Debarment and Licensing

Debarment and Licensing questions have been answered in Negometrix.

Appendix C: CIQ

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

HDR Engineering, Inc.

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

Not applicable.

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

Not applicable.

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

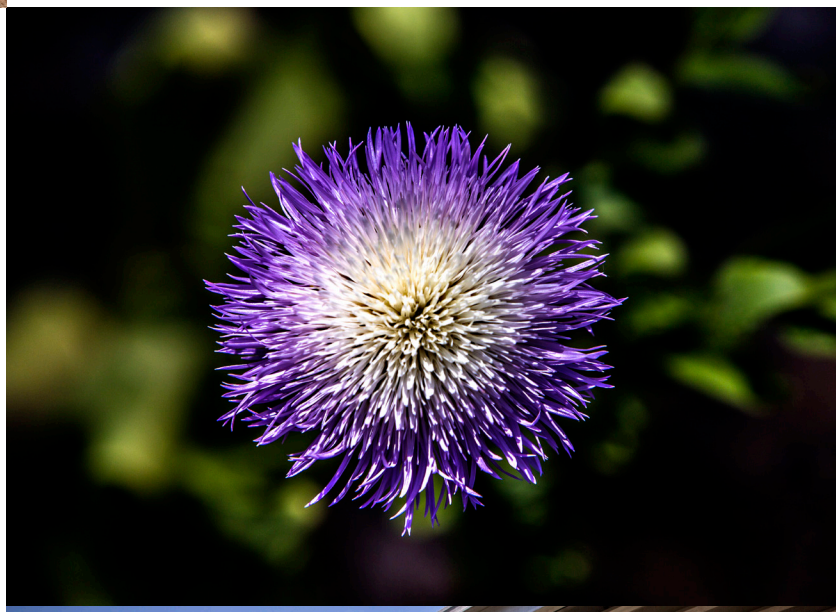
7

Signature of vendor doing business with the governmental entity

10/23/2020

Date

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 11/30/2015



710 Hesters Crossing, Suite 150,
Round Rock, TX 78681
512.685.2900

hdrinc.com

We practice increased use of sustainable materials and reduction of material use.