CIVIL SCIENCES
&
ENGINEERING

CAPABILITY STATEMENT

2024 - 2025

COMPANY PROFILE

Civil Sciences & Engineering (CSE) was established in 2021, and is a local small business located in Perth, Western Australia. Our core mission revolves around delivering top-tier expertise in the domains of civil and mining industries, encompassing comprehensive services that span design, management, and maintenance.

At CSE, our unwavering commitment to progress and innovation, coupled with a dedicated focus on aligning with client needs, underscores our ability to consistently uphold the highest standards of project execution. We offer a comprehensive service spectrum, from feasibility studies and initial site surveying, progressing through concept and detailed design and documentation, and culminating in proficient project and contract management.

Our approach is characterised by its holistic and integrated nature, which simplifies and streamlines project complexities. This holistic approach not only enhances efficiency but also translates into tangible cost and time savings for our valued clients.

Civil Sciences & Engineering provide a wide range of engineering services including:

- Civil Design
- Surveying and Spatial Mapping
- Geotechnical & Pavement Investigations
- Laboratory Testing
- Project & Contract Management
- Infrastructure Asset Management
- Research and Development

CORE CAPABILITIES

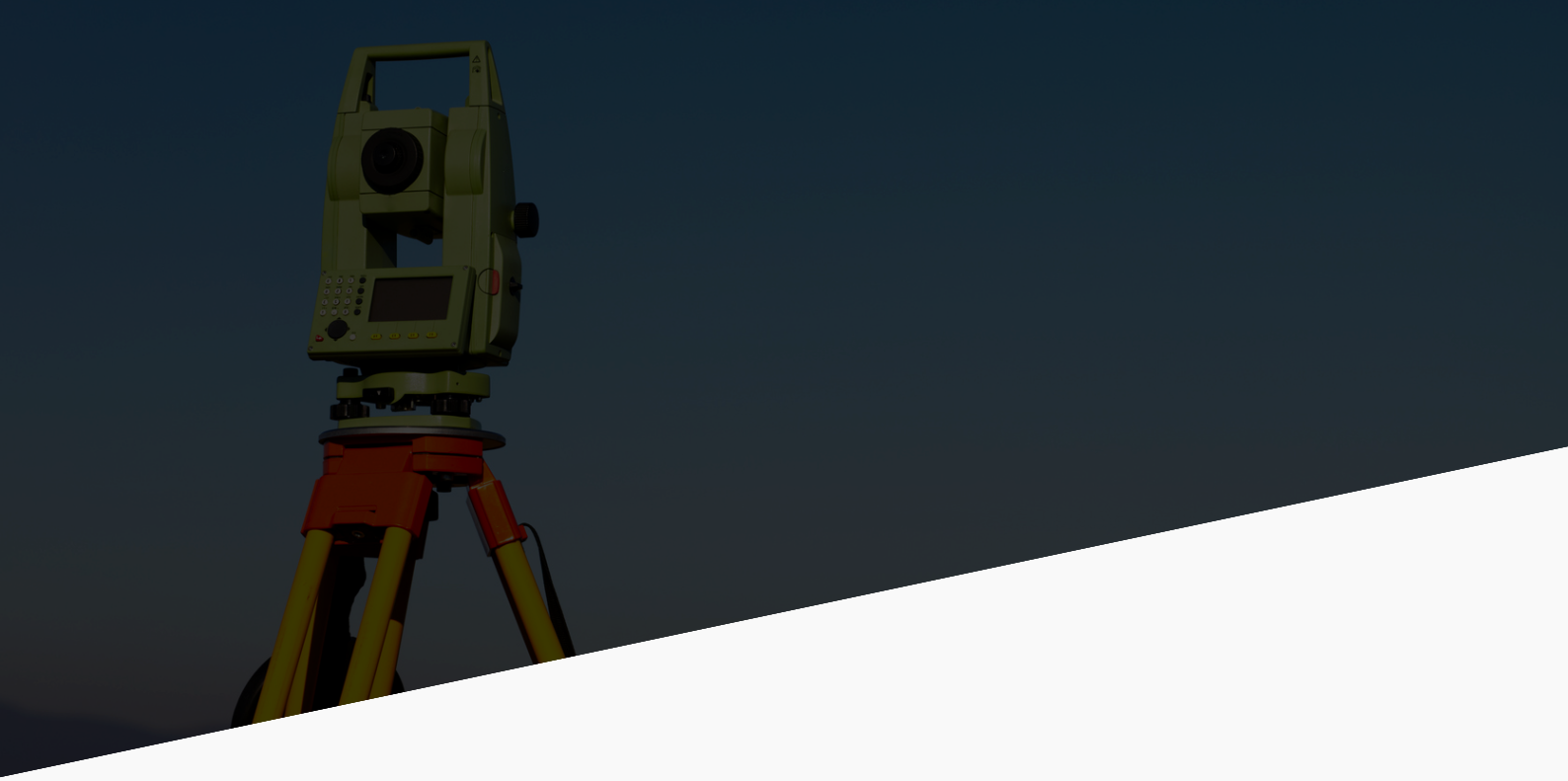
CIVIL DESIGN

Our area of expertise lies in the design of pavements and drainage systems, spanning both greenfield and brownfield sites. We have successfully executed an extensive array of projects, ranging from the rehabilitation of local government roads to detailed designs of intermodal facilities and mine haul roads, all while meeting rigorous and demanding specifications.

Our comprehensive capabilities encompass every facet of project development, commencing with initial planning and extending through feasibility studies, conceptual designs, and culminating in the production of detailed designs, tender documentation, construction drawings, and precise technical specifications. Drawing from over 50 years of collective experience in civil design, we offer highly sought-after knowledge and proficiency that enables us to devise solutions even for the most intricate and complex projects.

Civil design services we provide include, but are not limited to, the following:

- Urban road rehabilitation
- Rural road design
- Site and survey workflows
- Corridor modelling
- Intersection design
- Civil consulting
- Stabilisation mix design
- Hardstand design
- Site classifications
- Geotechnical consulting
- Geotechnical modelling
- Intermodal terminal design
- Catchment analysis
- Mine haul pavement design
- Urban stormwater drainage design
- Rural drainage assessments
- Plan production and documentation
- Materials and quantities
- Spray seal design
- Airport pavement design

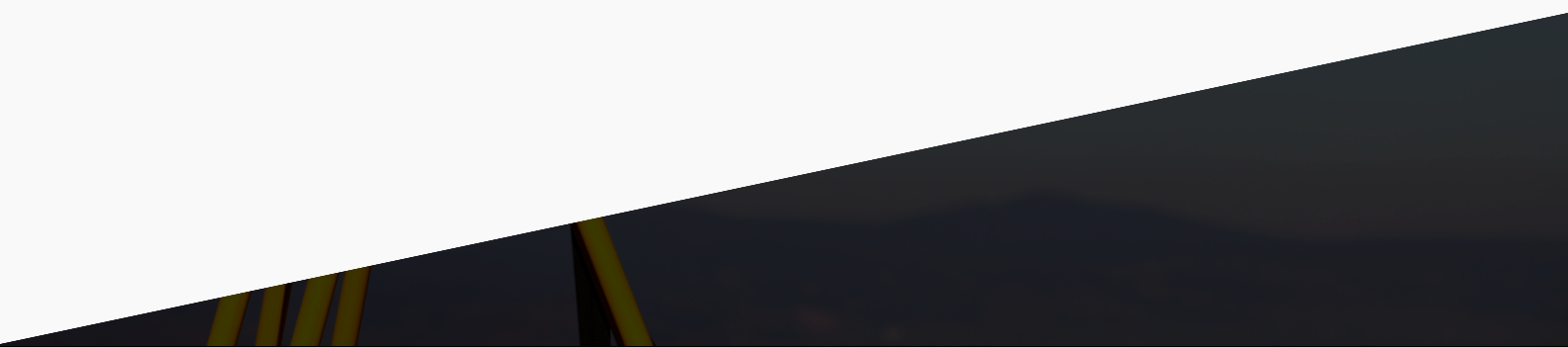


SURVEYING AND SPATIAL MAPPING

We offer an array of professional surveying and mapping services that leverage cutting-edge GIS modelling and advanced analytical techniques. Our surveying expertise encompasses the utilization of state-of-the-art tools such as GPS, total stations, and 3D scanning, affording us the versatility to tailor our approach to the precise needs and constraints of each project.
The survey data we collect seamlessly integrates with our digital modelling processes, playing a pivotal role in the meticulous planning and development of projects, ensuring precision and efficiency throughout the project lifecycle.

Surveying and spatial mapping services we provide include, but are not limited to, the following:

- Topographic survey
- Construction survey
- Bulk earthworks
- Drainage condition
- Water catchment assessment
- Feature survey
- Road condition and assessment
- GIS and spatial data analysis
- Asset management
- Road safety audits



GEOTECHNICAL AND PAVEMENT INVESTIGATION

Our service portfolio encompasses an extensive array of offerings for geotechnical and pavement investigations, tailored to address diverse project demands. Leveraging strategic partnerships, we have the capacity to perform a comprehensive range of both destructive and non-destructive tests, ranging from test pits to falling weight deflectometer testing.

Our in-house traffic management accreditation positions us to conduct investigation activities with efficiency, eliminating the burden of excessive associated traffic management costs. Our profound knowledge and profound understanding of material and pavement properties, coupled with our expertise in performance assessment, enable us to undertake intrinsic analysis of site investigation findings. This meticulous approach allows us to accurately evaluate the existing site conditions and, as necessitated, present suitable design options to meet project requirements.

Geotechnical and pavement investigation services we provide include, but are not limited to, the following:

- Test pits
- Boreholes
- Core testing
- Dynamic cone penetrometer
- Perth sand penetrometer
- Light weight deflectometer
- Surface texture
- Falling weight deflectometer
- Cone penetration testing
- Clegg impact value
- Infiltration (permeability) testing
- Visual inspections
- Ball embedment

LABORATORY TESTING

Our strong association with multiple NATA-accredited construction materials testing laboratories ensures the expeditious and cost-efficient execution of laboratory testing procedures. Our testing capabilities encompass an extensive spectrum of materials and methodologies, spanning soil, rock, bitumen, emulsion, asphalt, and concrete, all held to rigorous state and national standards.

The outcomes of these comprehensive tests are frequently integrated with field test data and visual inspection findings, facilitating the precise classification of geotechnical and pavement attributes and the evaluation of in-situ conditions. This synergy of data sources contributes to a holistic understanding of project requirements and conditions.

PROJECT AND CONTRACT MANAGEMENT

We have effectively overseen numerous road construction undertakings on behalf of local government authorities. Leveraging our four decades of experience in the Western Australian Local Government sector, we possess a profound grasp of state and national construction specifications, complemented by an intricate understanding of construction material testing and performance standards.

Our operational ethos emphasizes the critical significance of adhering to AS2124 - General Conditions of Contract, recognizing its pivotal role in ensuring project success. We appreciate the imperative nature of the superintendent's role in fostering a collaborative working relationship between the principal and the contractor, underpinning the seamless execution of projects.

INFRASTRUCTURE ASSET MANAGEMENT

At Civil Sciences & Engineering, we appreciate the paramount importance of infrastructure asset management. Consistent and comprehensive inspections are integral to upholding the functionality and longevity of assets. Our experience extends to conducting thorough road inspections and condition assessments, employing various techniques to precisely chart and document defects and hazards encountered within road networks.

Our profound expertise and comprehension of major condition classification systems empower us to confidently evaluate roads of all types and conditions. We offer a spectrum of options, ranging from manual data collection to automated processes, tailored to accommodate the specific nature and complexity of asset classification and management demands.

RESEARCH AND DEVELOPMENT

Our commitment to civil infrastructure is characterized by a dynamic and forward-thinking collective mindset. Our team comprises highly esteemed individuals in the civil industry, and we shoulder the responsibility of leading transformation and questioning conventional construction methods in favor of more sustainable practices.

At every available juncture, we advocate and facilitate environmentally responsible construction alternatives, including practices such as in-situ material recycling and the incorporation of carbon sequestration in pavement stabilization. Our close collaborations with enterprises dedicated to the development of eco-friendly construction materials and methodologies underscore our dedication to advancing sustainability in the construction sector.

OUR TEAM

DAVID GANGELL | DIRECTOR & CIVIL ENGINEER

David assumed the role of Founding Director at Civil Sciences & Engineering (CSE) following his graduation from Curtin University in 2021, where he earned his Bachelor of Engineering Honours degree. Throughout his academic and professional journey, David has consistently demonstrated a keen passion for advancing sustainable pavement solutions, with a particular focus on the innovative application of Biochar, as evidenced by his extensive research background.

David is highly regarded for his hands-on approach, frequently engaging in on-site activities such as site inspections, geotechnical investigations, asset management, and road surveys. These efforts ensure that our clients receive the most current and precise technical information available. His commitment to maintaining high standards of quality and accuracy is a cornerstone of CSE's service philosophy.

With over five years of experience in the construction and civil industry, David brings valuable insights and practical knowledge to the table. Prior to establishing CSE, he worked in a materials testing laboratory, acquiring extensive knowledge of material characteristics and performance—a foundational component of civil engineering. This experience has been instrumental in shaping his expertise in the field.

The civil engineering industry in Western Australia (WA) is dynamic and ever-evolving, with a strong emphasis on innovation and sustainability. David's work aligns with these industry trends, particularly in the realm of sustainable infrastructure. WA's unique geological and environmental conditions present both challenges and opportunities for civil engineers, and David's proficiency in addressing these challenges is well recognized within the industry.

Under David's leadership, CSE has positioned itself as a forward-thinking firm dedicated to delivering cutting-edge solutions that meet the diverse needs of the WA community. His vision for the company includes not only technical excellence but also a commitment to environmental stewardship and sustainable development practices.

David's ability to bridge the gap between theoretical research and practical application sets him apart in the field. His proactive approach to problem-solving and his dedication to continuous improvement ensure that CSE remains at the forefront of the civil engineering industry in WA. Through collaboration with industry partners, government agencies, and academic institutions, David is committed to driving innovation and excellence in every project CSE undertakes.

COLIN LEEK | PRINCIPLE ENGINEER & FOUNDING MEMBER

Colin, one of our founding members, holds the esteemed position of Principal Engineer at Civil Sciences & Engineering (CSE). With an impressive track record spanning over five decades in the field of engineering, he brings a wealth of experience to our organization. Colin is a Chartered Professional Engineer and is registered on the National Engineering Register (NER), Asia-Pacific Economic Cooperation (APEC) Engineer Register, and International Professional Engineers Agreement (IPEA).

Colin actively contributes to civil engineering design projects, assumes superintendency responsibilities, and plays a pivotal role in nurturing the next generation of engineers within our firm. His commitment to advancing a more sustainable future in engineering has earned him nationwide recognition among his peers in Australia.

Colin's dedication to ethical and effective engineering practices is a hallmark of his role as Principal Engineer, ensuring that all our clients benefit from the latest and most pertinent knowledge in the field of pavement engineering. His leadership extends to his pioneering work in In-situ Foamed Bitumen Stabilisation research and development, a testament to his innovative approach. His ground-breaking work has not only improved the durability and sustainability of pavement solutions but also established him as a leader in the field.

In addition to his technical contributions, Colin is deeply committed to guiding the next generation of engineers. He actively mentors young professionals and encourages them to pursue sustainable pavement solutions. Through his involvement in various committees and research groups, Colin ensures that emerging engineers are equipped with the knowledge and skills necessary to continue advancing the industry.

Colin's extensive involvement in these areas not only enhances his expertise but also contributes significantly to the broader engineering community. His vast experience, coupled with his unwavering commitment to excellence, makes him an invaluable asset to CSE. His role ensures that our firm remains at the forefront of engineering innovation, continually delivering superior solutions to meet the evolving needs of our clients.

OUR TEAM

ANDREW CHILUFYA | GRADUATE CIVIL ENGINEER

Andrew, a graduate with a Bachelor of Engineering Honours from Curtin University in 2022, possesses a solid foundation in Pavement Performance research. His entry into the civil engineering domain has injected fresh knowledge and an indefatigable commitment to sustainability. Andrew is a rising star in the field of Civil Engineering, consistently demonstrating his dedication to delivering exceptional experiences to our clients. He exhibits meticulous attention to detail, upholds strong ethical principles, and is resolutely devoted to providing clients with precise and sustainable engineering expertise.

Andrew's experience with Civil Sciences & Engineering (CSE) encompasses a wide range of projects, including pavement investigation, design, mechanistic analysis, and empirical designs. His portfolio spans robust heavy-duty hardstands to road rehabilitation initiatives for local government authorities, consistently showcasing his proficiency in addressing diverse engineering challenges. His work reflects the unique demands of the Western Australian (WA) civil engineering landscape, characterized by its diverse geological conditions and the pressing need for sustainable infrastructure solutions.

Andrew, alongside David, recently published an article titled "Performance Study on Laterite Road Base Stabilised with Emulsions Incorporation Biochar." This publication underscores their innovative approach to pavement engineering and their commitment to integrating sustainable materials into traditional engineering practices. The study has garnered attention for its potential to revolutionize road base stabilization techniques, particularly in regions with similar soil conditions to WA.

Adding to his impressive credentials, Andrew is set to begin his PhD studies focused on Road Stabilisation Polymers. His research aims to develop advanced polymer solutions that enhance the durability and sustainability of road pavements. This pursuit aligns with the growing emphasis on sustainable development within the civil engineering industry in WA, where engineers are increasingly called upon to deliver environmentally friendly and long-lasting infrastructure solutions.

Andrew's commitment to his field and his continuous pursuit of knowledge make him a valuable asset to CSE. His innovative mindset and research-driven approach ensure that he remains at the forefront of engineering advancements. His work not only contributes to the company's success but also sets new standards for sustainability and excellence in the civil engineering industry in WA.

MARCOS MAGALHAES | SENIOR CIVIL ENGINEER & DESIGNER

Marcos is a seasoned professional engineer boasting a comprehensive background encompassing more than six years of expertise in civil and structural engineering. Throughout his career, he has successfully executed a diverse portfolio of civil and structural ventures, catering to both private and public clients in Western Australia and Brazil.

Marcos specializes in the meticulous design of intricate infrastructure projects, demonstrating a steadfast commitment to aligning his work with the rigorous standards of Australia and the specific requirements stipulated by relevant public authorities. His unwavering dedication shines through in every facet of his work, as he consistently delivers exceptional results for both our clients and projects.

In addition to his extensive professional experience, Marcos is currently working towards his Chartered Professional Engineer (CPEng) credential, a testament to his commitment to ongoing professional development and excellence. Furthermore, he is completing his PhD in "Sustainable Materials in Pavement Designs," where he focuses on pioneering research to enhance the sustainability and performance of pavement materials. This academic pursuit underscores his dedication to integrating cutting-edge sustainability practices into his engineering work, aligning with the broader industry trends in Western Australia.

Marcos' proficiency extends to the utilization of various design software tools, including CAD, further enhancing his ability to deliver precise and innovative design solutions. His technical expertise and attention to detail ensure that all projects meet the highest standards of quality and efficiency.

The civil engineering industry in Western Australia is known for its dynamic and challenging environment, requiring engineers to address unique geological and environmental conditions while maintaining a strong focus on sustainability. Marcos' work reflects these industry demands, as he continuously seeks to incorporate sustainable practices and materials into his designs, contributing to the development of resilient and eco-friendly infrastructure.

Marcos is a valued and highly dedicated member of the Civil Sciences & Engineering (CSE) team, and he extends this same level of dedication to every client engagement. His collaborative approach and commitment to client satisfaction make him an integral part of our organization. Marcos' ability to blend practical engineering solutions with innovative research ensures that CSE remains at the forefront of engineering excellence in Western Australia.

OUR TEAM

KATE ROZMARNIEWICH | OPERATIONS OFFICER & ENVIRONMENTAL SCIENTIST

Kate, with a degree in Biochemistry and Molecular Biology from a renowned Canadian research institution, has charted a diverse career path spanning Medical and Biological Research, as well as Forestry and Natural Resource Management. Over the last six years, she has excelled in contract positions across North America and South East Asia, serving as a Forestry Supervisor, Biological Researcher, and Conservation Biologist. With a unique skill set and a deep commitment to environmental sustainability, Kate brings a fresh perspective to Civil Sciences and Engineering (CSE).

Kate's significant field experience and hands-on approach are pivotal to our operations. As the Operations Officer, she works day in and day out to create an efficient workflow for the entire organization. Her role is instrumental in steering our efforts towards environmentally conscious practices; ensuring the safety and efficiency of our fieldwork and sampling activities, creating secure work environments, developing internal Standard Operating Procedures, conducting Risk Assessments, and formulating Company Policies.

Kate takes charge of organizing and preparing field equipment, maps, and data collection systems, significantly contributing to our operational efficiency. Her leadership extends to guiding the team towards environmentally responsible practices, ensuring that CSE's projects are not only technically sound but also sustainable.

In addition to her extensive experience, Kate holds memberships in several professional organizations. She is a Professional Biologist with the College of Applied Biology, a Professional Member of the Geospatial Council of Australia, the Environmental Institute of Australia and New Zealand (EIANZ), and the Sustainable Engineering Society (SES). Furthermore, Kate is an Affiliate Member (AffilEAust) of Engineers Australia and an Associate Member (AMIEnvSc) of the Institution of Environmental Sciences.

Operations officers in the civil engineering industry in Western Australia play a critical role in ensuring the smooth execution of projects amidst unique environmental and logistical challenges. Kate's comprehensive experience across diverse geographical locations equips her with the versatility and insight needed to navigate the dynamic landscape of WA's civil engineering sector. Her ability to streamline operations, coupled with her environmental expertise, ensures that CSE can deliver high-quality, sustainable engineering solutions.

Kate's dedication to excellence and her proactive approach to operations management make her an invaluable asset to our team. Her efforts help CSE maintain a high standard of operational efficiency, safety, and sustainability, ensuring that our projects not only meet but exceed industry standards.

JUSSARA SACHT | JUNIOR CIVIL ENGINEER & DESIGNER

Jussara is a junior civil engineer and designer with over nine years of experience specializing in civil and architectural drawings for structural projects. Her expertise includes utilizing CAD and Revit software to produce precise technical drawings that meet drafting standards and optimize design efficiency. Recently, she has contributed significantly to various civil engineering projects across Western Australia, focusing on delivering high-quality drawings that support efficient project execution.

Her role extends beyond drafting as she actively participates in construction site management, leading teams, conducting technical visits, and gathering essential data for engineering and design processes. This hands-on experience enhances her ability to oversee projects effectively and ensure compliance with project requirements.

Jussara's attention to regulatory compliance ensures that all project designs adhere to building regulations and industry standards. She meticulously prepares project documents that are accurate and concise, reflecting her commitment to delivering high-quality outputs.

Additionally, she integrates her technical expertise with project management skills, effectively planning and coordinating projects from initiation to completion. Her proficiency in budget control, resource allocation, and scheduling contributes to efficient project delivery and client satisfaction.

With a strong foundation in Quality, Health, Safety, and Environment (QHSE) management systems, Jussara prioritizes safety and environmental sustainability in her projects. Her knowledge and adherence to QHSE practices underscore her dedication to delivering safe and sustainable engineering solutions.

Overall, Jussara's analytical mindset, efficiency in work procedures, and ability to manage diverse responsibilities under pressure make her an invaluable member of any engineering team, consistently driving project success and client satisfaction.

OUR TEAM

STEPH RONAN | OFFICE MANAGER

Steph is an accomplished Office Manager with a wealth of experience and a proven track record of success in administrative leadership. With a background rooted in efficiency and organizational excellence, Steph plays a pivotal role in ensuring the smooth operation of our office at Civil Sciences & Engineering (CSE). Her responsibilities encompass a wide array of administrative functions, from managing day-to-day office operations to overseeing administrative staff and coordinating office logistics.

Throughout her career, Steph has demonstrated a keen ability to streamline processes and enhance productivity within office environments. She excels in developing and implementing efficient office procedures and protocols that optimize workflow and support the seamless execution of projects. Her proactive approach and strong attention to detail enable her to anticipate needs, resolve issues promptly, and maintain a high standard of operational efficiency.

In addition to her administrative prowess, Steph is highly skilled in human resources management, including recruitment, training, and performance evaluation. She plays a pivotal role in fostering a positive work environment and supporting the professional development of our team members.

Steph's commitment to excellence extends beyond daily operations. She is adept at managing budgets and financial records, ensuring fiscal responsibility and accountability within the organization. Her proficiency in office management software and systems further enhances her ability to streamline processes and drive organizational success.

As a dedicated Office Manager at CSE, Steph combines her strong leadership capabilities with a customer-centric approach, ensuring that client needs are met with the highest level of professionalism and efficiency. Her contributions are instrumental in maintaining CSE's reputation for excellence and reliability in the civil engineering industry.

CIVIL SCIENCES & ENGINEERING

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