

Pipelines

2021

Construction and Rehabilitation



Papers from Sessions of the Pipelines 2021 Conference
August 3–6, 2021

ASCE

EDITED BY
Duane Strayer, P.Eng.



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PIPELINES 2021

Construction and Rehabilitation

PROCEEDINGS OF SESSIONS OF THE PIPELINES 2021
CONFERENCE

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Duane Strayer, P.Eng.
C. Douglas Jenkins, P.E.



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Preface

Pipelines are the arteries of the modern world that convey the essence of what drives the quality of life, commerce, and public health for all of society. Whether conveying drinking water, collecting wastewater, storing and conveying storm water, or transporting energy providing fluids – pipelines are one of the most essential elements of modern infrastructure that impacts the way we live and our ability to improve the world around us.

This year's conference theme is *Building Today's Infrastructure for a Changing Tomorrow*. It focuses on the aspect that pipeline engineers must take care of today's needs while looking at the needs of tomorrow in a way that minimizes disruption with an awareness that pipelines are essential to our quality of life. As we are all aware that the outbreak of COVID-19 has disrupted modern society's way of life, how utilities operate. COVID-19 has brought attention to how important reliable pipelines are for delivering water, conveying wastewater, and providing many other services that rely on pipelines. The pipeline industry must work together to address the looming infrastructure needs to extend the life and reliability of our pipeline systems.

In coordination with the American Society of Civil Engineers, the technical program and this publication were planned and implemented by the Technical Program Committee, led by the Technical Co-Chairs. A call for abstracts was made, from which approximately 196 abstracts were submitted. These abstracts were then sorted into tracks based on the general topic areas of Planning and Design, Trenchless, Condition Assessment, Construction and Rehabilitation, Utility Engineering and Surveying/ Multidiscipline, and Technical Posters. In addition, 4 panel sessions were included with topics from Working with Indigenous Communities, Ethics, Asset Management Victories and Future Insights, and Diversity in Engineering. This resulted in an extraordinarily high-quality program containing close to 141 papers and diverse array of poster presentations.

For publication purposes, technical papers from the seven presentation tracks were consolidated into the following three volumes: 1- *Pipelines 2021: Planning*, 2- *Pipelines 2021: Design*, and 3 – *Pipelines 2021: Construction and Rehabilitation*.

On behalf of the Technical Program Committee, we are pleased to offer you the Proceedings of ASCE Pipelines 2021 “*Building Today's Infrastructure for a Changing Tomorrow*”.

Respectfully yours,
Duane Strayer, P.Eng., M.ASCE, and C. Douglas Jenkins, P.E. M.ASCE
Technical Co-Chairs

Acknowledgments

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The Technical Program Co-Chairs and the Steering Committee would like to thank the over 100 professionals who volunteered their time and talents to serve as part of the 2021 Technical Committee. Everyone worked as a team to review abstracts, papers, and posters and continued to collaborate throughout the development and fine-tuning of this year's technical program, *Building Today's Infrastructure for a Changing Tomorrow*. Many of the technical committee members also served as Track Chairs and Moderators for the conference.

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And lastly, the Technical Program Co-Chairs express special thanks to Jason Lueke and Christine Malaka, Conference Co-Chairs, and the Steering Committee for their efforts and leadership during the planning and execution of Pipelines 2021 Conference.

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