

May 16, 2023

**VIA ELECTRONIC MAIL**

Tulsa Metro Area Planning Commission  
c/o Tulsa Planning Office

**Re: CZ-543, Z-7705, PUD-867, CPA-102, TCCP-12**

Dear Commissioners:

To supplement the above application submissions and provide additional information and context to the above requests, the Applicant is submitting the following information:

1. An aerial photograph showing the 169 corridor and the proposed IM uses that are part of the above-referenced requests as well as the geographic context of the surrounding area;
2. A map of the original footprint of the proposed rezoning and PUD concept in cases C-543, PUD-867 and TCCP-12 that included land in Section 4 that has now been revised and is reflected in the application before you;
3. A map of the revised footprint of the proposed request currently before you in cases C-543, PUD-867 and TCCP-12 that should already be included in your case materials; and
4. The CV of Randall M. Wheeler, President and Senior Vibration Specialist at White Industrial Seismology, Inc.

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Nathan S. Cross

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**P:** 918.582.1211  
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Oklahoma City, OK 73102

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As you can see from Mr. Wheeler's credentials, he has close to fifty years of experience of expertise in the field of measuring and studying the impacts of mining shot activity as well as a litany of papers, expert presentations and speaking engagements across the country on that subject. Mr. Wheeler can speak at length if necessary to the concept of mining activity adjacent to real estate development and the thresholds established by the State of Oklahoma for mitigating impact on the surrounding area. As he does across the world at other mining sites, Mr. Wheeler and his company also currently monitor the mining activity in his part of Tulsa, and he can provide general information regarding the measured vibrations in the area and the relationship of that data to the thresholds set by the State of Oklahoma for mining activity.

We hope that this information will be helpful in your review of the above-referenced cases and look forward to the public hearing.

Sincerely,



Nathan S. Cross of  
DOERNER, SAUNDERS, DANIEL & ANDERSON, L.L.P.



EXHIBIT NO. 1

66TH STREET NORTH

U.S. HIGHWAY 169

400' MINING BUFFER

FUTURE MINING  
169 AC

POTENTIAL LAKE

POTENTIAL LAKE AREA  
/ FLOOD MITIGATION

FUTURE MINING  
190 AC

IM  
35 AC

POTENTIAL LAKE

400' MINING BUFFER

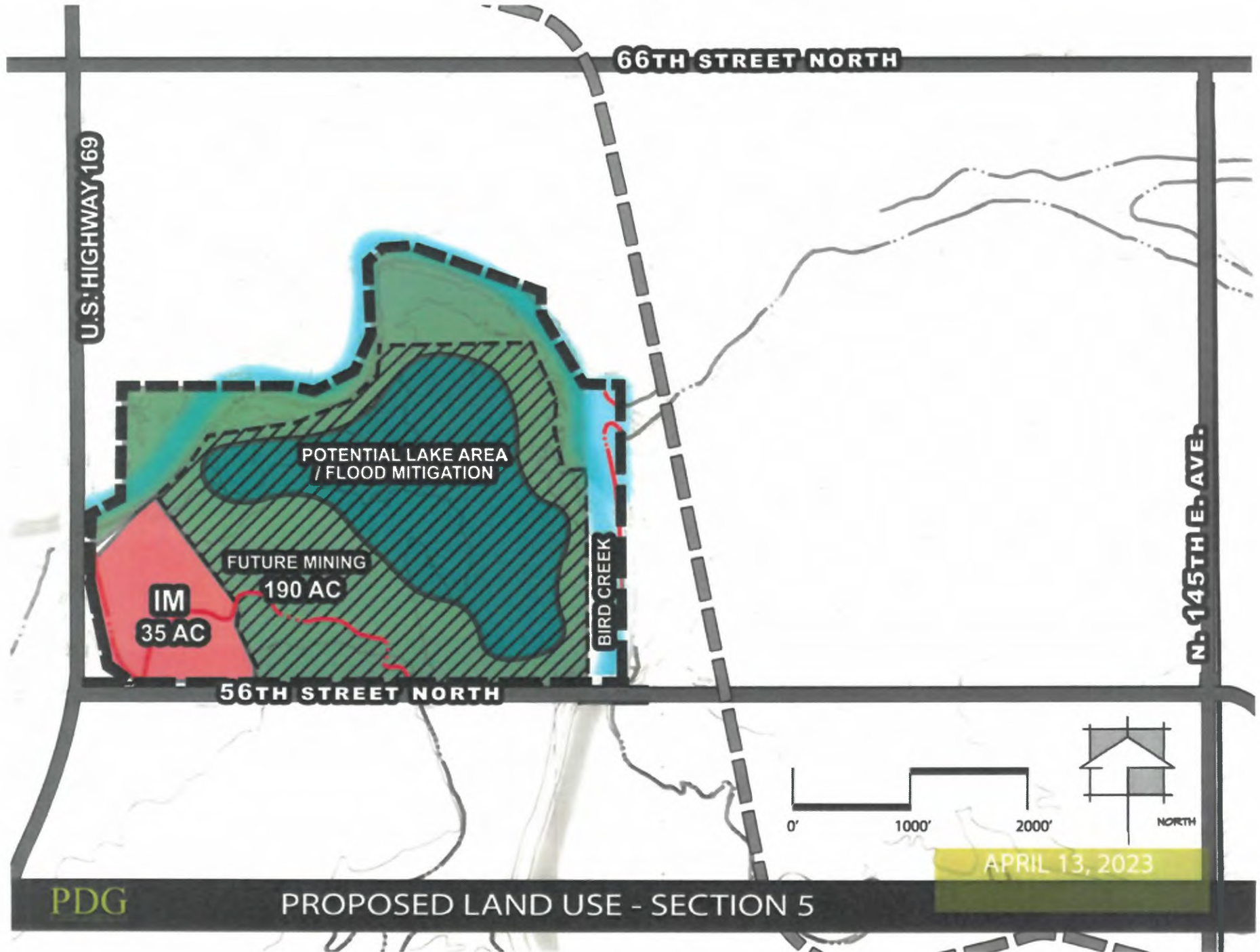
N. 145TH E. AVE.

BIRD CREEK

56TH STREET NORTH



FEBRUARY 7, 2023



PDG

PROPOSED LAND USE - SECTION 5

APRIL 13, 2023

## EXHIBIT NO. 4

Professional Resume of Randall M. Wheeler  
May 15, 2023

### PROFESSIONAL EXPERIENCE

White Industrial Seismology, Inc./White Engineering Associates, Inc.

President/Senior Vibration Specialist	1992 - Present
Vice President/Director of Technical Services	1985 - 1992
Manager of Technical Services	1982 - 1985
Manager of Data Processing	1980 - 1982
Computer Analyst	1978 - 1980

### PROFESSIONAL AFFILIATIONS

International Society of Explosives Engineers, ISEE. Vice Chairman – Blast Vibration and Seismograph Section from 2002 to 2006. Member of the Board of Directors from 1998 to 2006. Member of the Standards Committee. Helped develop seismograph performance specifications and calibration standards.

Society of Mining Engineers, SME.

### FIELDS OF PROFICIENCY

Mathematics, Seismology and Geophysics - Blasting Vibrations and Their Effects.

Application of Explosives in Construction, Mining and Quarrying Industries.

Pre-Blast and Post-Blast Inspections and Investigations.

Software Development Applicable to Engineering, Science and Seismology.

Engineering Mathematics.

Mechanics of Seismic Waves.

### EXPERIENCE INCLUDES

Studies for setting safe blasting limits for major construction projects, mines, and quarries throughout the United States.

Studies pertaining to power input of drop balls and vibrating sheepsfoot rollers.

Pre-blast and post-blast inspections and investigations.

Application of explosives for excavation in mining and quarrying.

Expert testimony, depositions, public hearings and public relations.

Development of software applications:

Fourier transform frequency analysis for seismic and atmospheric disturbances.

Structural response analysis for various types of seismic disturbances.

Signature analysis and seismic wave simulations.

Linear regression analysis of seismic and acoustic amplitude decay.

Consultant in the development of the Alpha-Seis, Alpha-Seismite, Mini-Seis and Mini-Seis III/Pro digital seismographs.

## PUBLICATIONS

Wheeler, R.M. 2011. "Resolving Blasting Near a High Pressure Pipeline" Proceedings of the 37<sup>th</sup> Annual Conference on Explosives and Blasting Technique; February 7; San Diego, Ca. International Society of Explosives Engineers; 2011.

Lusk, B., Worsley, P., Oakes, K., Chambers, J., Crabtree, S., Brasier, T., and Wheeler, R. 2006. "Destructive Wave Interference in Underground Blasting Utilizing Precise Timing" Proceedings of the 32<sup>nd</sup> Annual Conference on Explosives and Blasting Technique; Volume I, January 30; Dallas, TX. International Society of Explosives Engineers; 2006.

Wheeler, R.M. 2005. "The Importance of Saving the Full Wave Form and Frequency Analysis" Proceedings of the 31<sup>st</sup> Annual Conference on Explosives and Blasting Technique; Volume II, February 9; Orlando, FL. International Society of Explosives Engineers; 2005.

Eltzschlager, K. and Wheeler, R.M. 2005. "Microphone Height Effects on Blast-Induced Air Overpressure Measurements" Proceedings of the 31<sup>st</sup> Annual Conference on Explosives and Blasting Technique; Volume I, February 8; Orlando, FL. International Society of Explosives Engineers; 2005.

Wheeler, R.M. 2004. "The Importance of Proper Seismometer Coupling" Proceedings of the 30<sup>th</sup> Annual Conference on Explosives and Blasting Technique; 2004 February 3; New Orleans, LA. International Society of Explosives Engineers; 2004.

Cumerlato, C.L., Siskind, D.E., and Wheeler, R.M. 1992. "Residential Structural Response to Airblast Overpressure From Munitions Disposal at the McAlester Army Ammunitions Plant." Final Report for the U.S. Department of the Army, McAlester Army Ammunition Plant, McAlester, Oklahoma.

Wheeler, R.M. 1991. "An Analysis of Firing Time Scatter Effects on Vibration Simulations from Waveforms with Low and High Frequency Components." Proceedings of the Seventh Annual Symposium on Explosives and Blasting Research; 1991 February 6-7; Las Vegas, NV. International Society of Explosives Engineers; 1991: 135-146.

Bowling, D.S., Wheeler, R.M., and Wheeler, M.B. 1989. "It's Like an Earthquake When They Blast!" - A Comparison of Strong Motion Earthquake Vibrations With Those Typically Generated by Surface Coal Mine Blasting. The Journal of Explosives Engineering Vol. 7, No. 4, 28-31.

Wheeler, R.M. 1989. "Controlling Blast Vibration Effects with On-Site Analysis of Single Hole Signatures, A New Approach." Proceedings of the Fifth Annual

Symposium on Explosives and Blasting Research; 1989 February 9-10; New Orleans, LA. International Society of Explosives Engineers; 1989: 123-134.

Wheeler, R.M. 1988. "How Millisecond Delay Periods May Enhance or Reduce Blast Vibration Effects." Mining Engineering Vol. 40, No. 10, 969-973.

Nuttli, O.W., Bowling, D.S, Lawson, J.E., and Wheeler, R.M. 1987. "Some Aspects of Seismic Scaling and the Strong Ground Motion of the Eastern Missouri Earthquake of January 12, 1984." Seismological Research Letters Vol. 58, No. 2, 53-58.

## PRESENTATIONS AND SPEAKING ENGAGEMENTS

I have given numerous technical presentations over the years. The following list illustrates the diversity of my speaking engagements.

White Industrial Seismology, Inc. Blast Vibration Control Seminars.

Oklahoma Department of Mines Miner Training Institute, Krebs, Oklahoma.

Association of Oklahoma General Contractors, Muskogee, Oklahoma.

Northwest Mining Association 97th Annual Convention and Short Course.

ISEE Chapter meetings across the United States.

ISEE Annual meetings.

High-Tech Seminars on Blasting Technology, Instrumentation, and Explosives Applications sponsored by Blasting Analysis International.

Kentucky Blasting Conference.

Pennsylvania Blasting Conference

Ohio Drilling and Blasting Conference

Queen's University Blasting Technology Short Course in Kingston, Ontario CANADA.

University of Missouri at Rolla Sponsored Blasters Training Seminar in St. Louis, Missouri.

Mid-America Blasting Conference.

U. S. Department of Labor, Mine Safety and Health Administration, National Mine Health and Safety Academy, Mine Blasting and Safety Application Seminar.

State of West Virginia Blaster's Training, Charleston, WV.

EFEE World Conference on Explosives and Blasting, Brighton ENGLAND.

Missouri Limestone Producers Association.

## EDUCATIONAL BACKGROUND

Pittsburg State University

1981 - 1984

M.S. Degree in Mathematics



Missouri Southern State College	1977 - 1981
B.S. Degree in Mathematics	
A.S. Degree Computer Analysis	
Minor in Physics	
Pittsburg State University	1976
Electronics Curriculum	

## HONORS AND AWARDS

Missouri Blasting Safety Board. Appointed by Governor Matt Blunt, 2008.

Director - Heartland Chapter of Society of Explosives Engineers, 2005 -

Officer - International Society of Explosives Engineers, 2004 - 2006

Director - International Society of Explosives Engineers, 1998 - 2004

President - Ozark Chapter of the International Society of Explosives Engineers, 1996 - 1997

Secretary/Treasurer - Ozark Chapter of the International Society of Explosives Engineers, 1995 - 1996.

Director - Ozark Chapter of the International Society of Explosives Engineers, 1994 - 1995.

President's Award - International Society of Explosives Engineers - Las Vegas, Nevada, February 6, 1991.

Who's Who Among Rising Young Americans 1991.

Outstanding Service Award - Ozark Chapter of the International Society of Explosives Engineers, 1990.

Director - Heartland Chapter of Society of Explosives Engineers, 1989.

Charter President - Ozark Chapter of the International Society of Explosives Engineers, 1987 - 1989.

Excellence in Research Award from Pittsburg State University, Spring 1985. Award presented for Masters project on the Fourier transform with applications to seismic and acoustic disturbances from blasting.

Kappa Mu Epsilon - Mathematical Honorary Society.

Phi Kappa Phi - National Graduate Honor Society.

## BLAST MONITORING PROJECTS

### QUARRY AND UNDERGROUND

APAC Central – numerous quarries in Arkansas, Oklahoma, and Kansas

Martin Marietta Materials – numerous quarries in Kansas and Missouri

Lafarge Corporation – numerous quarries in Missouri and Oklahoma

Dozens of other smaller operations

### COAL

Peabody – various operations across the U.S.

AMAX – Indiana

Old Ben Coal – Illinois

Continental Coal – Missouri

Many others over the years

### CONSTRUCTION

Explosive Contractors

Pillshaw Explosives

Buckley Powder Company

Austin Powder Company

Orica

Dyno Nobel

Dykon Blasting

Dykon Demolition

Summers Blasting

Many others over the years

### METAL

Freeport-McMoRan Operations in

Arizona

New Mexico

Peru

Chile

Indonesia

I also supervised monitoring in South Africa for a week with RAM Technical Services.

Professional Resume of Randall M. Wheeler

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The number of domestic blast vibration monitoring projects I have been involved with over the last 45 years is too extensive to remember much less list. They have extended across the United States.