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5. Title and Subtitle  Snow-Proof Marking System through Electrically Conductive Fly Ash-Based Geopolymer Mortar / Concrete		6. Report Type <b>Click on link to open report</b>  Work Plan <input type="checkbox"/> Construction <input type="checkbox"/> Evaluation <input type="checkbox"/> <u>Final</u> <input checked="" type="checkbox"/>	7. Project No. 8. Project No. 9. Project No. 10. Project No.
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12. Performing Organization Name and Address  NDDOT M+R <input type="checkbox"/> North Dakota State University NDDOT OTHER* <input type="checkbox"/> Department of Civil and Environmental NDSU <input checked="" type="checkbox"/> Engineering UND <input type="checkbox"/> Fargo, ND 58102 UGPTI <input type="checkbox"/> OTHER* <input type="checkbox"/> *see supplementary notes		North Dakota DOT Materials and Research Division 300 Airport Road Bismarck ND 58504-6005	
14. Supplementary Notes			
15. Abstract  <b><u>Purpose and Need</u></b> During winter weather conditions, highway pavement markings become snow-covered and create hazards to the traveling public. The resulting life and property losses could be mitigated by a system which could redisplay these marking using snow-melting techniques. The objective of this TRIP project is to develop a snow-proof pavement marking system through electrically conductive fly ash-based geopolymer concrete.  <b><u>Objective</u></b> The objective of this research was to evaluate the feasibility of utilizing geopolymer concrete for heat transfer in order to eliminate snow on the surface of pavement markings.  <b><u>Summary</u></b> The test results of this research show that the geopolymer concrete with incorporated steel fibers proves to be a viable option to conduct electricity and transfer heat to create a snow-proof pavement marking system. The high cost of this system is restrictive to its implementation compared to conventional markings. Also, workability concerns regarding the high early strength and low air-entrainment could be encountered in field applications and pose additional challenges.			
16. Key Words Snow-Proof, Conductive, Geopolymer Concrete	17. Distribution Statement No restrictions. This document is available electronically by <a href="#">clicking this link.</a>  North Dakota Department of Transportation Materials and Research Division: 300 Airport Road Bismarck ND 58504-6005 Office: (701) 328-6900 Fax: (701) 328-0310		18. No. of Pages 75