## **RESEARCH REPORT DOCUMENTATION PAGE**

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*see supplementary notes						
4. Overlander Notes						
14. Supplementary Notes						
15. Abstract						
Objective						
<u>Objective</u>						
The purpose of this research project is to evaluate self-consolidating concrete (SCC) for use in North Dakota						
transportation projects. Self-consolidating concrete will be evaluated and suggested acceptance criteria will be						
established. It is anticipated that the findings of the investigation will serve as a significant progress in application of self-						
consolidating concrete in th	e North Dakota trans	portation pro	iects.	•		
Scope						
The scope of the research project will be limited to using the materials currently used by North Dakota concrete						
manufacturers for ready mixed concrete in addition to SCC-specific admixtures. The major focus is on technology						
transition for the set of the set						
transfer to the specifier and the constructing entity.						
A subsidiary component includes the methodology for the development of successful mix designs. In any event, the						
Committee will be requested to aid in focusing the research in mix designs toward filling the knowledge gap regarding						
properties and performances of locally produced SCC mix technologies						
properties and performances of locally produced oco mix technologies.						
Finally, the research work will involve the development of acceptance criteria for practical usage by NDDOT engineers,						
construction personnel and consultants.						
Summary						
It was found that the SCC mixes performed as well or better than their conventional mix counterparts in regard to						
strength and stiffness. However, it was observed that two of the three SCC mixes exhibited slightly higher air void						
avising an example of the requirements act by ACI 201 ASTM CHEZ for convertignal constant mixed by the found that						
systems as compared to requirements set by ACI 201, AS INFO437 TO COnventional concrete mixes. It was found that						
SUC mixes exhibited slightly higher permeability than conventional mixes but are still classified as having "low"						
permeability according to ASTM C1202. The findings of this research indicate that the bond of SCC to rebar is adequate.						
The conducted test results in this project prove that SCC can be produced with adequate strength and stiffness in						
comparison to conventional concrete.						
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