Rapid Clean-out Apparatus for Permeable Paver: Initial Laboratory Tests

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BACKGROUND AND PROBLEM STATEMENT

- The clogging phenomenon is a common problem with current permeable interlocking concrete pavers (PICPs). The newly developed PICP system promises various advantages over the current generation of related products: easier maintenance, rapid cleaning and addressing the problems associated with the use of winter de-icing material
- The simplified and rapid cleaning will also minimize the amount of de-icing materials that are currently used and potentially enter the environment

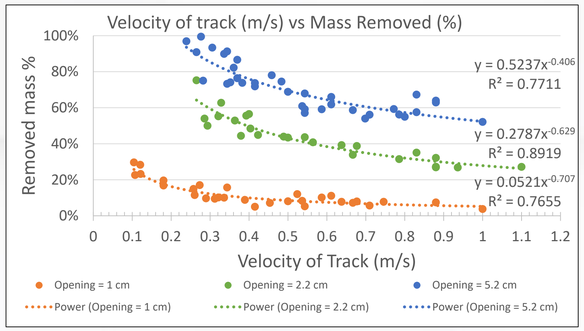
OBJECTIVES

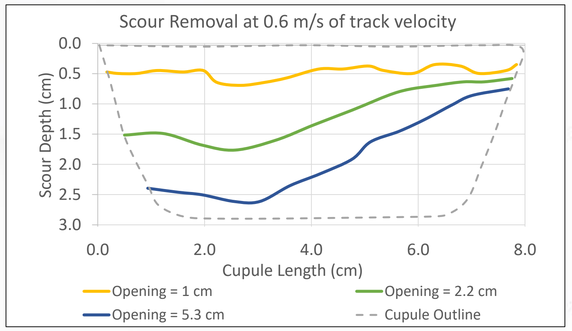
- Evaluate the performance of the new rapidly cleaned permeable pavers (RCPPs)
- Optimize the shape of the cupules to significantly reduce the cost required of clean-out

The laboratory testing apparatus

Several design of RCPPs

PRELIMINARY RESULTS





CONCLUSIONS

- Larger opening with higher flow rate resulted in higher mass removal %
- Larger opening resulted in deeper scour depth

FUTURE WORK

- Run test with a mixture of different aggregates and fines to test the cleaning efficiency for clogging for various RCPPs design