January 19, 2022 1:16 PM from Andy Erickson to everyone: Erickson, A. and M. Hernick. (2019). Capture of Gross Solids and Sediment by Pretreatment Practices for Bioretention. SAFL Project Report No. 586, University of Minnesota, Minneapolis, MN. January 2019. <http://hdl.handle.net/11299/201607> from Mike Trojan to everyone: Thanks Andy. We'll get links to the studies John discusses into the MN SW Manual on the page called Stormwater Manual webinars.

January 19, 2022 1:27 PM from Luke Martinkosky to everyone: what is the depth difference between the deep and shallow sumps? John Chapman provided an answer near the end of the presentation (see Youtube)

January 19, 2022 1:27 PM from Phillip Taylor to everyone: Could you comment on the design storm and the intensity. from John Chapman to everyone: Phillip Taylor, I would have to refer back to the details in the report by Erickson and Hernick for their experimental design storms, and the MN Stormwater manaual for the design storms in their sizing. For the 2018 study I was involved with, we used continuous modeling with the historical precipitation record.

January 19, 2022 1:29 PM from Craig Fairbaugh to everyone: John: For the d50 data, was there any correlation to contributing drainage area characteristics like time of concentration or watershed length? I would guess that distance some of these particles are travelling would influnce size and breakdown of solids. Would be interesting to normalize d50 data to drainage area info from John Chapman to everyone: Craig, In our research we did look for trends with watershed parameters and did not find any significant relationships in the data we collected. I would expect a relationship, and am working on collecting more data to better understand this.

January 19, 2022 1:40 PM from Mike Isensee to everyone: Hi Noah, How are your weep holes performing over time? Is there any design or maintenance considerations you recommend to maximize thier effectiveness? from Noah Czech to everyone: Mike Isennsee - the weep holes are no cost for us to install so any performance we get to reduce water in the sumps when we clean sediment is a bonus. some are plugged, some are working after 7 years and the sumps are aways dry when we clean them.

January 19, 2022 1:40 PM from John Gulliver to everyone: Noah, Very informative talk. What considerations go into deciding to install a floatable removal device? from Noah Czech to everyone: John G. - SAFL baffles and HDS tend to capture some floatables in our typical residential setting. The isolator or maintenance rows also hold a lot of solid floatables - i have lots of pictures of these. We will add a spcific floatable pre-treatment BMP (e.g. SNOUT) when we are in downtown bar/retaurant area where we know a lot more floatables are the primary pollutant.

January 19, 2022 1:45 PM from Jamie Dayton to everyone: Noah, Can you breifly describe your inspection process? We have found that many private undergound system have not been installed with observation ports. Therefore robotic inspection is the only option. from Noah Czech to everyone: Jamie D - Yes, private BMPs are a challenge and some require confined space or CCTV. We developed an underground design checklist for private and City projects to allow for inspections with our equipment. Private is section 7.14 at https://www.ci.stcloud.mn.us/DocumentCenter/View/825/Appendix-F-12-14-20?bidId=

January 19, 2022 1:50 PM from Jim Tiggelaar to everyone: For Noah: How effective are the jets at cleaning the isolator rows? Do you get 50% clean or better? from Noah Czech to everyone: Jim T. - to get pictures of an isolator row w/o confined space entry I use a very fancy set-up, $20 selfie stick with an old iPhone. Any isolator row over 50' long we install an inspection port to be able to see the entire system.

from Noah Czech to everyone: Jim T. We can get our isolator rows 90-95% clean if they are installed straight and properly. Detention system pre-treatment cells we get 98% clean.

January 19, 2022 1:54 PM from Nathan Reinbold to everyone: I have to head to another meeting. This is such an informative discussion. I am also on the MN Composting Council Board of Directors. It is much appreciated to designate and utilize compost in use of biofilters/erosion control projects. Consider being a member and/or advocate for the MN Composting Council.

January 19, 2022 1:54 PM from Craig Fairbaugh to everyone: Noah: fantastic presntation and info, thank you. It looked like a lot of large thick material in the maintenance row photo you shared. Any issues with cementation of sediment+organics that the jet vac cant break up? from Noah Czech to everyone: Craig F - No real issues, just takes more time. The main maintenance issue is when the rows are not installed straight or rock/fabric is not flat.

January 19, 2022 2:17 PM from Paula Kalinosky to everyone: Noah, John, Andy - maybe there's a SAFL stormwater webinar on effective implementation of MS4 permit stormwater management goals (or similar) showcasing St. Cloud's program?

January 19, 2022 2:17 PM from John Gulliver to everyone: Chris, Please read the available literature about baffles. The points that you mentioned about porous baffles have have been studied been been tested for the SAFl Baffle. Here are the references:

January 19, 2022 2:18 PM from John Gulliver to everyone: 55. Hydrodynamic Separator Sediment Retention Testing, by David Saddoris, Kurt McIntire, Omid Mohseni and John S. Gulliver, SAFL Project Report 534, October 2009. MnDOT Report 2010-10, March 2010. http://purl.umn.edu/110100

January 19, 2022 2:18 PM from John Gulliver to everyone: 52. Performance Assessment of Underground Stormwater Treatment Devices, by M. A. Wilson, O. Mohseni, J. S. Gulliver, R. M. Hozalski, Minnesota Department of Transportation Report 2007-46, November 2007.

January 19, 2022 2:20 PM from John Gulliver to everyone: 65. Assessment and Recommendations for Operation of Standard Sumps as Best Management Practices for Stormwater Treatment (Vol. 2), by K.D. McIntire, A. Howard, O. Mohseni, and J.S. Gulliver, Final Report 2012-13, Research Services and library, Office of Transportation System Management, Minnesota Department of Transportation, May 2012. <http://www.lrrb.org/pdf/201108.pdf> from Chris French to all panelists: John - Thanks for the references. Did the SALF testing follow NJCAT/NJDEP testing protocols?

January 19, 2022 2:23 PM from Luke Martinkosky to everyone: Noah, have you had issues with the isolator row fabric being dislodged during jetting? Noah provided an answer near the end of the presentation (see Youtube)