
ASCE January Meeting Minutes

Speaker(s): AJ Wilson, P.E., KDOT Area Engineer
Topic: KDOT vs. Ninnescah River
Date: Wednesday, January 12, 2022
Location: Farm Credit Bank Building
245 N Waco Ave, Wichita, KS 67202

President Daniel Mealiff called the meeting to order at 12:00 pm and opened the meeting with announcements.

Announcements

- a. Next ASCE meeting will be February 9th, 2022. It will be about the new 2-lane roundabout constructed north of Rose Hill.
- b. ASCE Kansas Section has a joint meeting with the Kansas ASCE student chapters in Manhattan KS on the evening of March 31.
- c. A joint meeting with Wichita ASCE, Tri-Valley KSPE, and Smokey Valley KSPE may happen in March as well.
- d. Cost of local ASCE lunch meetings are still \$10 at the door, but \$11 if paid online due to PayPal and Constant Contact charging excessive fees.
- e. KSBTP defines one CEU as at least 50 minutes of educational content. 30-49 minutes is ½ CEU.

Guest Speaker

Vice President Scott Lindebak introduced the guest speaker: AJ Wilson, P.E. is the Area 3 engineer for KDOT in the Winfield KS office. He spoke about the Ninnescah River which bends close to US-81 north of Belle Plaine, KS. Several steel jetties had been constructed in the 1980s, but in the mid-2010s it became apparent that they were no longer preventing erosion on the outside bend of the river. Some had settled at skewed angles and others were rusted through. Looking at the construction plans, it could be seen that only some of the jetties were anchored on bedrock. It was also discovered that the jetties did not just redirect water, but also encouraged scour at their base. Additionally, the Ninnescah River is now known to have a high salt content that is corrosive to steel, so any solutions could not include steel. The Ninnescah had entered a flood stage of >6,000 cfs 15 times in the past 10 years, creating alarming erosion on the east bank as well as soil piping, where receding floodwaters carve tunnels below the ground dangerously close to the highway.



It was feared that highway US-81 could become compromised or washed out in a flood event, so FEMA funding was secured for 2 phases of repair. The first phase was emergency bank stabilization constructed in 2017. Large amounts of rip rap covered the most critical section where the river was closest to the highway. Nearby areas were treated in the second phase in 2019 with a focus on stabilizing the toe of slope with rock and planting hundreds of willow trees and other vegetation behind the rock. Unfortunately, the trees all died due to beavers and multiple flood events just after the project finished. A Phase 3 was then initiated and constructed in early 2021 which had a similar approach to Phase 2, but without the tree planting. Vegetation growth has been strong even without being planted.

For lessons learned, AJ noted that old solutions may not be valid in modern times, and that scour holes are often deeper than estimated. KDOT's long term plan is to maintain bank stability with additional riprap as needed, which is relatively cheap. Construction was expedited by environmental permitting exceptions due to the emergency nature of the project.

Meeting Attendees

1	Albritton	Shane	25	Hamada	Abdul
2	Anglemyer	Jay	26	Heinz	John
3	Armour	Michael	27	Johnson	Drew
4	Armstrong	Eric	28	Kerns	Kyle
5	Baalman	Gregory K	29	Lackey	Steve
6	Bailey	Michael	30	Lindebak	Scott
7	Banka	Chad	31	Lomachenko	Dmitry
8	Bernhardt	Scott	32	Louanghaksaphone	Ky
9	Blackmore	Robert	33	May Jr	Charles
10	Borchers	Jake	34	McCullough	Chad
11	Broce	Eric	35	McKinney	Phil
12	Buckingham	Mark	36	Mealiff	Daniel
13	Canfield	Scott	37	Mills	Logan
14	Cater	Paul	38	Olmsted	Chandler
15	Covey	John	39	Packer	Lynn
16	Degenhardt	Steve	40	Roemer	Macee
17	Edmundson	Bradley	41	Squires	Dan
18	Farrington	Alan	42	Stump	Mike
19	Foraker	Harlan	43	Svaty	Karl
20	Frazier	Philip	44	Ummel	Tyler
21	Gotobed	Matthew	45	Wagner	Albert
22	Gunzelman	Paul	46	Wegner	Amy
23	Haberly	Brian	47	Wilson	Aj
24	Hake	Derek	48	Zhang	Wendy

Meeting adjourned by President Daniel Mealiff at 12:55 p.m.

Minutes respectfully submitted by President Daniel Mealiff.



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