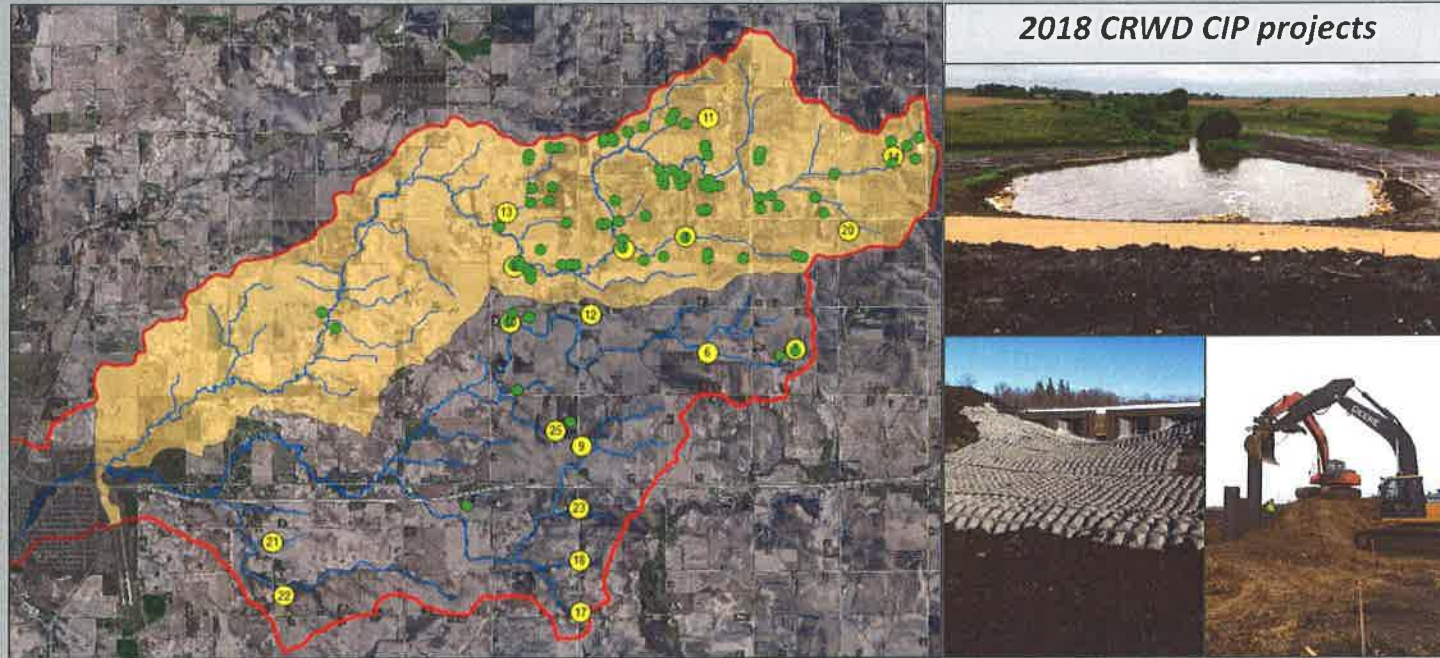


“Treatment train” for flood reduction through a targeted, multi-practice approach



Grass waterways

Rock riffles

Cover crops/soil health



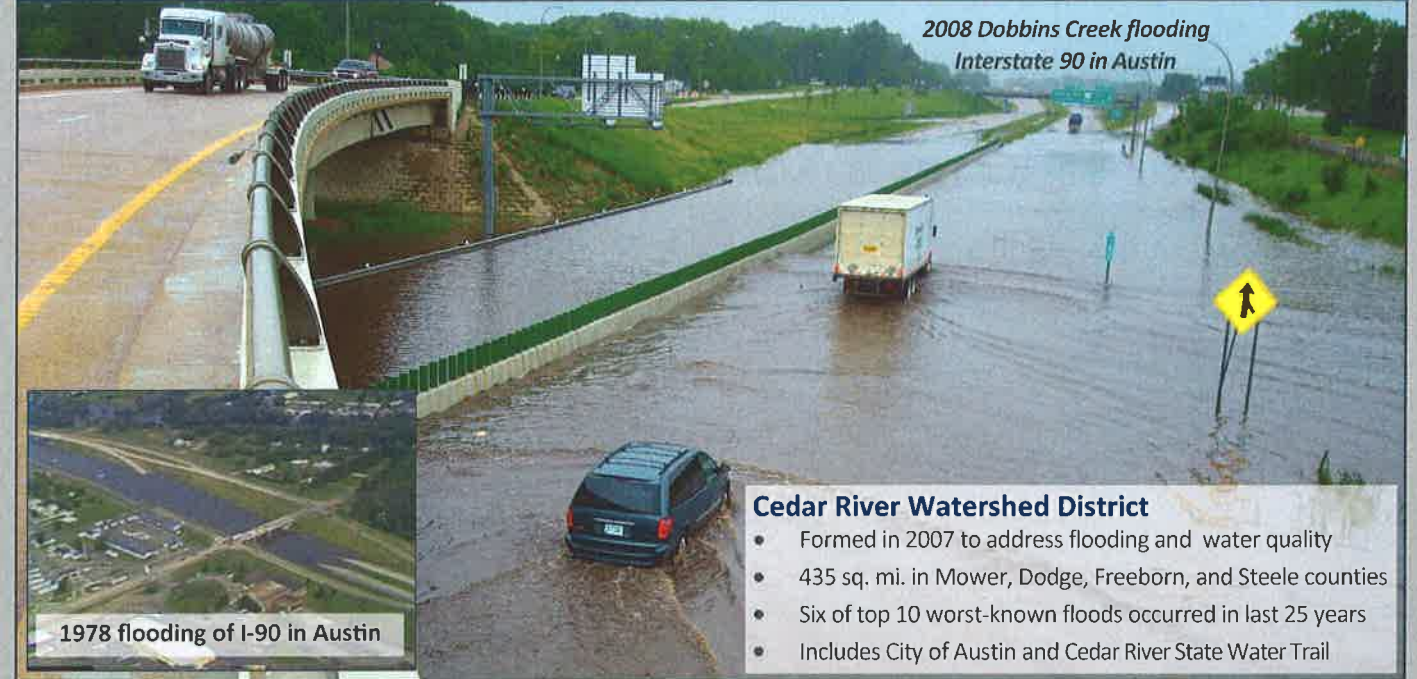
Streambank revitalization

Berms/impoundments

Ravine stabilization



CEDAR RIVER WATERSHED DISTRICT Flood mitigation: Capital Improvement Plan (CIP)



2019 FLOOD MITIGATION REQUEST

\$2.3 MILLION

Phase 2 of CRWD's \$9.0 million CIP initiative and part of 1:1 local match on state funds.

CRWD's CIP Goal

10% flow reduction at Cedar-Dobbins confluence

Cedar-Dobbins confluence in Austin



CRWD's 25 Capital Improvement Projects

Project Priority	Sub Watershed Project Name	Projected Completion	Flow Reduction From Site	Reduction TP**	Reduction TSS***	Estimated Construction Cost
PHASE I - 2017-2019						
1	Dbbn 15- #2-16	COMPLETE	54%	54%	82%	\$65,000
2	Cedar 20- #4-16	COMPLETE	33%	53%	81%	\$175,000
3	Cedar 20- #5-16	COMPLETE	N/A	53%	81%	\$25,000
4	Cedar 20- #5-16	COMPLETE	N/A	53%	81%	\$50,000
5	Dbbn 13- #1-16	COMPLETE	82%	54%	83%	760,000
6	Dbbn 13- #1-16	COMPLETE	82%	59%	87%	\$760,000
7	Dbbn 1-#15-18	90% COMPLETE	90%	55%	79%	\$230,000
8	Dbbn 32- #8-17	90% COMPLETE	85%	48%	71%	\$290,000
9	Dbbn 8- #13-18	COMPLETE	85%	49%	72%	270,000
10	Dbbn 33- #12-18	2019	90%	51%	70%	\$775,000
11	Dbbn 14- #7-16	2019	86%	50%	72%	\$900,000
TOTAL PHASE I COST						\$4,300,000

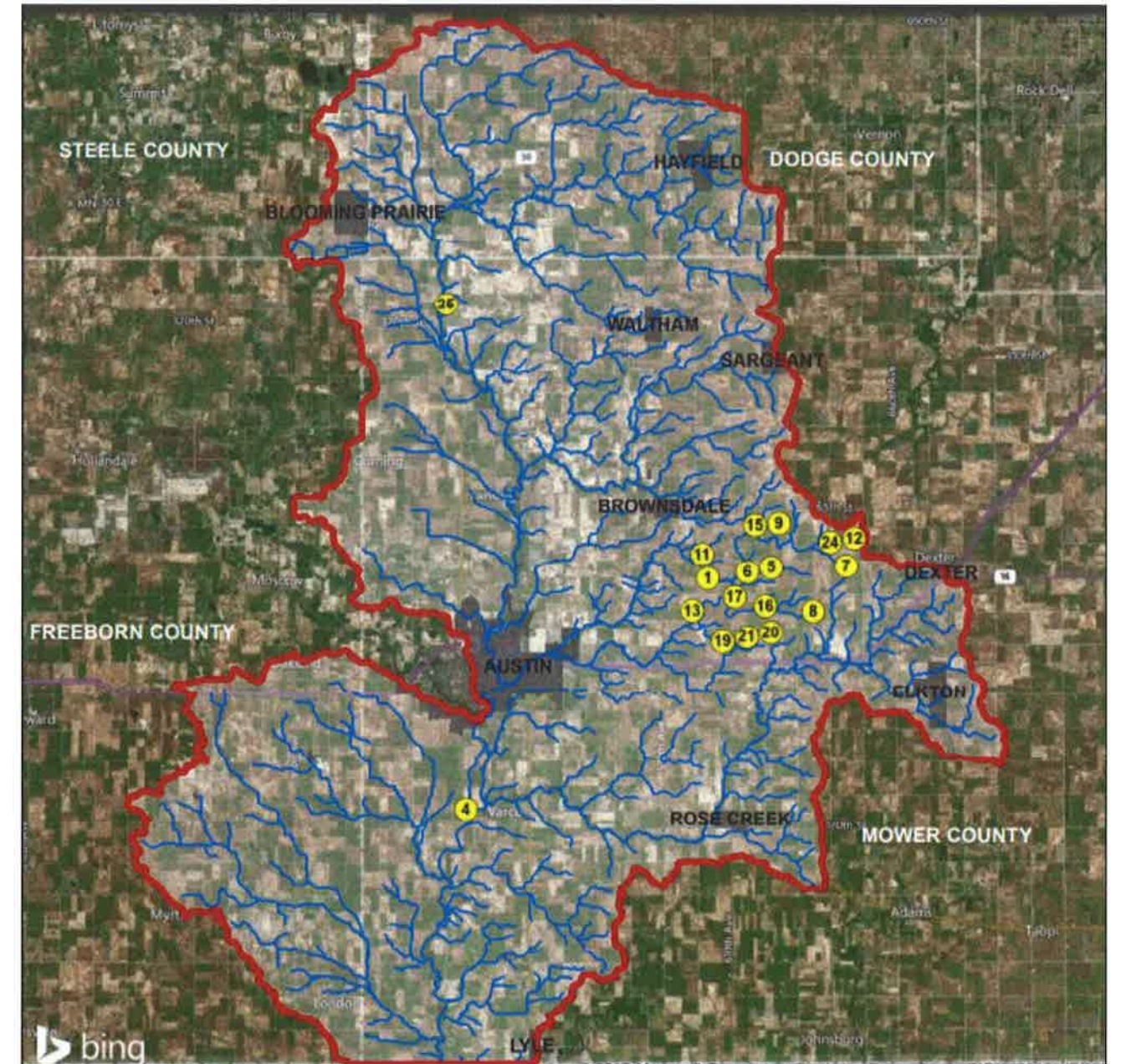
PHASE II PROJECTS CONSTRUCTION IN 2019-2020						
12	Dbbn 3-#18-18	2019	80%	65	87%	\$425,000
13	Dbbn 46- #20-19	2019	88%	48%	67%	\$325,000
14	Dbbn 2- #17-18	2019	85%	54%	71%	\$275,000
15	Dbbn 8- #16-18	2019	80%	20%	31%	\$150,000
16	Dbbn 33- #19-18	2020	85%	54%	82%	\$1,300,000
17	Dbbn 34- #10-18	2020	2019-'20	48%	75%	\$250,000
18	Dbbn 13- #11-18	2020	2019-'20	54%	82%	\$350,000
19	Dbbn 35	2020	2019-'20	56%	85%	\$325,000
20	Dbbn 37	2020	2020	54%	82%	\$175,000
21	Dbbn 37	2020	2020	53%	81%	\$300,000
22	Dbbn 11	2020	2019-'20	55%	84%	\$300,000
23	Dbbn 2	2020	2019-'20	55%	84%	\$175,000
24	Dbbn 3	2020	2019-'20	55%	84%	\$175,000
25	Cedar River-93	2021	2019-'20	54%	83%	\$175,000
2019-'20 TOTAL PHASE II COST						\$4,700,000

TOTAL CIP COST \$9,000,000

Pollution Reduction Metrics ** TP: Total phosphorus / ***TSS: Total suspended solids

Summary of Partners and Proposed Funding Sources

Bonding Proposal Summary of Costs and Partnering Contributions					
PHASE	Hormel Foundation	CRWD	Clean Water Fund	State Bonding	Total
I	\$1,350,000	\$800,000	\$450,000	\$1,700,000	\$4,300,000
II	\$1,850,000	\$500,000	\$2,350,000		\$4,700,000
Total	\$3,200,000	\$1,300,000	\$4,500,000		\$9,000,000



Sample project benefits under CRWD's Capital Improvement Plan (CIP)

Pre-project stormwater flow

Post-project stormwater flow

Project outlet after major rain

