Saving
Money with:



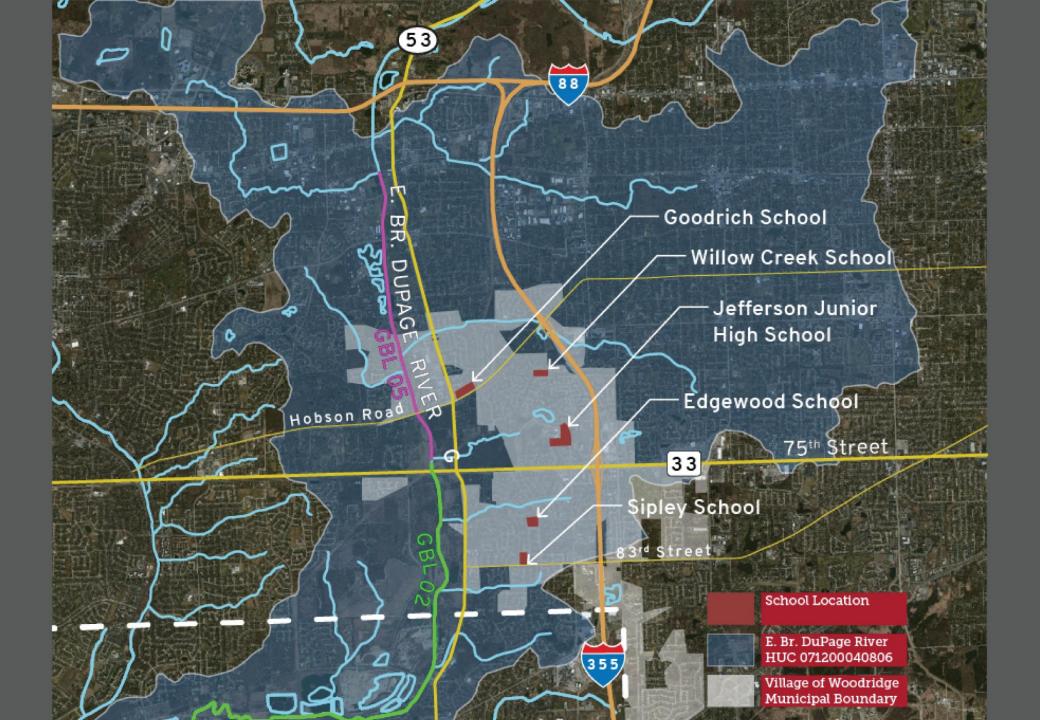


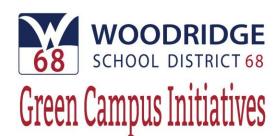


2011 PILOT PROJECTS









Woodridge SD 68 serves 2,400 students in seven schools

Timeline



Willow Creek Sipley Plaza (20,300 sf)

0



Edgewood WC Playground

(72,300 sf)



Jefferson Parking Lot

(58,000 sf)

(38,000 sf)

Goodrich Parking Lot

Total Pavers Installed 224,300 sf (5.14 ac)





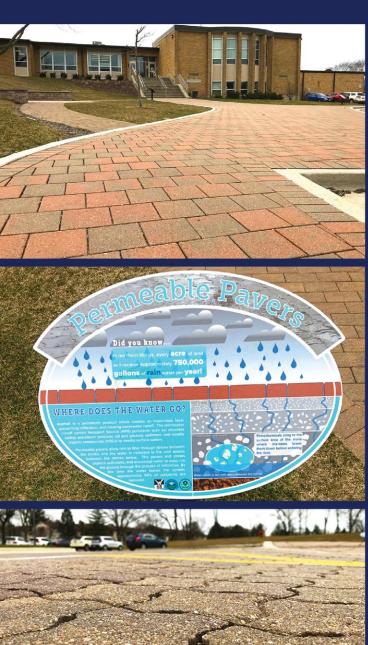
Sipley

(35,700 sf)

WILLOW CREEK



EDGEW00D





GOODRICH











JEFFERSON













ASTM C1781 Surface Infiltration Rate Test

Average Surface Inflitration Rate: 748.5 in/hr









Total Program Costs

Year			Permeable	Installed	Estimated
Built	School	Total Project Cost	Pavers SF	Cost PICP	Asphalt
2011	Willow Creek/Sipley	\$276,000.00	20,300	\$124,581.85	\$78,030.19
2012	Sipley Parking Lot	\$460,000.00	35,700	\$219,092.22	\$137,225.50
2014	Edgewood/Willow Creek PG	\$770,000.00	72,300	\$443,707.78	\$277,910.47
2015	Goodrich	\$494,319.00	38,000	\$233,207.41	\$146,066.36
2017	Jefferson	\$942,654.83	58,000	\$355,948.15	\$222,943.39
		\$2,942,973.83	224,300	\$1,376,537.41	\$862,175.90









Annual Asphalt Maintenance Costs

Asphalt Pavment Area 224,300 sf

	Cost / SF	year2	year4	year6	year8	year10	year12	year14	year16	year18	year20
Seal Coat	\$0.25	\$56,075.00	\$56,075.00	\$56,075.00	\$56,075.00		\$56,075.00	\$56,075.00	\$56,075.00	\$56,075.00	
Crack Sealing	\$0.10	\$23,100.00	\$23,100.00	\$23,100.00	\$23,100.00		\$23,100.00	\$23,100.00	\$23,100.00	\$23,100.00	
Striping	\$0.05	\$11,550.00	\$11,550.00	\$11,550.00	\$11,550.00		\$11,550.00	\$11,550.00	\$11,550.00	\$11,550.00	
Milling and Resurfacing	\$1.50					\$336,450.00					
Reconstruct											\$862,175.90
,		\$90,725.00	\$90,725.00	\$90,725.00	\$90,725.00	\$336,450.00	\$90,725.00	\$90,725.00	\$90,725.00	\$90,725.00	\$862,175.90

\$1,225,075.90 20-year Total

\$61,253.79 Avg Cost per Year

Asphalt Maintenance - assumes seal coating, crack sealing, and striping occur every second year, remedial maintenance and patching occur during year 10, and full reconstruction of payment during Year 20. Life expectancy of asphalt is approximately 20 years.







Remedial

\$112,150.00



Annual Paver Maintenance Costs

Permeable Paver Area 224,300 sf

Striping

Seasonal Maintenance Remedial Maintenance

Replace Cracked Pavers (2%)

Replace Worn/Rutted Pavers (5%)

Cost / SF year2

\$10.00

Subtotals \$6,729.00 \$6,729.00 \$6,729.00

					Maintenance					Maintenance
st / SF	year2	year4	year6	year8	year10	year12	year14	year16	year18	year20
\$0.03	\$6,729.00	\$6,729.00	\$6,729.00	\$6,729.00		\$6,729.00	\$6,729.00	\$6,729.00	\$6,729.00	
\$0.25					\$56,075.00					\$56,075.00
\$0.05					\$11,215.00					\$11,215.00
\$6.00					\$26,916.00					

\$94,206.00 \$6,729.00 \$6,729.00 \$6,729.00

\$179,440.00 \$327,478.00 20-year Total

\$16,373.90 Avg Cost per Year

Permeable Paver Maintenance - assumes biennial sweeping and remedial maintenance occurs every tenth year. Life expectancy of permeable pavers is estimated at 50 years.

Remedial









20-year Life-cycle Costs (unadjusted)

		Cost to Maintain	Cost to Maintain	
	Initial Cost	YR 1-10	YR 11-20	Total Cost
Asphalt Option	\$862,175.90	\$600,658.00	\$1,126,383.90	\$2,589,217.79
Permeable Paver Option	\$1,376,537.41	\$121,122.00	\$206,356.00	\$1,704,015.41
Difference	(\$514,361.51)	\$479,536.00	\$920,027.90	\$885,202.39

Road Salt - was not considered in the cost analysis, but permeable paver sysetems generally require less salt.









Net Present Value Analysis

Inflation Rate

2% (US 20-year average is 2.00%; Source: Department of Labor Bureau of Labor Statistics)

		Net Present				1	Net Present	
	Present Value	Value	Total			Present Value	Value	Total
Total Asphalt Construction Cost	\$862,175.90			Total Par	ver Construction Cost	\$1,376,537.41		
Year 2	\$66,052.00	\$63,487.12	\$925,663.02		Year 2	\$6,729.00	\$6,467.70	\$1,383,005.11
Year 4	\$66,052.00	\$61,021.84	\$986,684.86		Year 4	\$6,729.00	\$6,216.56	\$1,389,221.67
Year 6	\$66,052.00	\$58,652.29	\$1,045,337.14		Year 6	\$6,729.00	\$5,975.16	\$1,395,196.83
Year 8	\$66,052.00	\$56,374.75	\$1,101,711.89		Year 8	\$6,729.00	\$5,743.14	\$1,400,939.96
Year 10	\$336,450.00	\$276,006.19	\$1,377,718.07		Year 10	\$94,206.00	\$77,281.73	\$1,478,221.70
Year 12	\$66,052.00	\$52,081.55	\$1,429,799.62		Year 12	\$6,729.00	\$5,305.77	\$1,483,527.47
Year 14	\$66,052.00	\$50,059.16	\$1,479,858.79		Year 14	\$6,729.00	\$5,099.74	\$1,488,627.21
Year 16	\$66,052.00	\$48,115.30	\$1,527,974.09		Year 16	\$6,729.00	\$4,901.71	\$1,493,528.92
Year 18	\$66,052.00	\$46,246.93	\$1,574,221.02		Year 18	\$6,729.00	\$4,711.37	\$1,498,240.29
Year 20	\$862,175.90	\$580,219.66	\$2,154,440.68		Year 20	\$179,440.00	\$120,757.98	\$1,618,998.27









Actual Dollar Cash Flow

Inflation Rate

2.00% (US 20-year average is 2.00%; Source: Department of Labor Bureau of Labor Statistics)

			Actual	
		Present Value	Dollars	Total
Total Asphalt Construction Co	ost	\$862,175.90		
Year	2	\$66,052.00	\$68,720.50	\$930,896.40
Year	4	\$66,052.00	\$71,496.81	\$1,002,393.21
Year	6	\$66,052.00	\$74,385.28	\$1,076,778.49
Year	8	\$66,052.00	\$77,390.45	\$1,154,168.93
Year	10	\$336,450.00	\$410,130.67	\$1,564,299.61
Year	12	\$66,052.00	\$83,769.91	\$1,648,069.51
Year	14	\$66,052.00	\$87,154.21	\$1,735,223.72
Year	16	\$66,052.00	\$90,675.24	\$1,825,898.96
Year	18	\$66,052.00	\$94,338.52	\$1,920,237.49
Year	20	\$862,175.90	\$1,281,148.03	\$3,201,385.52

			Actual	
		Present Value	Dollars	Total
Total Paver Construction Co	ost	\$1,376,537.41		
Year	2	\$6,729.00	\$7,000.85	\$1,383,538.26
Year	4	\$6,729.00	\$7,283.69	\$1,390,821.95
Year	6	\$6,729.00	\$7,577.95	\$1,398,399.89
Year	8	\$6,729.00	\$7,884.10	\$1,406,283.99
Year	10	\$94,206.00	\$114,836.59	\$1,521,120.58
Year	12	\$6,729.00	\$8,534.00	\$1,529,654.58
Year	14	\$6,729.00	\$8,878.77	\$1,538,533.35
Year	16	\$6,729.00	\$9,237.48	\$1,547,770.82
Year	18	\$6,729.00	\$9,610.67	\$1,557,381.49
Year	20	\$179,440.00	\$266,638.40	\$1,824,019.89







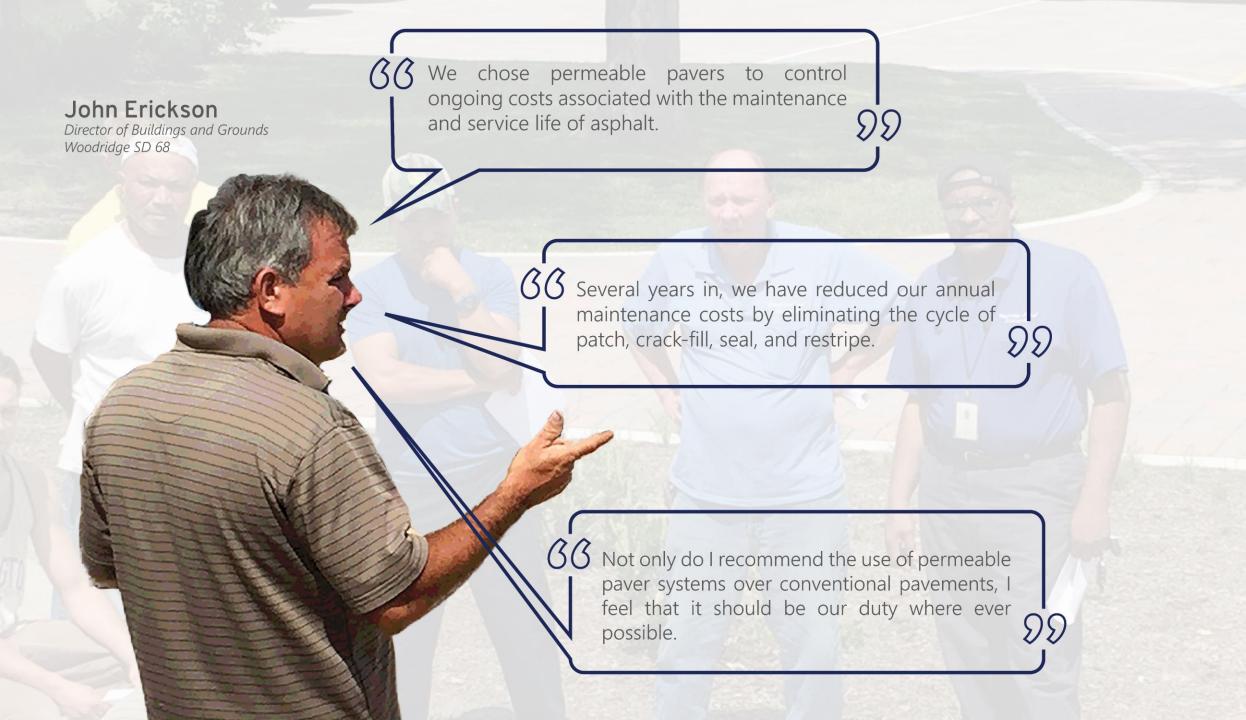




Awarded Grant Funding

		Awarded	
Year	Grant	Amount	School
2012	DuPage County WQIP	\$89,000.00	Sipley, Willow Creek PG, Edgewood
2014	EPA Section 319	\$462,000.00	Willow Creek PG, Edgewood
2015	DuPage County WQIP	\$92,000.00	Goodrich
2017	DuPage County WQIP	\$108,000.00	Jefferson

Total \$751,000.00



For more information contact:

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