

**100-year Storm Event
Alternatives Comparison
West Wisconsin Underground Storage Analysis
City of Appleton**

Major Area of Concern	Location	Existing Depth Above Rim (ft)	Alternative 1		Alternative 2		Alternative 3		Alternative 4		Alternative 5		Alternative 6A Small Storage		Alternative 6A Large Storage		Alternative 6B Small Storage		Alternative 6B Large Storage		Alternative 7		Alternative 8		Alternative 9		Alternative 10		Alternative 10A		Alternative 10B		Alternative 10C	
			Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE	Depth Above Rim (ft)	Change in Peak WSE
A	Pershing St low-point between Linwood Ave & Railroad tracks	3.7	3.4	-0.3	3.4	-0.3	3.6	-0.1	3.5	-0.2	3.3	-0.4	3.6	-0.1	3.4	-0.3	3.4	-0.3	3.2	-0.5	3.0	-0.7	3.6	-0.1	3.0	-0.7	2.4	-1.3	2.6	-1.1	3.1	-0.6	2.4	-1.3
B	Intersection of Birchwood Ave & Cloverdale Dr	2.9	2.4	-0.5	2.3	-0.6	2.6	-0.3	2.4	-0.5	2.4	-0.5	2.7	-0.2	2.6	-0.3	2.6	-0.3	2.4	-0.5	2.1	-0.8	2.6	-0.3	2.0	-0.9	1.5	-1.4	1.7	-1.2	1.9	-1.0	1.5	-1.4
C	Intersection Linwood Ave & Homestead Dr	2.3	1.7	-0.6	1.5	-0.8	2.0	-0.3	1.9	-0.4	2.3	0.0	2.2	-0.1	2.1	-0.2	2.1	-0.2	2.0	-0.3	2.2	-0.1	2.0	-0.3	1.4	-0.9	-0.4	-2.7	0.0	-2.3	0.5	-1.8	-0.4	-2.7
D	Intersection of Birchwood Ave & Glendale Ave	2.9	2.5	-0.4	2.5	-0.4	2.7	-0.2	2.5	-0.4	2.3	-0.6	2.7	-0.2	2.1	-0.8	2.9	0.0	2.5	-0.4	1.3	-1.6	2.7	-0.2	2.0	-0.9	2.1	-0.8	2.7	-0.2	2.0	-0.9	1.9	-1.0
E	Intersection of Birchwood Ave & Grant St	2.0	1.6	-0.4	1.6	-0.4	1.8	-0.2	1.6	-0.4	1.4	-0.6	1.8	-0.2	1.2	-0.8	2.0	0.0	1.6	-0.4	0.2	-1.8	1.8	-0.2	1.1	-0.9	1.1	-0.9	1.8	-0.2	1.1	-0.9	1.0	-1.0
F	Eugene St low-point between Brewster St & Grant St	3.1	2.1	-1.0	2.1	-1.0	2.2	-0.9	0.8	-2.3	3.1	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1	0.0	3.1	0.0	2.3	-0.8	2.3	-0.8	2.3	-0.8	2.3	-0.8	2.3	-0.8	2.2	-0.9
G	Weiland Ln low-point between Linwood Ave & Nicholas St	1.9	-0.1	-2.0	0.9	-1.0	1.0	-0.9	1.1	-0.8	1.9	0.0	1.9	0.0	1.9	0.0	1.8	-0.1	1.8	-0.1	1.8	-0.1	1.0	-0.9	0.3	-1.6	-0.5	-2.4	-0.4	-2.3	0.4	-1.5	-0.5	-2.4
Total Reduction (ft) at Major Areas				-5.2		-4.5		-2.9		-5.0		-2.1		-0.8		-2.4		-0.9		-2.2		-5.1		-2.8		-6.7		-10.3		-8.1		-7.5		-10.7
Estimated Cost¹				\$24.2 million		\$17.0 million		\$9.7 million		\$14.3 million		\$10.0 million		\$14.2 million		\$23.5 million		\$23.5 million		\$32.8 million		\$30.6 million		\$21.5 million		\$16.0 million		\$14.2 million		\$11.0 million		\$13.2 million		\$13.6 million
Estimated Cost per Foot of Flood Reduction				\$4.6 million		\$3.8 million		\$3.3 million		\$2.9 million		\$4.7 million		\$17.7 million		\$9.8 million		\$26.1 million		\$14.9 million		\$6.0 million		\$7.7 million		\$2.4 million		\$1.4 million		\$1.4 million		\$1.8 million		\$1.3 million
Other Flooding Areas																																		
	Intersection of Birchwood Ave & Weiland Dr	1.2	1.1	-0.1	1.1	-0.1	1.4	0.2	1.2	0.0	1.5	0.3	1.0	-0.2	1.1	-0.1	1.0	-0.2	0.7	-0.5	0.5	-0.7	0.6	-0.6	-0.7	-1.9	-0.5	-1.7	0.0	-1.2	-0.3	-1.5	-0.4	-1.6
	Intersection of Birchwood Ave & Brewster St Extended	1.1	1.3	0.2	1.3	0.2	1.5	0.4	1.4	0.3	1.2	0.1	0.3	-0.8	0.4	-0.7	0.3	-0.8	-0.5	-1.6	-1.2	-2.3	0.7	-0.4	-0.6	-1.7	-0.5	-1.6	0.3	-0.8	-0.2	-1.3	-0.3	-1.4
	Marquette Street & Railroad ROW	0.8	1.1	0.3	1.1	0.3	1.3	0.5	1.1	0.3	0.9	0.1	0.1	-0.7	-0.7	-1.5	0.0	-0.8	-1.0	-1.8	-1.8	-2.6	0.4	-0.4	-0.9	-1.7	-0.7	-1.5	0.3	-0.5	-0.4	-1.2	-0.4	-1.2
	Intersection of Birchwood Ave & Marquette St	0.3	0.6	0.3	0.6	0.3	0.8	0.5	0.6	0.3	0.4	0.1	-0.2	-0.5	-1.4	-1.7	-0.2	-0.5	-1.1	-1.4	-2.5	-2.8	-0.1	-0.4	-1.2	-1.5	-0.9	-1.2	-0.1	-0.4	-0.9	-1.2	-0.9	-1.2
	Railroad Ditch Inlet - at Glendale Ave extended	2.4	2.7	0.3	2.7	0.3	2.9	0.5	1.0	-1.4	2.5	0.1	1.9	-0.5	1.2	-1.2	1.9	-0.5	1.4	-1.0	1.1	-1.3	2.2	-0.2	1.0	-1.4	1.1	-1.3	2.2	-0.2	1.2	-1.2	1.4	-1.0
	Eugene St low-point between Pershing St & Marquette St	1.4	0.8	-0.6	1.3	-0.1	1.2	-0.2	1.2	-0.2	1.2	-0.2	1.3	-0.1	1.3	-0.1	1.3	-0.1	1.3	-0.1	0.3	-1.1	0.1	-1.3	-0.9	-2.3	-2.3	-3.7	-2.3	-3.7	-2.3	-3.7	-2.3	-3.7
	Intersection of Nicholas St & Lindbergh St	0.7	0.5	-0.2	0.6	-0.1	0.8	0.1	-3.0	-3.7	0.5	-0.2	0.7	0.0	0.7	0.0	0.7	0.0	0.7	0.0	-3.4	-4.1	0.0	-0.7	-1.1	-1.8	0.1	-0.6	0.2	-0.5	0.1	-0.6	0.1	-0.6
	Lisa St low-point between Weiland Ln & Lindbergh St	1.4	1.4	0.0	1.4	0.0	1.4	0.0	1.7	0.3	1.6	0.2	1.4	0.0	1.4	0.0	1.4	0.0	1.4	0.0	1.4	0.0	-0.7	-2.1	-0.7	-2.1	-0.7	-2.1	-0.7	-2.1	-0.7	-2.1	-0.7	-2.1
	Mainline Storm sewer - Railroad ROW at Brewster St Extended	-1.1	0.2	1.3	0.3	1.4	0.4	1.5	-0.1	1.0	-0.5	0.6	-1.0	0.1	-3.9	-2.8	-1.0	0.1	-2.8	-1.7	-6.2	-5.1	-0.7	0.4	-1.5	-0.4	-1.1	0.0	-0.7	0.4	-1.1	0.0	-1.2	-0.1
	Intersection of Birchwood Ave & Brewster St	1.4	-0.2	-1.6	-0.2	-1.6	-0.1	-1.5	-0.4	-1.8	1.7	0.3	1.3	-0.1	-4.3	-5.7	1.3	-0.1	1.3	-0.1	1.3	-0.1	-1.0	-2.4	-1.8	-3.2	-1.4	-2.8	-1.0	-2.4	-1.4	-2.8	-1.5	-2.9
	Intersection of Wisconsin Ave & Railroad tracks	-10.1	-9.0	1.1	-9.0	1.1	-8.7	1.4	-9.0	1.1	-9.2	0.9	-8.4	1.7	-12.0	-1.9	-8.5	1.6	-11.0	-0.9	-14.5	-4.4	-9.5	0.6	-10.4	-0.3	-10.1	0.0	-10.0	0.1	-10.2	-0.1	-10.2	-0.1

¹Estimated Cost for Alternatives 1 - 4 represents the mid-range cost estimate.
²Estimated Cost for Alternatives 1 - 4 were updated to represent current concrete pipe costs.