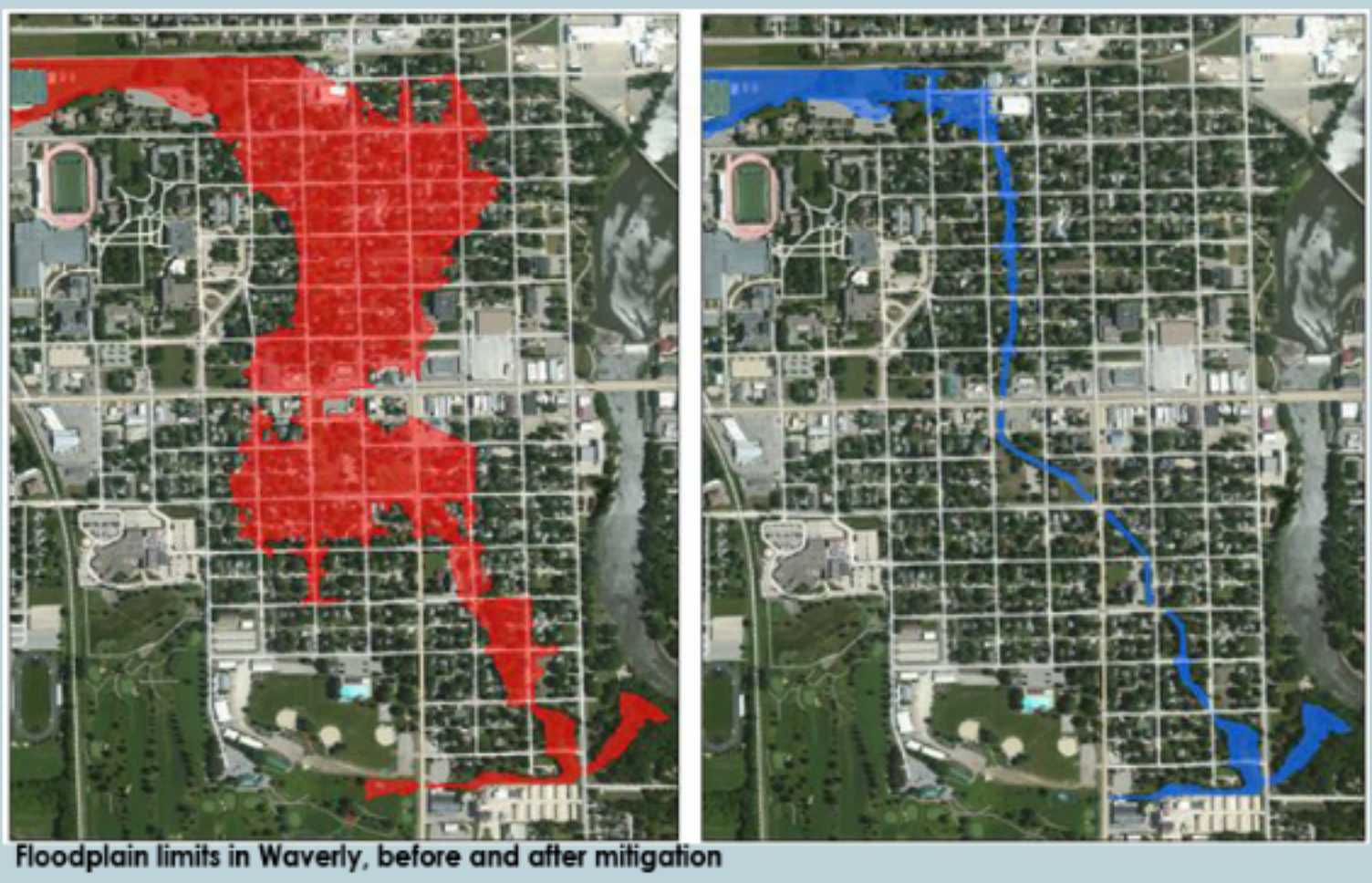
December 6, 2016

Staying High and Dry

Waverly, IA Flood Mitigation Project

To say that the month of June, 2008 was a wet one in Waverly, IA would be a massive understatement. The Cedar River crested almost 20 feet above normal and much of the town was inundated with many homes and businesses damaged. Since this wasn't the first time, the City of Waverly set about finding a way to mitigate, if not prevent similar devastation in the future.



Floodplain limits in Waverly, before and after mitigation

WHKS engineers tackled the Dry Run Creek watershed with several goals:

- Increase the water-carrying capacity of the creek
- Contain any 100-year flood events within its banks
- Reduce flood insurance rates and requirements in surrounding neighborhoods
- Find opportunities for trail and greenbelt enhancements

The achievement of these goals required a fine balancing act. In many locations, adjacent buildings and utilities left little room to expand the creek bed. Yet the existing creek simply wasn't deep or wide enough to contain a deluge.

A view of the Dry Run Creek Channel before construction

To overcome this challenge, the designers stayed flexible. Where space permitted, they created sloped, grassy creek banks. Where conditions were tight, they dug deeper and enclosed the banks with rusticated, stone-like walls.

A view of the Dry Run Creek Channel after construction

In the end, the efforts paid off. With the redesigned channel, almost 350 homes and businesses were no longer in the flood plain, reducing and often eliminating the need for flood insurance. Additionally, the number of flood-endangered property buyouts was reduced to a mere handful.

But the biggest test came in late summer, 2016 when a stalled low-pressure zone dumped almost a foot of rain in 24 hours, every drop of which remained safely contained in the new channel.