British Precast Drainage Association

Publications from the British Precast Drainage Association (BPDA):

BPDA was formed in 2017 from the integration of the Concrete Pipeline Systems Association (CPSA) and the Box Culvert Association (BCA).

Information published by both CPSA and BCA will be rebranded and replaced as BPDA in due course. New material will be branded BPDA.

All CPSA and BCA web traffic will be redirected to the new BPDA web site at www.precastdrainage.co.uk

You Should Know

American Concrete Pipe Association

A Message from the American Concrete Pipe Association Bulletin No. 134

What Positive Lessons can be Learned from an HDPE Fire?

A fire in a storm drain turned out to be both frightening and costly to Herriman City. The leaders of this rapidly growing Utah community were on a tour of the City's culinary water system. They consequently learned more about fire and the storm drainage system than they wanted to know. During the tour, thick black smoke was spotted and they learned that a 42" HDPE storm drain had caught on fire.

As the fire department was alerted, the City Engineer was able to get a glimpse of what had caused the fire. While the outfall of the storm drain was heavily grated, it was not enough to prevent children from crawling under the grate and up into the storm drain. The fort that they had built wasn't very cozy so they added a fire. Herriman City Operation Director Brett Wood stated "They started a fire and the plastic 42" pipe had enough petroleum product that it caught fire and spread." The children were nowhere to be found, causing an even bigger concern. Did the children escape the fire? What if they ran the wrong way? Crews spent over 4 hours searching the site to ensure no one was in the trench.

Smoke pours out of 42" HDPE storm drain after catching fire.

The storm drain flowed down an incline with the start of the fire at the lowest point in the pipe. Much like a forest fire spreads upslope, this fire moved rapidly up the pipe, burning the invert of the pipe and melting the crown. Firefighters wanted to enter the upper end of the pipe, but the fumes of the burning plastic were too dangerous. A city

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worker attempted to cut off the fire by cutting through the pipe with a backhoe, but he was too late. The pipe had already burned and partially collapsed as soon as the backhoe was over it. City Council members helped send water from fire hydrants down the storm drain, but by then over 800 feet of the 42" HDPE pipe was lost. The cost to reconstruct the storm drain with a more durable reinforced concrete pipe was nearly $30,000 and had to be accomplished rapidly since this important drainage could not be left out of service. The City was fortunate that the pipe was in an area where roadway replacement was not necessary.

Several comments from the HDPE salesman struck home to the City Engineer. First, the City Engineer was told that if the City had chained down the pipe grates, the pipe would not have burned. He was also told that the pipe was tested after the fire and that it met the specifications of AASHTO M294, even though the invert was burned and the crown was melted. Lastly, he was told that this was a fluke and the salesman said he only knew of two other fires in his area.

What lessons should be learned from this experience?

* Fire is an issue with HDPE pipe, even if the pipe meets AASHTO specifications.

* The HDPE industry is aware of the fire potential, but has apparently chosen to downplay the risk.

If this salesman is indicative of the HDPE industry, you assume responsibility for the risk of fire. Why take that risk?

Concrete Pipe – the SAFE choice

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