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City of Meadville

Pennsylvania

Testimony before a Joint Hearing of the PA Senate Environmental Resources and Energy Committee and the Veterans Affairs and Emergency Preparedness Committee

By Andy Walker, City Manager, City Clerk, & Emergency Management Coordinator

Chairman Yaw, Minority Chairman Yudichak, Chairman Vulakovich, Minority Chairman Costa and Committee Members and my own Senator Brooks, thank you for your time to allow me to address you regarding my community's experience with flooding in January 2018 caused by an ice jam that formed on French Creek, the ecological and historic treasure that flows through and gave birth to our community. My name is Andy Walker. I'm the City Manager and City Clerk of the City of Meadville, a city of the Third Class with population 13,300 that serves as the seat of Crawford County in northwest Pennsylvania and is home to Allegheny College, Channellock, Inc., and Ainsworth Pet Nutrition (now J.M. Smucker) among many other notable businesses and institutions.

In a community of our size, staff members wear several hats. Germane to today's testimony, I also serve as the City's Emergency Management Coordinator, charged with maintaining and implementing the City's Emergency Operations Plan and coordinating all local, state, and federal resources needed to address any emergency facing my community.

In the realm of emergency preparedness, "all emergencies are local." And in our neck of the woods, that's typically true, until the "local" emergency is a four-mile-plus long ice jam that encompasses four municipalities, the source of which did not begin in my jurisdiction. And when that emergency involves French Creek, a treasured environmental resource subject to stringent regulation, the response to ice jamming, if there's one to be had, becomes tricky to navigate. French Creek serves as the border between several neighboring municipalities.

Meadville is no stranger to flooding. We're accustomed to traditional, if not annual, "spring thaw" flooding over the banks of French Creek. And, as is more often the case now with more frequent, higher volume rain events, we've also grown accustomed to storm-based flooding that temporarily overwhelms our aging stormwater management system, much of which dates to the early 1900's. Luckily, Meadville maintains a municipal separate storm sewer system (MS4) and proactively adopted a stormwater management program user fee in 2012 to begin to address the backlog of regular system maintenance and deferred capital needs.

January 2018 French Creek Ice Jam and Flooding Event

The flooding event we experienced in January, however, was the combination of both traditional spring thaw (albeit early!) and stormwater system inundation caused by heavy rains and snow melt and followed on the heels of an extended deep freeze that laid down a heavy layer of ice on French Creek. A forecasted rapid warm up with significant rain fall caused water levels to rise rapidly in the early morning hours of Friday, January 12th, forcing a street closure at our first-to-flood low spot and, curiously, at the Mercer Street intersection of the French Creek Parkway. Early morning surveillance revealed broken-up ice on the surface of French Creek, jam-packed and not moving. The toe of the ice jam was quickly located just upstream from Smock Bridge, the City's southern border. Ice build-up on the entire length of French Creek through the City was restricting the ever-increasing flow of French Creek as rain continued to fall and the snow pack continued to melt. As the morning wore on, additional street closures were warranted and creekside property owners were alerted of rising water and warned to move vehicles or other equipment to higher ground. The City's Bicentennial Park, home to the David Mead (founder of Meadville) replica log cabin, was inundated with floodwater.

Admittedly, we were unprepared to address an ice jam and our County Emergency Management Agency (EMA), upon which we regularly rely upon for advice and guidance was not prepared to fill our knowledge gap. This tense morning began our first initial inquiry with federal and state agencies regarding actions that might be taken to break free the ice jam. Our first call was to the U.S. Army Corps of Engineers, as it was common knowledge that the Army they had blasted Meadville's 1959 ice jam, the last jam known to have caused significant flooding. We were informed that they no longer blast and that response was a local matter. Our next call was to our local DEP Northwest Region office. This call was referred to another DEP staff member in a different office that issues blasting permits and to the Fish & Boat Commission for consultation. Our County EMA did provide us with ice jam mitigation information, but we were well beyond the mitigation stage. In the

meantime, mechanical breakup of the ice jam toe was ruled out—sufficient equipment with proper boom length to reach the toe did not exist locally and it would take up to four hours for a piece of rental equipment to reach the scene. Access was only through private property and soil conditions were such that any non-track equipment would only become mired in mud. Additionally, there was no shortage of citizens offering their expertise to simply toss a few sticks of dynamite or shoot a bag of tannerite, an order I was unwilling to give and a risk I was unwilling to take. As contacts to state agencies were being made, word was received around the noon hour that the ice jam had finally broken and ice and water was beginning to flow.

Our sigh of relief, however, was short-lived. Within the passing of just a few short hours, it was clear that we weren't yet out of the woods. Nonmoving ice was observed not far downstream and again we waited. As the day wore on, the rain tapered off and temperatures began to fall. Upstream runoff and snowmelt continued to threaten additional flooding.

By daybreak on Saturday, French Creek had continued to rise, with flood waters backing up through the stormwater system. Floodwater had inundated lower Park Avenue, the eastern approach to Smock Bridge (SR 6/19/322), one intersection of the French Creek Parkway and a low-lying section of SR 322 at the south end of town. The City's Public Works Garage and the Meadville Area Sewer Authority's treatment plant were surrounded on all sides. Employee access to both facilities required high-wheeled dump trucks or front end loaders. Channellock, Inc., our neighbor, authorized construction of a land bridge from a high point on their property to a highpoint on ours. It was unclear if we would need to remove equipment and contents from our Public Works Garage to prevent loss. Lower Park Avenue was closed to through traffic, forcing the closure several major retail businesses and fast food establishments. On the south end of town, access to Channellock's

manufacturing facility, Vantage Healthcare's corporate headquarters and infusion mixing facilities, and Second District Elementary School was severely restricted. On the west side of town closest to the creek, several light manufactures had to close their facilities, as employee and delivery access was impossible. Meanwhile, across French Creek in Vernon Township, vehicles with entrapment were flooded in the Park Avenue Plaza shopping center and Ainsworth Pet Nutrition had to move grain storage trailers and ultimately shut down their dogfood manufacturing production because their receiving area was under water.

Access to the City from the west was restricted to one primary entrance point, the Mead Avenue Bridge, requiring members of our Police Department and all-volunteer Auxiliary Police to direct traffic for hours on end in freezing temperatures. By day's end, floodwaters in roadways had frozen in place, later proving to be a blessing in disguise.

Flooding conditions and resulting road closures did not change on Sunday. That afternoon, county and local emergency management officials gathered with PennDOT to prepare for the Monday morning commute with multiple road closures in place. Luckily, Monday was Martin Luther King Day; schools and government offices were closed, somewhat easing the commute. Floodwaters at the Smock Bridge approach had frozen to the point that mechanical break up and loading was possible, allowing PennDOT to reopen a primary entrance to the City by daybreak. This kicked off a day-long effort by PennDOT and City of Meadville crews (with assistance from neighboring West Mead Township) to use graders to scrape ice, inch by inch, and haul it out from flood-frozen intersections and roadways. By close of business on Monday, all but one roadway was opened to traffic. SR 322 reopened Wednesday afternoon.

With the cleanup of frozen floodwaters mostly behind us, our attention turned once again to the ice jam still remaining on French Creek. Another warm up and additional rain was forecasted, causing concern that the flooding conditions would be repeated.

With no improvement in the ice jam conditions, pressure was building from private property and business owners impacted by the flooding to take action to spare the threat of further economic loss. I was instructed by City Council to fully explore all options available. With the most to lose from flooding impacts, my staff and I took the lead in further investigating the ice jam and evaluating the feasibility of action to remove it. We hired an independent contractor to fly drone footage of the toe of the jam, any access points, and to evaluate its extent. The toe of the jam was now located in tight s-curves of French Creek over three miles downstream from Meadville in West Mead and Union Townships and it backed up over four miles through and beyond the City. Early on, ground access to the toe was deemed impossible with inundated floodplain fields and we quickly learned that the toe was located within a couple of hundred yards of a high pressure natural gas line crossing under the creek. While blasting was an unlikely option, we engaged National Fuel Gas Co., who provided their protocol and specifications for blasting near natural gas infrastructure.

We continued to navigate state and federal agencies seeking information and guidance with respect to available options, funding, permitting, etc. No one, it seemed, was an authority on the subject or able to provide clear guidance. We made contact with two blasting companies, neither of which had direct

experience with ice jam removal. We were an unbelievable seven days into our local emergency when finally we were pointed to "SOP-10: Ice Jams in Pennsylvania Streams/Rivers" by a state agency (whether DEP or PEMA, I don't recall now) via our County EMA. Eventually, one full week after our ice jam emergency began, our repeated inquires to various state and federal agencies had finally gained notice and we were able to convene a field visit with personnel from the U.S. Army Corps of Engineers Pittsburgh District office, the DEP's staff member that oversees blasting permits, and a private blasting contractor. With the cooperation of private property owners and armed with ATV's and a drone, we finally accessed the toe of the jam. Ultimately, it was decided that the toe was too remote to access with excavation equipment and blasting was unlikely to be successful given the proximity to the natural gas line and the geomorphology of the stream; French Creek's s-curves would likely prevent the free flow of ice, even if the toe of the jam was broken. "Wait and see" was our only option. Nerves ran high as the National Weather Service called for additional rain and snowpack melt that could raise French Creek two to four feet above its current level. Ultimately, Mother Nature relented and instead we enjoyed several days of sunshine and gradually warming temperatures with little precipitation. The ice jam eventually broke up on its own. Free-flowing water was observed on Tuesday, January 23rd, a full twelve days after the ice jam first formed. In the end, French Creek in Meadville, at 16.9 feet, saw its third highest stream gauge reading and flood event in its recorded history. Incidentally, this was the highest reading since the construction of the upstream U.S. Army Corp dam on Woodcock Creek, Tamarack and Rainbow Lake Dams, and the Mill Run Flood Control Project, all planned and constructed following the 1959 flood.

Lessons Learned

Though we were well equipped to handle the flooding and cleanup aspects of this event, were not prepared to address the technical and regulatory aspects of ice jam removal. **We did not have adequate training and it appeared that our supporting county, state, and federal agencies were not prepared to support us with the information or resources necessary in a timely manner. We were an unbelievable seven days into our local emergency when finally we were pointed to "SOP-10: Ice Jams in Pennsylvania Streams/Rivers" by a state agency (whether from DEP or PEMA, I don't recall now) via our County EMA. Municipalities subject to ice jam flooding threats need more training and reliable informational resources.** As a local Emergency Management Coordinator, however, I own the responsibility to prepare and protect my community.

Meadville (and the entire French creek main stem) is served by one stream gauge located downtown, maintained by the U.S Geological Survey (USGS). It is monitored by the National Weather Service's Cleveland office, which provides flood forecasts and warnings for our region. We relied heavily upon data from the gauge to plan our emergency response. At one point during the jam, the gauge got stuck, presumably from ice impacting the equipment requiring immediate maintenance from USGS' Pittsburgh office. **Functionality of this gauge, top of the line technology, and likely additional stream gauges are needed to arm communities and weather forecasters with critical information.**

We relied heavily upon information received from aerial drone footage to assess conditions, access, etc. Most local municipalities cannot afford this technology or have the staff to operate it. **Drone technology should be an arrow in the quiver of County Emergency Management Agencies or funding should be**

made available to local emergency management officials at the state level for these types of emergencies.

The City of Meadville relied heavily upon social media to share information with its citizens, business owners and the general public. **Social media is now a required tool in local emergency management response. During our flood event we issued 15 traditional press releases and 20 Facebook posts providing up to date information to the public about risks, road closures, etc. We gained over 1,125 Facebook followers as a result of our intensive communication efforts.**

Municipal and state agency cooperation is critical. We had great communication and cooperation with our neighboring municipal partners and PennDOT.

On behalf of Mayor Stearns, Meadville City Council, and the citizens of Meadville, thank you for the opportunity to address you this morning. Thank you, Senator Brooks, for the invitation to represent and convey the experiences and concerns of the elected officials and residents of the City of Meadville.

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