**LIFE IS SHORT; BREAK THE RULES**
**Takeaways from Working with Joe Verbka at the Churchill Cemetery in Allegheny County, Pennsylvania**
Angela Jaillet-Wentling, M.A., RPA (GAI Consultants, Inc.)

**SLIDE ONE:**
Good morning! My name is Angie Jaillet-Wentling and I was fortunate enough to have met Joe Verbka nearly seven years ago during my first stint as a PennDOT intern. A couple years later, in the summers of 2010 and 2011, I field-directed the PennDOT Highway Archaeological Survey Team (PHAST for brevity's sake) and Joe had us busily running around western Pennsylvania on his projects for PennDOT Districts 1-0 and 11-0. Joe made history sound fascinating. He could get you so wound up on Revolutionary War encampments that you forgot you were weed-whacking an overgrown hillside by hand in the August heat.

Archaeologists, for those of you that are not, generally consider themselves anthropologists – studying humans and their culture. Beer and people watching rank pretty highly on most archaeologists' lists of favorite things. Needless to say, Joe Verbka was a PHAST crew favorite, because he was a person that begged watching (and inspired drinking). In coming up with what I wanted to say today, I won't lie - I was struggling. I struggled with this presentation in particular for a couple of reasons. Obviously I lost a friend in Joe and unfortunately his loss was not the only one I dealt with last year – my little brother, Kyle, died in an ATV accident the previous June. In the wake of losing two young, vibrant personalities, I find that I am not one for mourning so much as I am one for enjoying moments - even when they're a mere reflection of what the person that made them was. In the end, it came down to several options of presentations: a eulogy-style remembrance or a technical rundown of the ground-penetrating radar survey - - - both of which would have had Joe sneaking out the back door halfway through or snoozing in his seat! *(2:30)*

**SLIDE TWO:**
I'm going another way with it – for Joe's sake and mine – I'm presenting the Ground-Penetrating Radar Survey at Churchill Cemetery that we conducted in August 2010 and I'll be sharing some of the things or takeaways that Joe taught us over the course of our dealings and those exemplified on this project. The project came about as a result of PennDOT District 11-0's remediation plan for potential landslide impacts along SR 2110 William Penn Highway along the Parkway East in Wilkins Township, Allegheny County. *(0:30)*

**SLIDE THREE:**
Those of you familiar with the Pittsburgh commute drive by this cemetery on your way into the city, as it sits just north of the Churchill interchange on I-376 westbound. Pittsburgh's topography plays a historic role in how people settled it and came to terms with a constantly changing landscape. Sometimes those changes come in an instant, as with the landslides that frequently occur in the Pittsburgh region as a result of a destabilized ground surface that essentially slips down the slope. The Ground-Penetrating Radar survey was conducted as one of the initial exploratory steps of project design to determine both feasibility and constraints of the slide remediation project planned for this location. By way of a backstory, Joe and the other Cultural Resource Professionals at PennDOT had been pulling together various projects for the PHAST crew, a pilot in-house initiative, that year. We were at a point in the summer where we were at a bit of a lull when Joe called me up about a project he had involving the oldest cemetery in Allegheny County. *(1:10)*

**SLIDE FOUR:**
Which leads me to my first takeaway – there's no shame in being so excited over history that you

drag others into it with you. Joe literally oozed with excitement over the project – he loved the history of the place, plus it had plenty of dead bodies just lying around. *(0:20)*

**SLIDE FIVE:**
He couldn't wait to get us out there to survey a portion of the oldest cemetery in Allegheny County, predating the incorporation of the City of Pittsburg and the establishment of the county itself! The Beulah Chapel and its cemetery were built upon the same location used by General John Forbes's British forces as an encampment, similar to the one shown in this slide, to expel the French from Fort Duquesne, which was burned during the French retreat, and then renamed Fort Pitt by a young George Washington in 1758. *(0:30)*

**SLIDE SIX:**
A place steeped in history, the Beulah United Presbyterian cemetery, dating to the early 1790s, contains more graves of Revolutionary War soldiers than any other cemetery in the county. The oldest known grave belongs to a ten year old boy named James Bonner, who died in 1792. *(0:20)*

**SLIDE SEVEN:**
The Beulah Chapel on-site was erected in 1837 with bricks made on the grounds and preceded by two earlier log buildings. These chapels housed the first Presbyterian denomination in the Pittsburgh area. *(0:10)*

**SLIDE EIGHT:**
Moving back to my phone conversation with Joe, I eventually got a word in edge-wise. My end of the conversation went something like "Ya know Joe… IUP has this ground-penetrating radar equipment and we would love an excuse to use it – we should survey the cemetery for your project." In hindsight, I think Joe played me – letting me think I had a hand in the scheme when he'd already set it in motion! Which leads me to my second takeaway - if you have enough energy and drive, you can make things happen – even if you're not entirely sure what you just made happen. To be fair, we had good reasons for applying Ground-Penetrating Radar or GPR to cemetery surveys such as this one. One of the reasons GPR is a favorite for cemetery studies is its non-invasive ability to identify burials, especially unmarked burials - the primary concern we had for this project. Geophysical investigations of archaeological sites provide an invaluable, relatively non-intrusive method of discerning the physical remains of a culture from the surrounding "noise" of the subsurface. *(1:20)*

**SLIDE NINE:**
Ground penetrating radar involves the transmitting of radar pulses through the various materials subsurface and a reading is taken of the amplitude of the reflected waves (Conyers 2006: 136). GPR, as used in archaeological investigations, is employed as a way to identify the presence and depth of anomalies regardless of whether they are archaeological or geological (Conyers 2006). Many factors may result in anomalies, including soil composition, soil compaction, mineralogy, other environmental factors or human error. Typically, ground-truthing is considered essential to validating and assessing the anomalies and possible interpretations (Hargrave 2006) – unless you are in a cemetery where you don't want to be running around willy-nilly digging up anomalies. All of this comes in handy as a tool in our archaeologist's toolbox. Joe would have made all that sound far more fascinating, possibly over some of his wine, but fascinating nonetheless. Needless to say, he was pretty excited to start the project that summer. *(1:15)*

**SLIDE TEN:**
So over the course of several days that summer, the PHAST crew traveled to the site and met up

with Joe. Bringing me to takeaway 3 – hard work and hand tools build character. I probably learned this gem a good deal sooner than when I met Joe, but I guess I never really thought it would show up so prevalently in my professional life. So, when I showed up on-site and saw what Joe had in store for us – we got busy building character and clearing a heavily overgrown hillside on the edge of the cemetery. One of the things you hope for when conducting a GPR survey is a relatively level, recently mown and accessible study area. Most cemeteries are just such study areas with the exception of large trees, bushes, and head and foot stones, they are typically the easiest of places to survey with the heavy and relatively expensive equipment. The Beulah Cemetery for the most part is easily traversable with a GPR unit, except along the edges nearest the highway embankment where we were interested. *(1:00)*

**SLIDE ELEVEN:**
Historic cemeteries are full of surprises – sometimes they have clearly marked boundaries, be it with fencing, stonework, hedges, ditches, or even the edge of the landform and sometimes they don't. The Beulah Cemetery is made up of several sections, a well maintained and partially fenced northeastern area and in the southwestern area we were working, an open grassy lawn-like area with sparsely marked burials towards the top of the hill. As you move down the hill, the burials, marked and unmarked, become more scarce and the primary indications of burials are faint depressions and vegetation. The study area consisted of a wedge-like area of potential effect at the edge of the cemetery, adjacent to the road cut-and-fill at the southwestern edge of the cemetery.

Now, I'm a very visual person and I've relied on mapping for over ten years now both in my former life in the US Army and in my professional life as an archaeologist. I specialize in Geographic Information Systems and building maps for my field crews to collect the data we need and to disseminate the results of our investigations. I like maps. I also like to have at least three points of reference, four makes me happier, to orient a feature on the landscape. Joe thought it was hilarious when he handed me this cemetery map, shown here in the right-hand corner of the slide. I'm going to assume that everyone here is far more civilized than Joe and I were and I won't repeat my reaction. Adapt and overcome! A total of 0.34 acres (0.14 hectares) were surveyed via GPR to cover the Project Area of Potential Effect (APE). *(2:15)*

**SLIDE TWELVE:**
A total of nine known anomalies or controls were identified in the GPR dataset: these controls consisted of trees, marked headstones, family plot corner markers, or a combination as in the case of this tree that grew over the plot marker, in the top and top right corner of the slide. This allowed us to not only re-orient ourselves but to also verify our results from field to laboratory. Take a good look at these controls, because you'll see them again in the next slide – just in a different form. *(0:30)*

**SLIDE THIRTEEN:**
A total of 25 previously unknown anomalies were identified within the entire Project APE. Shown here is one of the eleven survey sections that were laid out to cover the base of the triangular-shaped APE. It is a really good example of the findings of the survey in general. We were able to re-identify a number of the surface features, for instance the Krapf headstones shown here as Known Anomaly #5 and tree and plot marker - Known Anomaly #6 from the previous slide. With the known anomalies as reference, we identified a number of anomalies at varying depths, many of which were oriented along an east-west axis and measured between 3-5 feet (1-1.5 meters) wide and 6-8 feet (2-2.5 meters) long. The dimensions and orientation of these anomalies resulted in their interpretation as potentially unmarked grave shafts. Seventeen of the total 25 anomalies were considered potentially unmarked grave shafts with disturbance from the road cut, embankment,

and other natural and manmade disturbances, such as tree roots and vehicular traffic, most likely accounting for the other anomalies.

One of the reasons we considered these as potentially unmarked graveshafts, rather than burials, is because often times, historic cemeteries will move their occupants. Sometimes they document this and sometimes they don't. The cemetery keepers related to Joe that they thought some had been moved, but they weren't sure how many or from where within the cemetery's expansive grounds. So, Joe erred on the side of caution during the design phase of the project. What the GPR survey picks up is variations in the soil, in this case, primarily disturbances and differences in soil compaction – both good indicators for burials. Without excavation and possibly exhumation, we aren't able to distinguish between a graveshaft with a body and a graveshaft without a body given the GPR dataset from the Beulah Cemetery. *(2:00)*

**SLIDE FOURTEEN:**
Due to the high potential for impacting unmarked graves, we recommended avoidance of impacts to the unknown anomalies we identified and mapped during the GPR survey. Erring on the side of caution, who knew Joe Verbka was so cautious?!, we also recommended the presence of an archaeological monitor on-site during construction of areas outside those we studied, such as along the steeper portions of the road cut and heavily disturbed areas alongside the existing roadways. I think we may have even put in a word for the two preferred archaeological monitors shown here! *(0:45)*

**SLIDE FIFTEEN:**
Bringing me to my final takeaway . What's better than a good story, a good laugh, or a good wine? A good friend that can provide all of these things - Mr. Joe Verbka. While he is much more to many more, in my mind, he continues to be the friend that could always tell a good story, would always share in your laughter and loaded my little Jeep down with four cases of wine for my wedding – all the while caring enough to be a friend. *(0:30)*

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