

Selecting Kite Flight Launch Sites in Centerville

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Before we began working with Mathew Lippincott's Tyvek kite designs in Butte, we had already been working with the Centerville Neighborhood as our focus site. Between a 5 million dollar EPA reclamation project and what will become a 2.14 million affordable housing investment—a once neglected (and nearly forgotten) Centerville is now on the verge of major social and physical change.

We knew that we wanted to collect regular geographic data to support our ongoing efforts to document the neighborhood in its revitalization process. Using Mathew's tools meant that this goal was possible and by creating high-resolution images we looked forward to observing some of the more subtle changes—such as the growth patterns of new vegetation on Centerville's reclaimed mining sites.

It was only when our kites were complete and we took the field that we realized just how rich with residential and industrial power lines the neighborhood was.

In our first flights, we learned that Centerville was not the ideal location to field test a new tool—and that it would not be as simple to collect the data as we first imagined. Balloons would be much easier to manage in such a neighborhood—but because Butte is with high winds more often than not, we have learned how to select several safe flying sites despite the obstacles of the neighborhood's power grid.

Here are our three points:

1. Look for an Open Launch Site

In our first attempts we sought a high point—completely free of powerlines—to first work with Mathew on gaining some kite flying skills. It was important to find a relatively flat opening in the neighborhood, one large enough to create a 25-50 foot distance between those of us managing the kite line and the person holding the kite into the wind before lift off. When we experienced lower wind conditions often we would select a larger space to allow us to let out more line prior to the launch. Often times our low wind Fled kite needed to float loosely into the higher wind streams before we could increase the tension on the line and allow the kite to climb to an appropriate height to attach the camera.

1. Observe Patterns in Wind Direction

From our flights at the safest high points in the neighborhood, we realized that the winds in Butte keep either a west to east or northwest to southeast pattern. As we became more comfortable seeing our kites moving up and out in a consistent direction we



Oblique image of Centerville focus site (vacant lots) captured using Canon PowerShot SD450 and Mathew Lippincott's Tyvek Fled kite. (September 2011)



Overhead image of Centerville focus site captured using Canon PowerShot SD450 and Chloroprene Helium Balloon (January 2012)

felt ourselves ready to look for other places in the neighborhood where there would be a safe distance from power lines to the south and south east but perhaps a closer proximity to those power lines behind us to the north and northeast of our launch site. Each time we went out surveying new flight sites we began by thinking through the worst-case scenarios if we were to lose control of the kite—but we mainly distinguished the risk between the neighborhood’s low voltage and high voltage powerlines and made our distance decisions accordingly. In high winds—when there is a greater tension on the line—we had to consider the risk of overflying (kite climbing above and behind the person flying it) and the high speed crash that could potentially follow. We were certain not to choose any sites anywhere near the central power station, but based on this early understanding of the fled kite’s behaviors we allowed ourselves to take some risks as we felt ourselves able to work more easily with the wind patterns.

1. Select Launch Sites in Relation to Mapping Target Sites

As we were able to count on some consistency with Centerville’s winds, we began to choose our launch sites in relation to those sites we hope to document. If we knew the wind was moving in a NE→SE direction, we would then select the closest site to the NE of our target mapping site. As we hope to document the new construction taking place on the corner of Main and Center Street, we often select the parking lot behind the Blain School on North Main Street. This site allowed us adequate distance from both the high tension power lines near Main Street and the low tension lines connecting power to the school. This isn’t always a fool proof launch site for the kites (we did experience a tangle in a nearby tree) but it was here that we first found images of our target site returning in our memory card’s image sets.

Because Centerville is located on a hill—collecting images that are not too oblique has been an interesting challenge. We learned that for the Centerville neighborhood a balloon is a much better tool for the job. With balloons we can select safe launch sites much closer to our target mapping site and reduce the risk of high speed crashes (and possible electrocution) with the power infrastructure. Having access and experience with both of these mapping tools is important in a place like Butte. While balloons may have provided us with a safer alternative in mapping our urban environment, windy days do not mean that we cannot fly—but that we have the opportunity to go out and continue to learn what is possible with the kites.

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