

## Spout Run, Arlington Proposal



### Background

From the 1840s until 1970 a one-lane car bridge spanned Spout Run, roughly between Dawson Terrace and Ft. C.F. Smith Park, at the site of the Doubleday Mansion. Destroyed following a car accident, the Doubleday Bridge was never rebuilt.

There is a proposal to rebuild the bridge as a footbridge for pedestrians and bicycles only. The South side (North Highlands) of the bridge would terminate near the Hillcrest subdivision. There are several alternative termination points on the South side: near 21st Road via an existing hiker/biker trail easement in the Hillcrest common area, to a Federal park (Ft. Strong) and an existing I-66 pedestrian overpass via an existing scenic easement, and to the Courthouse Road right of way. The North side (Woodmont) would connect to 24th Street over the right of way at the end of 24<sup>th</sup> Street (Uhle Street). The bridge would be approximately 200 feet long and 15 feet wide.

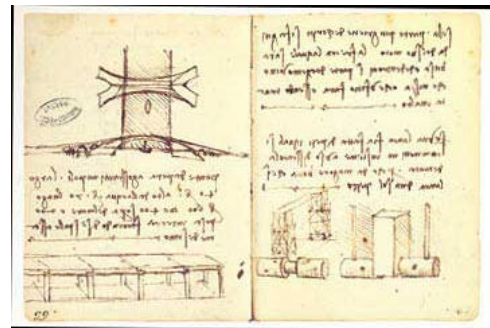
The bridge will link to the Custis Trail (along I-66) and arterial bike paths (along Nellie Custis and Military Roads), supporting the Mount Vernon Trail Extension. It would increase access to a string of civil war forts and recreational sites. Finally, the bridge will provide an alternate commuting and recreational route, improving pedestrian and cycling safety. It supports Arlington's vision of an "urban community" and gives Arlington an additional multi-use trail for walking, hiking, and bicycling.

Woodmont residents will gain safer access to the Metro (Courthouse within ¾ mile), Custis bike trail, and the Clarendon business district. It will eliminate three pedestrian unfriendly intersections, including

one of Arlington's top 10 accident-prone intersections. North Highlands residents will gain easy access to Arlington's newest park, 19 acre Ft. C.F. Smith, as well as the Woodmont Center and Windy Run, which ends at the Potomac River.

Presently there is a unique opportunity for this proposal. A Norwegian artist has designed a modern bridge based on a Leonardo da Vinci sketch. If this design is chosen the Spout Run Bridge will not only be a functional gateway into Arlington, but an artistic and educational one as well. The 330 foot long bridge in Norway built on the da Vinci design is shown above.

### Historical Notes



In 1502 Leonardo da Vinci drew a simple, graceful bridge with a single span of 720 feet. Da Vinci designed the bridge as part of a civil engineering project for Sultan Bajazet II of Constantinople (Istanbul). The bridge was to cross the Golden Horn, an inlet at the mouth of the Bosphorus River in what is now Turkey. The Bridge was never built.

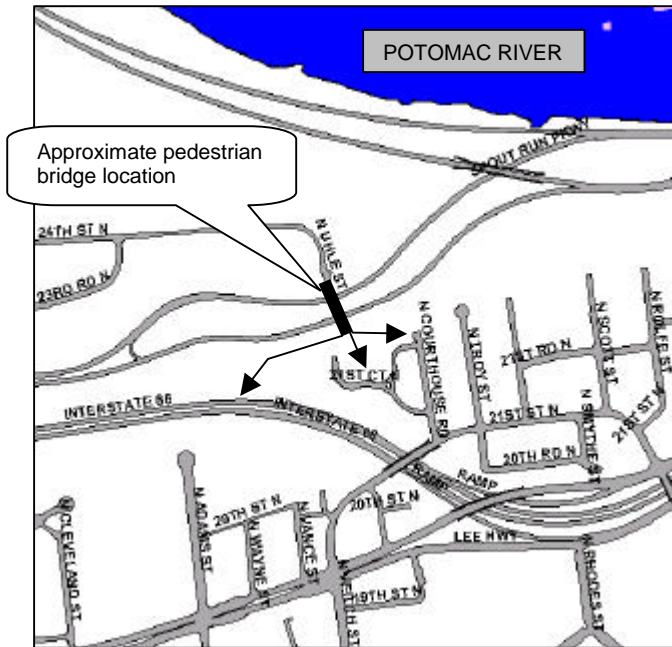
Da Vinci's "Golden Horn" Bridge is a perfect "pressed-bow." Da Vinci surmised correctly that the classic keystone arch could be narrowly stretched and substantially widened without losing integrity by using a flared foothold and the terrain to anchor each end of the span. He conceived this idea 300 years prior to its engineering principles being generally accepted. His bridge was to be 72 feet wide, 1080 feet long (total) and 120 feet above sea level at its highest point.

Da Vinci's bridge sketches were rediscovered in the 1950's. In 1996, Norwegian painter and public art creator, Vebjørn Sand, saw an exhibition on da Vinci's architectural and engineering designs. The power of the simple bridge design overwhelmed him and he set about to bring its eternal beauty to life. The Norwegian Leonardo Bridge Project is the first of da Vinci's civil engineering designs to be constructed for public use.

## Bridge Location and Preliminary Design

The map to the left shows the approximate bridge location, with one of the alternative North Highland's terminus points shown. The arrows show possible trails and/or other South terminus points in North Highlands.

Artist renderings of the conceptual Spout Run Bridge, shown below in both "open" and "closed" (inset) configurations illustrate the appearance of wood and stone alternatives. Other possible bridge materials are metals or lightweight composites like carbon graphite. As shown, the arch is approximately 200 feet long and 15 feet wide.



### For more information:

*On the Internet:*

<http://www.civfed.org/spoutbri.htm>

<http://www.vebjorn-sand.com/leonardo.html>

[http://members.bellatlantic.net/~vonbernc/index\\_files/v3\\_document.htm](http://members.bellatlantic.net/~vonbernc/index_files/v3_document.htm)

*In person:*

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