

Spatial Data Basics in 'R'

Mary Lennon

GIS Specialist & Data Scientist

 *@MaryELennon*

AECOM



Who am I?

- GIS Specialist & Data Scientist at AECOM
 - Used to be an archaeologist
- Work in CRM
 - Do other types of projects too.
- Live in Delaware.
 - Getting ready to sell my house. Yikes!
- Addicted to my Twitter feed
- Love my dog Eli!!!
- Love learning new things!



Who do I work for?

- AECOM
- Engineering & more
- Global – 150 countries
- Approx. 450 offices
- 87,000 employees
- Fortune 500 list
- Service Lines ranging from engineering to environmental sciences and *archaeology*.

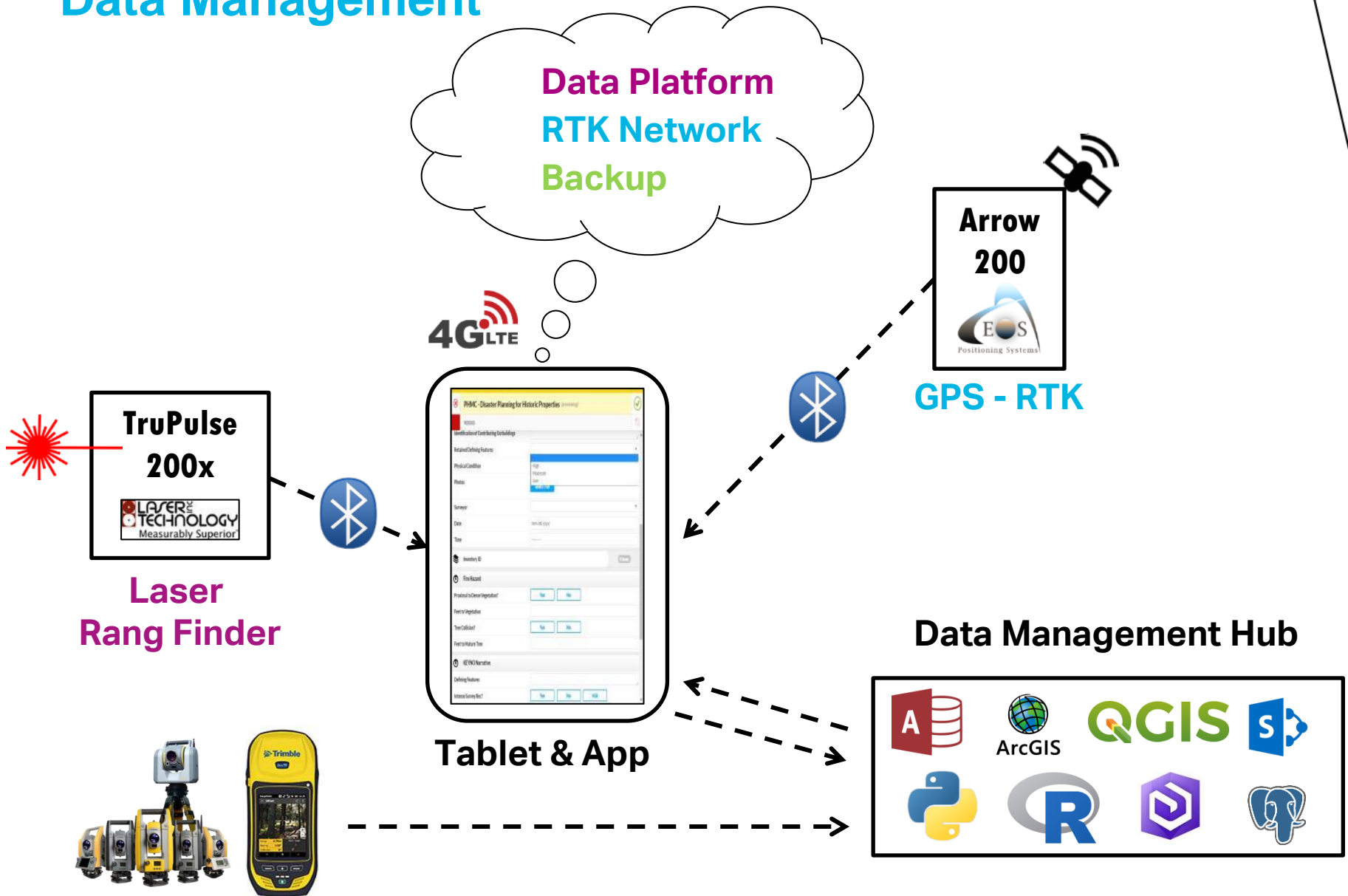
**What does being a GIS Specialist, at
AECOM, look like
day to day ?**



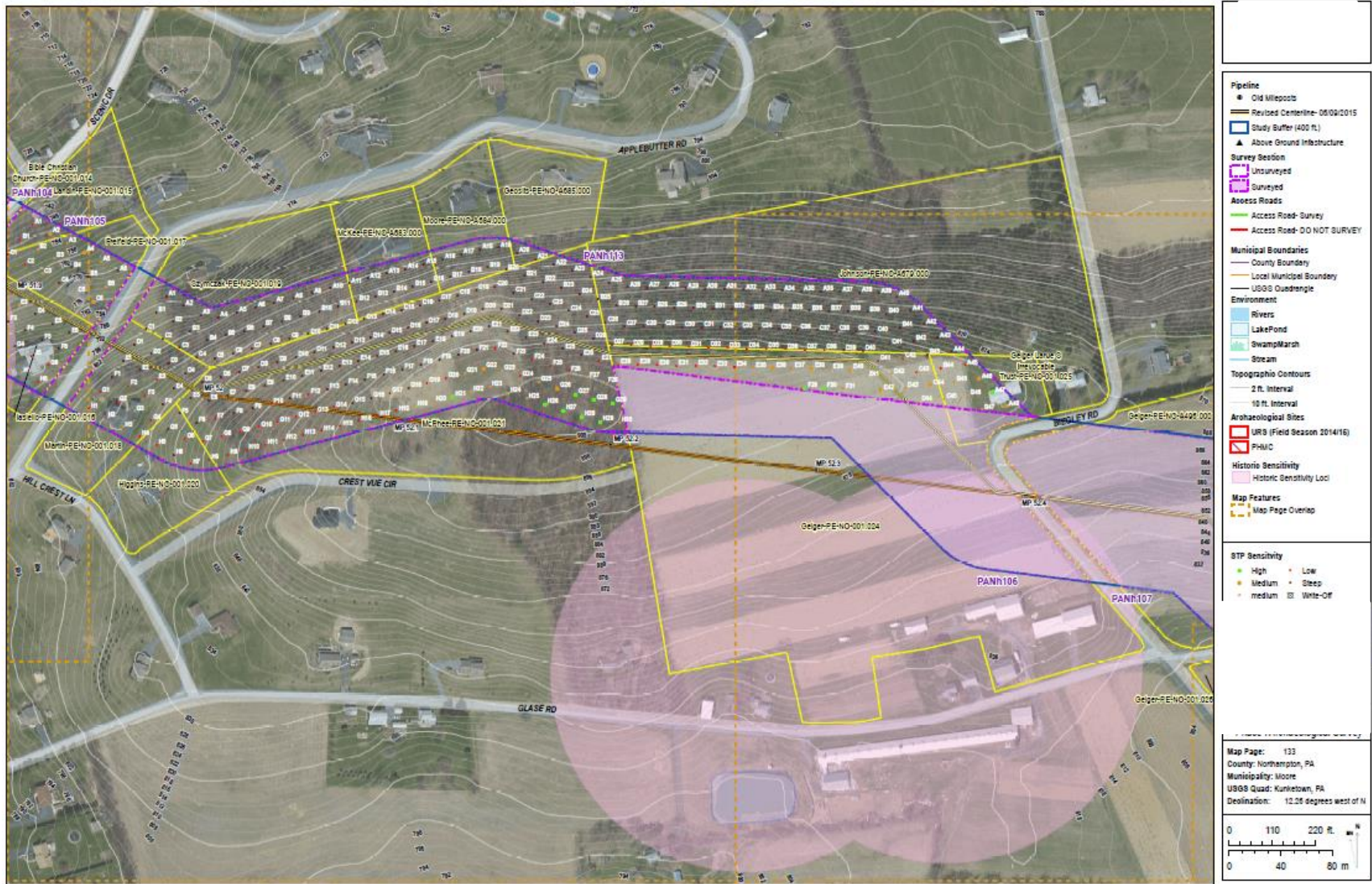
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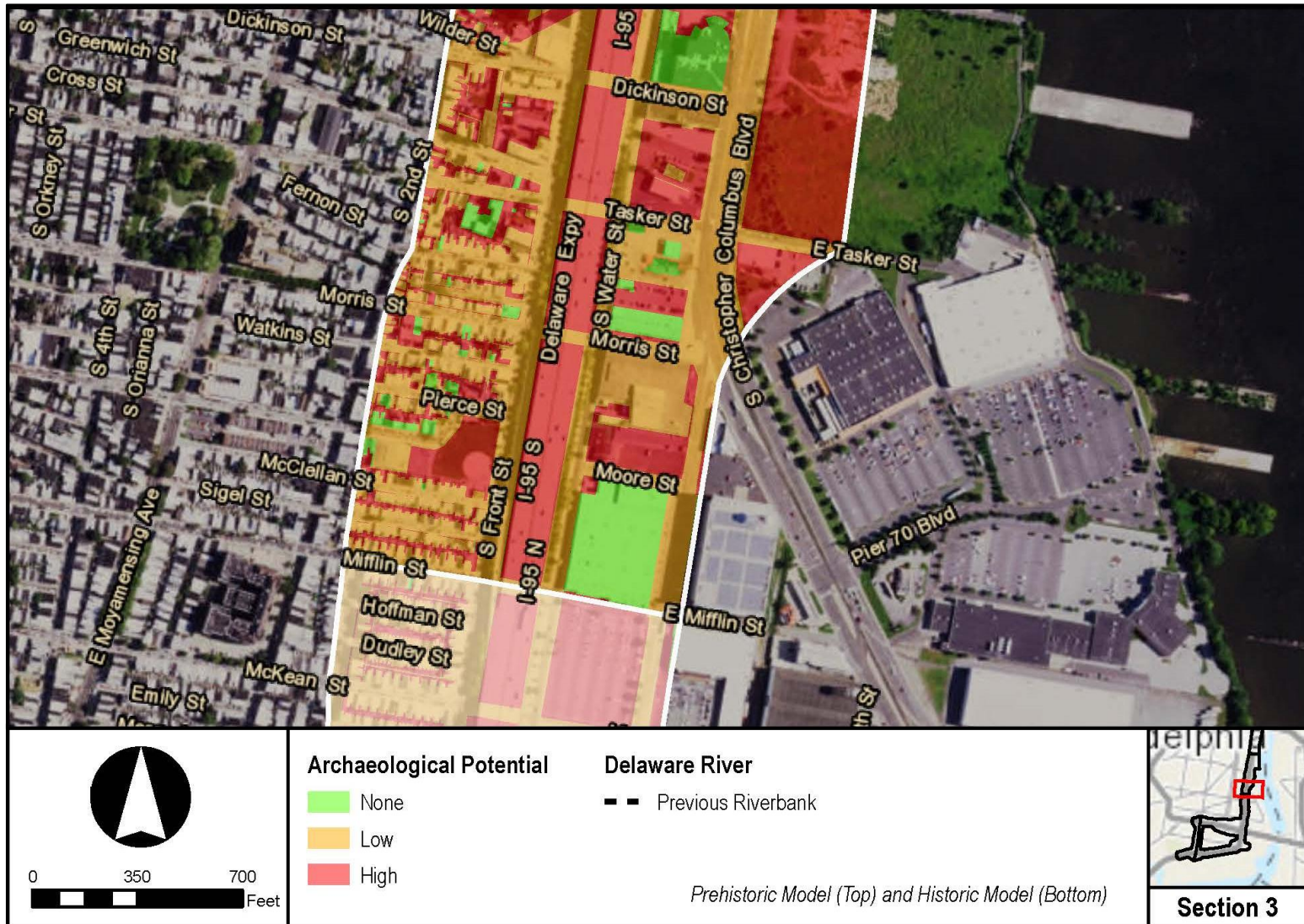
Data Management



Data Management: Large Engineering Projects



Data Analysis – Archaeological Sensitivity Model



Data Analysis – Geo-referencing

Port Richmond: Cambria-Ann



2010 City of Philadelphia Aerial Photography
by City Planning Commission (PCPC) Department - GIS Division

Source Link: <http://www.pasda.psu.edu/uci/DataSummary.aspx?dataset=1037>

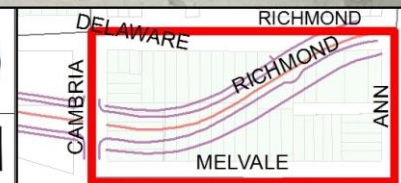
0 20 40 80 Feet

1 inch = 49 feet



I-95 Highway
Improvement Project

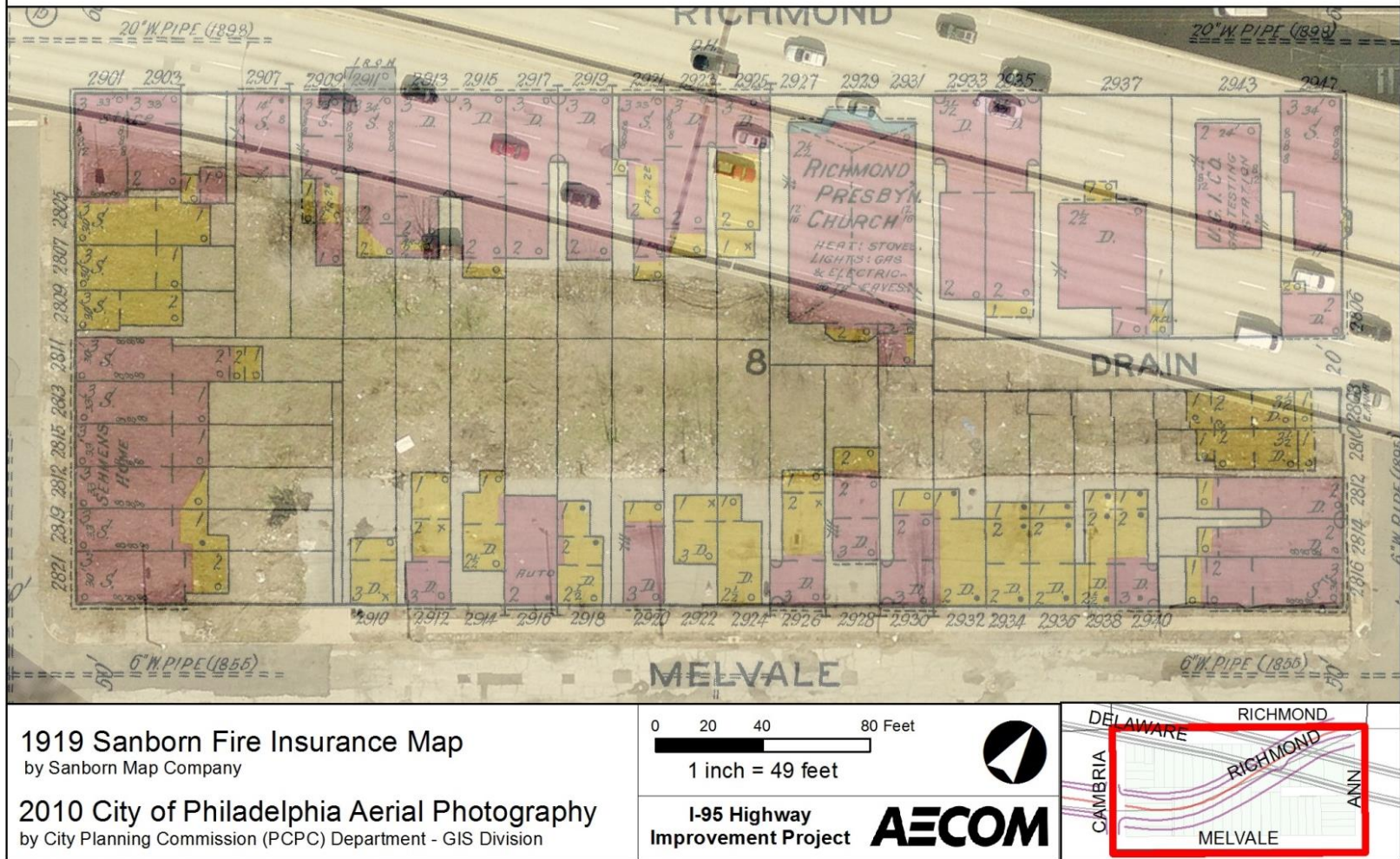
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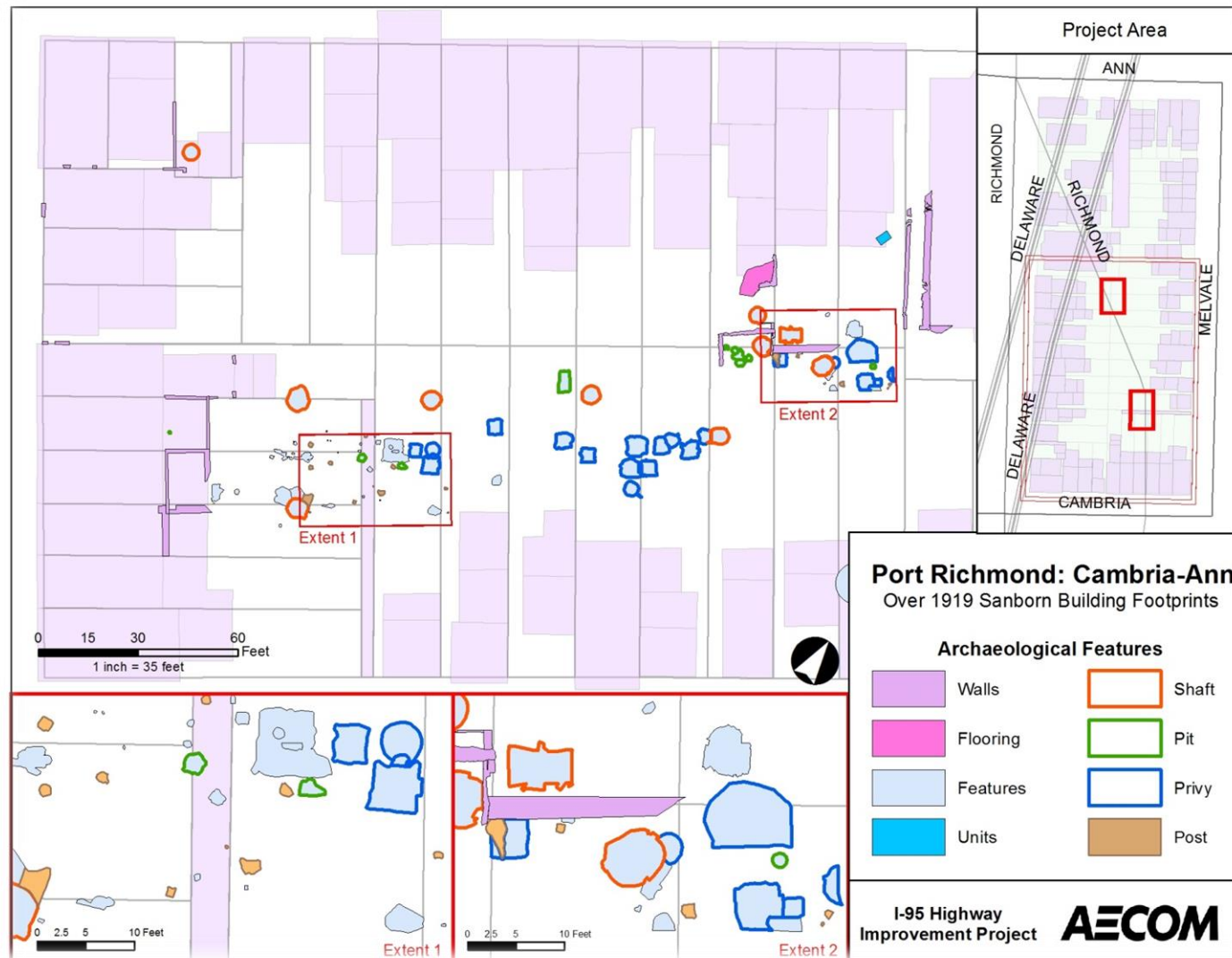
Data Analysis – Geo-referencing

Port Richmond: Cambria-Ann



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Data Analysis – Feature Locations



Story Map

Digging **195**



AECOM

Philadelphia's I-95 Waterfront Archaeology

Anthony Palmer, and by the beginning of the nineteenth century, it had grown to be a snipouling center. The far north end, where Gunner's Run flowed into the river, became known as Fishtown due to the insular community of ethnic German fisherman located there. Kensington-Fishtown soon became a center of Philadelphia's glass industry and its residents retained a tough and largely nativist reputation. Though the neighborhood's nativist sentiments eventually faded and the glass factories and shipyards closed up, it has retained its close-knit feel and neighborhood identity.

Archaeology Tour!

Aramingo/Gunnars Run Canal	Shackamaxon 1
Columbia Avenue	Shackamaxon 2
Cramp-Bumm Site	Shackamaxon 3
Dyottville Glass Works	Shackamaxon 4
Fishtown One	Tumanaranaming 1
Fishtown Two	Tumanaranaming 4
Remer	
Gunnar's Run South	

Explore More: **Part Richmond** **Northern-Liberties**

Northern Liberties



<http://diggingi95.com/>



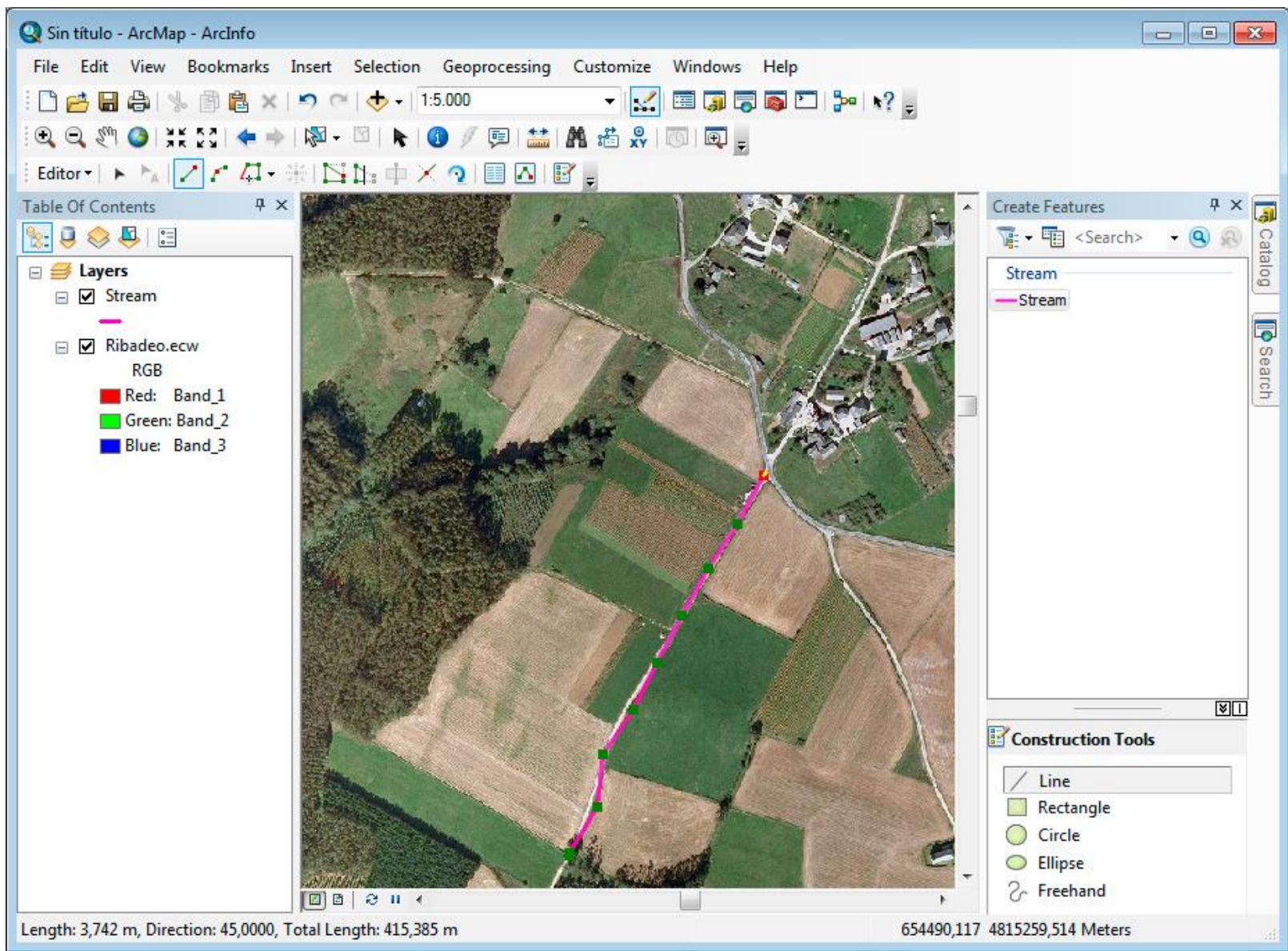
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Data Analysis – Text Extraction



Label Text

1
2
6/20/16
AECOM
AREA
DISTRICT
HAMILTON
MONITORING
PATH
TRENCH
WOODLANDS



(Muelas, 2018)



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Let's dig in!!!!!!!!!!

Grab your data and code:

https://github.com/MaryELennon/RLadies_Spatial



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