

# LAND SURVEYING: Boundary Surveys

NRCS Natural Resource Conservation Program  
Commonwealth of Pennsylvania



ENGINEERS • SURVEYORS • GIS

## Client

United States Department of Agriculture (USDA)  
Natural Resources Conservation Service (NRCS)

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## ESTIMATED COST

- Surveying Services: \$100K

## TECHNOLOGIES

- Global Positioning Systems (GPS)
- AutoCAD Civil 3D
- Geographic Information Systems (GIS)

## SITE FACTS

- Establish boundaries and natural resource preservation easements on private lands in Pennsylvania

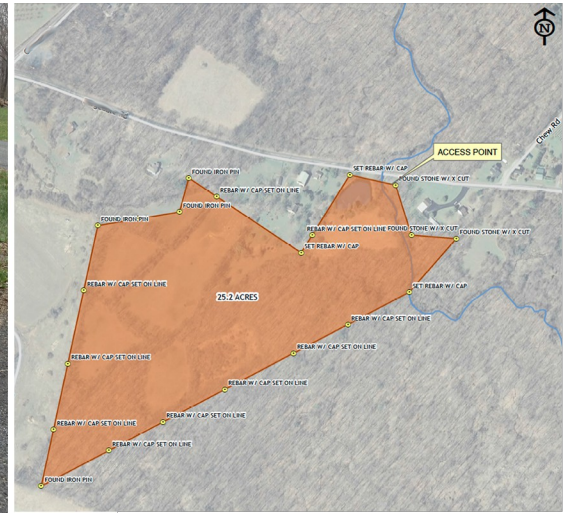
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*Rodriguez Consulting LLC (Rodriguez), under contract with the United States Department of Agriculture (USDA), is providing land surveying services under the Natural Resources Conservation Service (NRCS) Easement Program in the Commonwealth of Pennsylvania. The majority of the surveys were part of the Working Lands for Wildlife program, a new partnership between NRCS and the U.S. Fish and Wildlife Service (FWS) to combat the decline of seven specific wildlife species whose decline can be reversed and will benefit other species with similar habitat needs.*

## Rodriguez Contribution

Rodriguez was responsible for providing land surveying services on ten (10) separate assignments with the following scope of work:

- **Property Research** – Coordinated with the NRCS and the local tax assessor's office and obtained property deeds for the subject property and adjoining land owners.
- **Boundary Survey** – A traverse control network was set up throughout the site was referenced to the National Spatial Reference System using a combination of Real Time Network (RTN) GPS methods and Static GPS methods with post processing. A search for boundary corner monuments was performed and the coordinate data was collected and analyzed in order to make a boundary determination using the best available evidence. Once the boundary determination was made the easement area was established and monumented within the bounds of the property. State Plane coordinates as well as Latitude and Longitude were calculated for each marked corner within the boundary. The survey methods used met or exceeded the minimum accuracy required for rural surveys in the Commonwealth of Pennsylvania.
- **Monumentation** – Installed monuments and witness posts with signs upon NRCS review and approval of the survey. Monuments and witness posts with signs were installed at each corner, angle point, road crossing, intersection of property lines and approximately every 300 feet along a tangent.
- **Presentation of Survey** – Prepared an appropriately scaled drawing of the boundary survey in AutoCAD Civil 3D. This drawing included a record description of the property; a survey description of the easement area; a survey description of the route of ingress/egress to the subject property; sufficient data to indicate the theory of location applied in formulating the opinions as to the probable location of the boundaries and corners of the property.
- **GIS Data & Metadata** – Perimeter of the easement delivered as a polygon feature, with accompanying metadata, for conversion to the NRCS's GIS.