Natural Resources Conservation Service

Easement Programs

Land Survey Reestablishment Specifications

A. SCOPE

For Natural Resources Conservation Service (NRCS) easement programs, the reestablishment of an existing easement boundary, including as needed the associated ingress and egress route, must be through a legal survey conducted by a professional land surveyor, licensed or registered in the State where the survey will be conducted. The work will consist of performing all surveys, measurements, computations, monumentation, marking, drawings, and descriptions as required by task order. NRCS will provide the surveyor with a location map, map with aerial photograph of the easement area, copy of the recorded Warranty Easement Deed including exhibits, and any final survey maps or plats from the acquisition of the conservation easement. NRCS will provide a map that identifies the easement boundary, or portion thereof, that needs to be reestablished, or the ingress and egress route or point of access to the easement area that needs to be reestablished, and any other applicable descriptive information. The surveyor must furnish plat maps, written descriptions of the easement area (if a survey of the entire easement is being conducted), suitable electronic media of the survey information, and other items as required herein.

Note: The map with aerial photograph of the easement area provided by NRCS is only an imported digital GIS file of the easement boundary lines.

NRCS will procure the boundary reestablishment surveys through a two phase process. NRCS will review the preliminary survey submittal deliverables and determine whether to conclude the boundary reestablishment survey at phase I or proceed with phase II. The surveyor will not proceed with phase II unless notified to proceed in writing by NRCS.

Phase I:
Based upon review of the preliminary survey submittals, NRCS may elect not to proceed with monumentation and marking of the easement boundary or NRCS may elect to delay the monumentation and marking pending resolution of items identified by the preliminary survey submittals. In these cases, NRCS will direct the surveyor to provide the final survey submittals and digital and signed hardcopies of the final deliverables that include only the phase-I components as required by this specification.

Phase II:
Based upon NRCS review of the preliminary survey submittals, NRCS may elect to proceed with phase II and will notify the surveyor in writing of the extent to which the surveyor is authorized to set the monumentation and mark the easement boundaries being reestablished. The surveyor will provide the final survey submittals and digital and signed hardcopies of the final deliverables that include both the phase-I and phase-II components required by this specification.

B. QUALITY OF WORK

All land survey work must follow recognized professional practices and standards and meet the accuracy specifications and positional tolerances set forth in the regulations of the State where the survey will take place and the NRCS specifications defined herein. In the case of a discrepancy between the NRCS specifications and the State-specific requirements, the more stringent requirements will govern. In addition, any land survey in a Public Land Survey System (PLSS) State must comply with the guidelines, directions, and procedures specified in the current Bureau of Land Management (BLM) “Manual of Surveying Instructions” (Manual), except where authorized by these Easement Boundary Reestablishment Survey Specifications. The descriptions of the easement boundary or ingress and egress routes being reestablished through this survey must be clear, accurate, complete, and meet NRCS’s intent and program requirements. All notes, sketches, computations, and other data must be complete, legible, and organized in a manner that will allow reproduction of paper copies.

C. PERSONNEL AND EQUIPMENT

All work must be performed by, or under the direct supervision of, a person licensed or registered to practice land surveying in the State where the land survey is to be conducted. Other support personnel must have the training and experience to perform the work competently. Equipment for surveys must be of the quality and condition to provide the accuracy required. Equipment must be in good condition and in proper adjustment at all times. The surveyor must keep a record of all adjustments and provide records as requested. The surveyor will select the methods and instruments to be used for field data collection and boundary location. Various survey methods such as traverse, triangulation, satellite and inertial positioning systems may be used.

The NRCS contracting officer (CO) may, at his or her discretion, designate a contracting officer's representative (COR) or a technical representative to assist in preparing, inspecting, and accepting the professional easement boundary reestablishment surveying services contract. The COR or technical representative, will be determined on a State-by-State basis and will be referenced in the work order.

D. NOTIFICATION OF INTENT OF REESTABLISHMENT SURVEY

NRCS will notify the landowner that a reestablishment survey is being conducted on the easement area. Prior to the start of easement boundary reestablishment survey field work, the surveyor must conduct an onsite presurvey field visit with NRCS. During this onsite visit, the easement boundaries that are being reestablished, disputed or that need verification will be reviewed, as will the easement ingress and egress route or points of access as needed. Each request for easement boundary reestablishment surveying services will be task and site specific. NRCS will determine the areas or sites needing easement boundary reestablishment surveying services and will provide instruction as to the scope of surveying services and deliverables needed. The surveyor will discuss with NRCS the scope of fieldwork that will be required to meet the needs of the specific project and what to expect as a final product in the deliverables. NRCS will provide the surveyor with a copy of the recorded Warranty Easement Deed, including all exhibits to the deed, a copy of the easement boundary survey or description (if available), and location map or aerial photograph of the easement area with the easement GIS layer shown. NRCS will also provide a map identifying any areas of concern or dispute to be surveyed.

NOTE: Any map that is not the recorded easement boundary survey map is only a general representation of the existing easement boundary.

Before survey fieldwork begins, the surveyor must notify the NRCS representative or designated conservationist and the landowner of the date and time the survey will be conducted. Notification must be provided a minimum of 3 business days prior to beginning work. If the work is not started on the planned date, the surveyor must notify the designated conservationist, COR, and landowner of the revised date and time that work will begin.

E. SURVEY AREA

The surveyor must inspect documents provided by NRCS, recorded documents in the county register's office, and other documents found during his or her research for the purpose of retrieving deeds and plat maps for the subject and adjoining properties. Recorded easements, rights-of-way, encroachments and other such exceptions must be plotted and shown on the final plat of the easement boundary reestablishment survey unless instruction to remove such exceptions is given by the CO in writing.

All private and public roads and associated road rights-of-way or road easement areas that lie within the area being surveyed must be physically located and must be shown on the plat of survey. When reestablishing the boundaries of entire easement area, the gross easement area must be reported by the surveyor and then the net area must be computed by subtracting the road rights-of-way from the exterior perimeter boundary area. Both areas must be computed to the nearest hundredth of an acre.

When performing a complete easement boundary reestablishment survey: The surveyor must show latitude and longitude along with the State Plane Coordinates based on the North American Datum of 1983 (NAD 83) for the following:

1. The point of beginning for the easement area
2. The point of beginning for the ingress and egress to the easement area, if applicable
3. At least four other corners of the easement area

When performing a partial easement boundary reestablishment survey: The surveyor must show latitude and longitude along with the State Plane Coordinates based on the North American Datum of 1983 (NAD 83) of all corners or angle points surveyed and will show the remainder of the easement area plotted from the survey recorded with the Warranty Easement Deed and correlated to the coordinate system of the retraced boundaries. **The easement boundary lines not surveyed must be clearly defined and noted on the plat of survey.**

All coordinate values shown will be georeferenced to the National Spatial Reference System (NSRS) in compliance with BLM "Incorporating Standards for the Positional Accuracy of Cadastral Surveys When Using Global Navigation Satellite Systems" and documented in such a manner that future surveyors can confidently replicate the position.

The surveyor is not required to resolve title or possession conflicts, but is required to report facts and any professional opinions that may be relative to the possession or conflict. The surveyor must not modify the recorded easement boundary being surveyed at the direction of the landowner. Only the CO with written authorization from the NRCS Easement Programs Division may instruct the surveyor to deviate from the existing easement boundary.

F. BOUNDARY LINES AND MARKING (PHASE II ONLY)

When monumentation and boundary marking is required by NRCS on all or part of the easement boundary as part of a phase-II deliverable, the monumentation and marking must be completed in accordance with this section. The reestablished easement boundary line must be marked with visible monuments, witness posts with signs, painted tree blazing, and signs as appropriate. The markings must be visible from one marking to the next. All signs, markers, blazing, and painting must face away from the easement area.

Monuments and witness posts with signs must be installed by the surveyor prior to delivery of the final submittals of the survey, unless otherwise specified by the NRCS CO. For the portion of the surveyed boundaries NRCS requires to be marked, the monuments and witness posts with signs must be installed at each corner, angle point, road crossing, intersection of property lines, and approximately every 500 feet along the easement area boundary in open areas. In wooded areas, the surveyor must either blaze all 6-inch-minimum diameter (DBH) and larger trees that lie completely or partially within 3 feet inside of the easement boundary line and set monuments and witness post with signs approximately every 500 feet or install additional monuments and witness posts with signs approximately every 200 feet.

Trees that are blazed must be blazed with two parallel horizontal marks facing away from the easement boundary, and trees intersecting the easement boundary line must be blazed with one vertical mark at both points where the easement boundary line penetrates the tree. The blazed marks must be painted with white tree marking paint.

Property lines lying within wooded areas less than 100 feet wide (e.g., fence rows) with open agricultural or undeveloped land on either side are not subject to wooded area standards. Monuments and witness posts must not be placed in the flow line of drainage ditches.

All monuments must be thoroughly described and specifically identified as set or found, whenever shown on maps or referred to in documents prepared by the surveyor. Descriptions of monuments must be sufficiently detailed to readily facilitate future recovery by other surveyors and to enable positive identification.

All monuments must be a minimum of 5/8-inch diameter solid steel and a minimum of 24 inches long. Monument caps (approved by NRCS) must be placed on each monument. In open areas, the monument must be

driven just below the ground surface. In wooded areas, monuments are not driven below the ground surface. If there is a reason that such a monument cannot be established, the reason for a deviation from the NRCS specifications must be noted on the face of the plat of survey.

The surveyor must provide witness posts, sign bolts, and nuts. NRCS will provide the signs, and the surveyor is required to pick them up at a location designated by NRCS. The surveyor must attach an NRCS boundary sign to the top of each witness post using a galvanized nut and bolt. Sign bolts must have a minimum length so as to protrude at least 1 inch past the firmly tightened nut and must be bent after attachment to the signs and posts to prevent the nuts from separating from the bolts. Witness posts must be steel "U" channel posts at least 78 inches in length and have a minimum weight of 2 lbs. per foot. Posts must be of a natural color, preferably green. Securing the signs using a wire attachment is not acceptable.

An offset witness corner is required on each boundary line intersecting a river, creek, bayou, lake, drainage ditch, or other water body boundary and for angle points that lie within the water boundary. The witness corner must be monumented to provide a visual marker on the ground for use in maintaining the boundary integrity. Witness corner locations must be as close to the actual corner as practicable considering such factors as visibility, potential stream bank changes, encroachment, and recreational use in the area. Witness corner locations with bearings and distances to the actual corners must be clearly documented on the survey plat of the easement area and cited in the conservation easement boundary description.

G. INGRESS AND EGRESS ROUTE

When the surveyed ingress and egress route is being reestablished, the surveyor must provide a legal description that delineates the route of ingress and egress to and from the easement area as recorded with the Warranty Easement Deed. The survey description of the route of ingress and egress to the subject property must be shown as exhibit B to the survey and shown on the survey plat. **For phase II only, monuments must be set at the points where the ingress and egress route intersects the easement boundary.**

H. SURVEY DATA

All survey data obtained by the surveyor must be recorded and maintained in accordance with State standards of practice.

I. INSPECTION OF WORK

The NRCS CO, COR, technical representative, or designated conservationist may make periodic inspections of any phase of the work as it progresses. The surveyor must, without charge, make available for inspection originals or copies of such items as field notes, working plats and drawings, material obtained through research, computation sheets, computer printouts, correspondence to and from adjoining landowners, and any other item deemed necessary to ensure contract compliance and to verify accomplishments.

J. PRELIMINARY SURVEY REVIEW and FINAL SURVEY SUBMITTALS

Preliminary Survey Submittal:

Prior to submittal of final, hardcopy documents, the surveyor must notify the NRCS CO, COR, or technical representative that the field work has been completed and submit unsigned electronic PDF files of the draft survey, computer-generated easement boundary closure tabulation of bearings or data reflecting the accuracy of the survey, surveyors report and SHP and associated files to the COR or technical representative for review and comments. **Survey descriptions of the easement area and the route of ingress and egress to the easement area are required when a boundary reestablishment survey of the entire easement is being conducted.**

The preliminary survey submittals must be of sufficient detail for complete review. All areas of conflict, such as but not limited to disputes, gaps, overlaps, possession, and riparian boundaries, must be shown. The NRCS CO, COR, or technical representative will review the preliminary survey documents based on the NRCS Easement Boundary Reestablishment Survey Specification requirements and notify the surveyor of any initial revisions or modifications required.

Once the preliminary survey submittals are reviewed and approved the CO, COR or NRCS technical representative will notify the surveyor to submit the final deliverables for phase I or to proceed with phase II. **No placement of any monumentation or marking of any lines in the field is authorized until NRCS has reviewed the preliminary survey submittal, determined any needed revisions have been completed, and notified the surveyor to proceed with the monumentation of the reestablished easement boundary lines (phase II).**

Phase I:
In the cases where NRCS elects not to proceed with the monumentation of the easement boundary or to delay the monumentation of the easement boundary pending resolution of issues identified by the preliminary survey submittals, NRCS will conduct an in-office review the materials provided and complete the phase I portion of the **"Easement Boundary Reestablishment Survey Review Memorandum to the File."** Following the NRCS review, the CO, COR or NRCS technical representative will instruct the surveyor to provide signed hardcopies of the final survey submittal and deliverable items that include only the phase-I components as required by this specification.

Payment for phase I will be for the work associated with generating the phase-I deliverables and based upon the approval of the phase-I final survey submittal and deliverables.

Phase II:
If NRCS elects with to proceed with phase II, the CO, COR, or NRCS technical representative will provide written authorization to the surveyor to set the monumentation and mark the surveyed easement boundaries being reestablished. After the surveyor receives written authorization from NRCS to proceed with phase II, the surveyor will install the monumentation and markers in accordance with NRCS instructions and this specification. The surveyor will submit the revised unsigned PDF preliminary deliverable of the survey reflecting the monumentation as set to NRCS upon completion of the field work. **Updated survey descriptions of the easement area and the route of ingress and egress to the easement area are required when a boundary reestablishment survey of the entire easement is being conducted.** NRCS will conduct an onsite field review with the landowner to document the onsite review and complete the phase-II portion of the **"Easement Boundary Reestablishment Survey Field Review Memorandum to the File."** Following the onsite review, the NRCS CO, COR, or technical reviewer will instruct the surveyor to provide the final survey submittals and deliverables that include the phase-II items.

The payment for phase II will be for monumenting and marking the easement boundary lines and submission of final survey submittals and digital and signed hardcopies of the final deliverables that include both the phase-I and phase-II components required by this specification which will reflect the existing site conditions along with the monumentation set along the reestablished easement boundary.

Final Survey Submittal: The survey plat must, at minimum, include all of the following items:
(EXCEPTION: A phase-I final survey submittal will not include items identified as phase II only)

1. The surveyor's seal affixed to the survey plat, signed and dated by the surveyor.
2. Latitude and longitude and State plane coordinates (NAD 83) for the point of beginning and/or other specified points.
3. Location map inset showing easement area, major roads and nearest municipality.
4. The record description of the property or the reference to the source of the recorded description of the property on which the easement is located.
5. The survey description of the easement area as exhibit A to the survey (only when a reestablishment survey of the entire easement is being conducted).
6. The survey description of the route of ingress and egress routes to the subject property as exhibit B to the survey and shown on the survey plat (only when a reestablishment survey of the entire easement is being conducted or if only the route of ingress and egress is being resurveyed).
7. North arrow. Convergence angle between grid north and the true meridian as defined by the axis of the earth's rotation must be shown.
8. Graphic scale.

9. The point of beginning of the easement boundary and the point of beginning of the ingress and egress easement route, if applicable, must be clearly identified and noted as such. If the point of commencement differs from the point of beginning, it must be clearly identified and noted (only when a reestablishment survey of the entire easement is being conducted).
10. The surveyor must identify all lines on the plat of survey by line type or note. The surveyor must indicate and cite the source of all lines copied from previous surveys, copied from tax maps, or plotted from deeds.
11. Label adjoining properties listing landowner, recording information and property assessor identification information.
12. Show and label State, county, and municipal boundaries that impact the easement area or ingress and egress routes.
13. The direction of courses, shown in bearings to whole seconds of arc, and the distances to hundredths of feet for all courses, course tables may be used on the survey plat. All data will be referenced to the appropriate State plane coordinate system, referenced to the NSRS U.S. Survey Foot, and basis of bearing to grid north of the appropriate State plane coordinate system.
14. The central angles, length of curves, radii, and the length and bearing of the long chords from the point of curvatures to the point of tangencies for each curve along the boundary line.
    Note: In addition, curves should be noted on the survey plat as either simple curves, compound curves, or spiral curves (also note if they are railroad or highway curves) curve tables may be used on the survey plat.
15. Scale factor and geoid used for State plane coordinate values with note stating what portion of the survey was performed using GPS equipment, the precision of work in relative positional accuracy, and how GPS data was determined:
    - Type of GPS equipment used. Model number, manufacturer, and type of frequency.
    - Type of GPS survey preformed (static, RTK, adjusted RTK, etc.).
16. Monuments identified as found, along with a description of the monument.
17. **PHASE II ONLY:** Monuments identified as set, along with a description of the monument.
18. Area of the surveyed easement.
19. Observed evidence of possession or occupation and use by others on the subject parcel or across any boundary lines of the subject property.
20. Major topographical features shown, such as highways, roads, field roads, railroads, trails, streams, creeks, and rivers that cross the subject property line.
21. Recorded encumbrances, rights-of-way or other easements found when researching deeds for the subject or adjoining properties.
22. Observed and field-located evidence of any easements, utilities, or infrastructure not addressed in 19, 20, and 21 above.
23. Sufficient data, diagrams, maps, and survey ties to corners to indicate that the location of the boundaries and corners of the property were correctly surveyed and located, including diagrams to show that the PLSS section or sections were properly surveyed and subdivided to locate PLSS aliquot parts and PLSS lots.
24. Name, registration number, address, and phone number of the professional land surveyor in responsible charge of the survey.
25. Client name.
26. Date survey was completed.
27. Title block in lower right hand corner of plat to include NRCS easement agreement name and number with number in the following format: **XX-XXXX-XX-XXXXX**. The total acres in the easement will also be shown in this title block.
28. Certification. The following statement must be included on each survey plat:
    "THIS IS TO CERTIFY THAT THIS EASEMENT BOUNDARY REESTABLISHMENT SURVEY, DONE BY THE UNDERSIGNED, WAS DONE ON THE GROUND IN ACCORDANCE WITH THE MOST RECENT MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS AS SET FORTH BY THE **[insert name of State agency responsible for licensing surveyors]**. THE ACCURACY AND POSITION TOLERANCE ARE ALSO IN ACCORDANCE WITH RURAL

SURVEYS AND HAS BEEN MADE IN STRICT CONFORMITY WITH THE NATURAL RESOURCES CONSERVATION SERVICE EASEMENT PROGRAMS EASEMENT BOUNDARY REESTABLISHMENT SURVEY SPECIFICATIONS."

29. The plat and description will be titled **"Boundary Reestablishment Survey of NRCS Conservation Easement,** NRCS Agreement Number: _____on lands of _____ (landowner name) prepared for USDA-Natural Resources Conservation Service."

K. DELIVERABLES

The surveyor must provide the following to the NRCS CO, COR, or technical representative by the date stated in the task order:

1. Four original completed survey plat (24 inches by 36 inches) with required seal and signature. The surveyor must ascertain any special or particular requirements of the register of deeds in the county where the survey area is located as to the size of plat map required for recording and furnish plat maps of proper size for recording. Where multiple sheets are produced, also produce an index sheet showing entire survey area. Lettering must be large enough that it will remain legible after plat is reduced to the size required for recording.

2. Four reduced signed (11- by 17-inch) of the survey plat.

3. Four printed copies of the legal land descriptions of the easement area and ingress and egress routes depicted on the surveyor's survey plat ***(only when a reestablishment survey of the entire easement is being conducted).***

The following must be included in the legal description (as exhibit A and B to the survey plat) of the property:

- A clear statement of the relationship between the described property and the survey control or the basis of the unique location
- The basis of bearings
- Metes and bounds descriptions that include bearings or azimuths and distances related to the horizontal measurement at the mean ground elevation for the line above sea level to allow for computation and mathematical closure and acreage
- Citations to the recording information or other identifying documentation for any maps, plats, or other documents referenced
- Detailed description of any natural or artificial monuments referenced
- Total acreage in easement area
- NRCS easement name and agreement number in the title

4. Four copies of a computer-generated tabulation of bearings, distances, and coordinates around the easement area, with a closure statement indicating the cited bearings and distances meet acceptable State standards for survey closure accuracies. **When conducting a complete reestablishment survey of the entire easement area, the area of the easement must also be identified as described in section E.**

Note: The survey plat, legal description, and tabulation demonstrating acceptable survey closure must all consistently traverse the perimeter of the easement area and ingress and egress routes in the same direction and with the same starting and ending points.

5. In PLSS States, legible copies of the most recent and current GLO/BLM original survey plat and original field notes, or the GLO/BLM resurvey plat and field notes for the surveyed sections in which the easement area is located.

Note: Copies of the survey plats and notes need only include the full sections in which the easement area is located; in the metes and bounds States, copies of the original source documents creating the subject parcel in which the easement area is located are acceptable.

6. The surveyor must provide a surveyor's report containing a narrative description of method used to locate points and theory of location applied in formulating the opinions as to the probable location of the boundaries and corners of the property.

7. Compact disk containing an electronic copy of the following (all files must reference NRCS agreement number):

- AutoCAD, version 2009 file of the survey. The .dwg file will be georeferenced to the appropriate State plane coordinate system, referenced to the NSRS U.S. Survey Foot, and basis of bearing to grid north of the appropriate State plane coordinate system. The perimeter of the easement area and the ingress and egress routes should be attributed as a separate and extractable polyline layer or polygon feature component of the drawing for conversion to a Geographic Information System (GIS) documentation identifying which coordinate system is used (for example, MO Coordinate System of 1983, West Zone, NAD 83 horizontal datum, survey units – U.S. Survey Foot).
- Separate polygon shape files of the easement area and ingress and egress route with all points projected into the appropriate State plane coordinate system in a (.shp, .dbf or .shx) format.
- Each polygon should contain the following attributes:
  - NRCS agreement number: **XX-XXXX-XX-XXXXX**
  - Easement acres (value to the hundredth of an acre)
  - The method of data capture
- Each polygon should have the following metadata:
  - Date generated
  - Software and version used to generate file
  - Brief description of process used to generate files
- Provide ESRI ArcGIS Info shapefile (.shp, .dbf, .shx) or geodatabase (.gdb)
  - Projection must be clearly defined.
- PDF file of the final signed survey plat. Where there are multiple sheets a single pdf combining all sheets. PDF files of items K(3) and K(4).
- MS Word or text document containing the easement boundary descriptions and descriptions of the ingress and egress route if applicable.

8. When the contracted easement boundary reestablishment task has been completed and the final survey submittals have been presented for review, the NRCS CO, COR, technical representative, or designated conservationist will certify that the work has been completed according to these NRCS easement boundary reestablishment survey specifications.

L. CONFLICT OF INTEREST

A surveyor must not survey an NRCS easement property for him or herself, spouse, children, partners, or business associates, and must not have a financial interest in the property to be covered by the proposed NRCS easement.

M. NONDISCLOSURE

Work performance required by this specification will involve access to potentially sensitive information about governmental and landowner issues. All survey contractor personnel must comply with the terms of AGAR 452.224-70, "Confidentiality of Information," as well as provisions of the Privacy Act of 1974, 5 U.S.C Section 552a. Additionally, the survey contractor's employees must comply with the rules governing the privacy of personal information relating to NRCS programs, in accordance with section 1244 of title II of the Farm Security and Rural Investment Act of 2002 (Public Law 1078-171).

N. CIVIL RIGHTS AND PROGRAM DELIVERY

The survey contractor must ensure that personnel prohibit discrimination in all aspects of programs and activities related to the contract on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status.