

SOIL SURVEY FIELD REVIEW PROCEDURES

Lakewood MLRA Office July, 1996

The following procedures are to be followed in the MLRA Office 6 region. The procedures do not supersede those set forth in the National Soil Survey Handbook (NSSH); the intent is to provide supplementary guidelines that clarify interpretation of the NSSH requirements. If we have not addressed some procedure, the NSSH requirements are assumed.

IMPLEMENTATION POLICY

Requirements for supporting documentation will be implemented beginning with field reviews conducted in 1996. Any units reviewed and approved on progress reviews prior to 1996 will remain as approved; we do not foresee the need to go back into completed mapping to collect additional or more detailed documentation on units that have already been approved. However, we reserve the right to require additional documentation for some units if there are serious questions on their validity. This statement is intentionally general; it is impossible to give a specific policy statement that would cover all situations.

We realize some requirements for map unit and taxonomic unit descriptions are demanding in some situations, and may be impractical in some steep and rocky country. Nevertheless these requirements are consistent with the standards of the National Cooperative Soil Survey. As with the other requirements in the following procedures, we intend to implement this in a manner that balances the mandated NSSH standards with flexibility, common sense, and practicality. The prevailing concern is the intent of the NSSH requirements -to ensure high quality soil data.

If some project staffs have inordinate difficulty meeting some of the requirements, solutions can be discussed during progress reviews.

The requirements for progressive correlation (having a current MUD, TUD, OSD, etc.) will be implemented immediately for any series and map units approved during progress reviews conducted in 1996 and thereafter. For series and map units approved on previous progress reviews, and for which TUDs and OSDs have not been updated, OSDs will need to be brought up-to-date prior to the final field review. To avoid a large OSD workload just prior to the final field review, it is recommended that project leaders begin updating a portion of those series annually.

You can expect the following guidelines to be amended or revised as we initiate soil surveys on an MLRA basis. For example, documentation requirements may be adjusted to allow shared documentation among subsets of an MLRA survey. Approval of soil series and map units may similarly be shared among subsets. As these issues are addressed, they will be incorporated in the review procedures.

INITIAL REVIEWS

Initial reviews will be conducted similar to progress reviews as outlined below. Initial reviews will emphasize map unit design, legend development, and review of the Memorandum of Understanding. A completed MOU will be required prior to initial reviews. See NSSH 608. 11(b) and 609.06(b).

PROGRESS REVIEWS

1. Preparation for the Review

The staff at this MO considers a progress review to be an opportunity to assist the project leader in resolving any correlation questions, to provide training, and to provide quality assurance. To facilitate this we will request some preliminary information from the project leader.

The project leader should send a tentative agenda to the MLRA office. The review leader needs to receive this no later than one week prior to the field review. The agenda should note, for each field stop, the purpose of the stop, the classification of the soil to be observed, and any questions or problems to be resolved. Time should be reserved toward the end of the review for an exit conference in the office.

Copies of field pedon descriptions (such as NRCS-232s) for the pedons to be reviewed should also be sent to the MO with the agenda. Any material needed from the MO, such as OSDs, competing series, lab data, or supplies, should also be requested at this time.

The reason for these requests for preliminary information is to enable the review leader to be well prepared to assist the project crew.

The project leader will be responsible for notifying participants of the review and for providing agendas to them. All cooperators should be invited if possible. Representatives from other disciplines, particularly range and forestry, should be invited and involved in the review. The appropriate administrative supervisor of the project leader should be present at the exit conference. At that time, the status of the project and items needing attention will be discussed.

2. Conducting the Review

At the beginning of the review, copies of the following should be provided to the review leader, to be used for reference during the review.

- an identification legend for the survey area
- a list of taxonomic classifications for the series in the survey area
- a special symbols legend
- a map showing the review stops, if available

For soils to be reviewed and approved, the project crew will open pits that are large enough to observe, classify, and correlate the pedon. A backhoe pit is preferred if possible and practical. Backhoe accessibility alone should not determine the selection of a typical pedon. A smaller hand-dug pit to show a truly typical pedon is better than backhoe pit in an atypical site. Pedons must be described at least as deep as the series control section (See chapter 3, "Control section for the differentiation of series", in *Keys to Soil Taxonomy*). Pedon descriptions to a depth of 80 inches (2 meters) are strongly recommended.

The following support data will be available for review at each stop where a taxonomic unit and related map units will be approved:

- the current 232 for the pedon, with a correlation box sample
- additional pedon descriptions for that soil
- transects, traverses, and map unit notes
- the field sheet showing the mapping at the stop
- an updated OSD, MUD, and TUD if prepared and available
- pertinent lab data

Decisions will be summarized before leaving the site. The SCS-SOI-233 (8/91) form will be used to document progress reviews.

It is not necessary to have a prepared soil pit at all review stops. For example, if the project staff has questions solely on landform description or map unit design in a particular area, a pit is not necessary.

Some of the review objectives may be resolved without a field visit. In some situations, approval of a series may be based on pedon descriptions with accompanying correlation box samples. We will reserve this for special situations, such as for a soil that has very poor access.

FINAL FIELD REVIEW AND FINAL CORRELATION

The procedures outlined in NSSH 608 .11(b) and 609.06(b) will be followed for final reviews and final correlations.

At the final field review, the project leader will have the following ready to review:

- All OSDs are accurate and up-to-date, and encompass the TUD typical pedon and range in characteristics; necessary OSD revisions are identified and ready to propose to the review leader.
- Any lab data collected within the survey area is checked for proper classification and is correlated to a series, if appropriate
- A draft of the soil survey manuscript is completed

DOCUMENTATION OF SOIL SERIES AND MAP UNITS

An important function of a progress review is the evaluation of supporting documentation collected for taxonomic units and map units. This is one of the first steps toward correlation and approval. For field notes and descriptions, we will use the following guidelines:

1. Soil Series

We will follow NSSH 627.04(d) for the required number of pedon descriptions. A pedon description will be counted if it is detailed enough to support the series concept and taxonomic class. At least three of the required ten descriptions for a proposed series must be complete and detailed pedon descriptions, described at least as deep as the series control section. Descriptions to 80 inches are strongly encouraged. The number of pedons described for a taxon should be in approximate proportion to its extent; likewise, the geographic extent of the taxon should be well represented in the descriptions.

Pedon descriptions to 80 inches (or to bedrock) for all soils, regardless of the series control section, may be required in areas of intensive land use, particularly where interpretations are significantly affected by soil properties as deep as 80 inches.

2. Map Units

We will follow NSSH 627.04(d) for the required number of transects (observations at equal intervals). For areas with poor access or for miscellaneous areas, traverses (observations at random intervals) or similar map unit notes will be considered an alternative method. Guidance for

determining the required number of transects will be provided during progress reviews. The traverses and notes must provide the same level of documentation as would a transect.

In accordance with NSSH 627.04(d), each named component of a map unit will have a typifying pedon with a complete 232 and box sample. This ensures that (1) all phases of a taxonomic unit (particularly slope phases) are documented, and (2) soil properties characteristic of that phase are identified and used to interpret the soil for use and management.

PROGRESSIVE CORRELATION

Progressive correlation procedures will be followed (NSSH 609.06). This ensures that all aspects of the soil survey are systematically and regularly approved. It enables the soil survey manuscript to keep pace with mapping. When approved, map units and series are considered certified for official use.

When map units and series are progressively correlated, they are technically correct for publication. If these procedures are followed, the final correlation and manuscript can be finalized with a minimum of effort, shortly after completion of the mapping.

Progressive correlation involves an evaluation and approval process during periodic field reviews. Series and map units are evaluated using the same methods and standards used during final correlation, but are done progressively during the course of the mapping rather than at the end.

Map units and soil series must be approved before adding them to the official legend (NSSH 627.04(e)(I)). A legend that includes provisional or test map units is maintained separately by the project leader. By the completion of the survey, all taxonomic units and map units must be approved. The official legend is a way to document the status of progressive correlation for the survey.

At the exit conference, the project leader will provide a list of revisions to the approved legend, including units to add, to delete, and to revise. Supporting documentation will be needed to delete and revise map units that were previously approved.

Map units and taxonomic units will be approved by the MO when the following conditions are met:

- sufficient acreage has been mapped to accurately characterize map units and taxonomic units
- typical pedons and documentation have been evaluated during field reviews by the MO, as described above
- map unit and taxonomic unit descriptions are prepared
- the Official Series Description has been updated by the project staff and revisions have been approved by the MO; taxonomic units must be classified according to the most recent Taxonomy Amendment
- a Soil Interpretations Record or equivalent NASIS data entry form has been prepared by the project staff

If the above documents are complete at the time of the progress review, the series and map units can be approved at that time. Otherwise, this work will be completed and submitted to the MO by an agreed-to date prior to the next progress review. After review of these documents in the MO, the series and map units will be considered correlated and added to the approved legend.