NCEES
advancing licensure for engineers and surveyors

NCEES Public Land Survey System (PLSS) Examination
PLSS Exam Specifications

Effective Beginning October 2027

- The Public Land Survey System exam is closed book with an electronic reference.
- Examinees have 5 hours to complete the exam, which contains 75 questions. The 5-hour time includes a tutorial and an optional scheduled break. Examinees work all questions.
- The exam uses U.S. Customary System (USCS) units only.
- The exam is developed with questions that will require a variety of approaches and methodologies, including design, analysis, and application.
- The knowledge areas specified as examples of kinds of knowledge are not exclusive or exhaustive categories.

		Number of Questions
1.	**General Plan and Method of Survey**	**9–14**

A. Understand how the *Manual of Surveying Instructions* was developed
   1. Acts and ordinances
   2. Initial points, principal meridians, and baselines
   3. Previous editions, supplements to, and special instructions of the *Manual*.
   4. Applicable laws governing surveying and surveying administration
   5. Application of federal, state, or other law

B. Identify public land states
   1. The 30 states that were created out of the public domain
   2. Non-public land states
   3. Who has authority relating to the official marking of the boundaries of federal interest lands

C. Identify basis and methods of distance and direction measurements
   1. How measurements were made in the PLSS
   2. Line of constant bearing (geodesy vs. true bearing and convergence)
   3. True meridian at the point of record

D. Utilize and apply geodetic reference systems using the PLSS
   1. Purpose of the National Spatial Reference System (NSRS) as it relates to the PLSS
   2. Computations in the PLSS datum
   3. Differences between geodetic and local meridians

2.	**System of Rectangular Surveys**	**12–18**

A. Identify the general scheme used in the PLSS
   1. Original survey procedures used
   2. Standard parallels, guide meridians, and principal meridians
   3. How township exteriors were established
   4. Aliquot parts in the rectangular system
   5. Limits and error of closure

B. Understand the subdivision of townships
   1. Regular and irregular townships
   2. Extension and completion surveys
   3. Meridional and latitudinal section lines
   4. Irregular boundaries

C. Understand the subdivision of sections and limits of closure
   1. Subdivision of sections by protraction
   2. Government lots
   3. Elongated sections
   4. Subdivision of sections into quarter sections
   5. Subdivision of fractional sections
   6. Subdivision of quarter sections
   7. Survey of partially surveyed sections (completion surveys)
   8. Subdivision of sections by local surveyors
   9. Closing corners and meander corners
   10. Effects of bona fide rights
   11. Junior and senior rights and junior and senior lines (e.g., range lines, township lines, section lines)

D. Meanders in original surveys and retracement surveys
   1. Meander lines
   2. Ordinary high-water mark and line of mean high tide
   3. Navigable and non-navigable waterways

3. Monumentation 7–11

A. Establish monuments and corner accessories in accordance with the proper authority
   1. How to recognize jurisdictional authority and its requirements
   2. How to read existing cap markings
   3. Notes vs. monuments when there is conflicting evidence
   4. Standard vs. special markings for interior and exterior section corners
   5. Special purpose monument marks
   6. Marking of accessories

B. Determine appropriate materials for corner monumentation
   1. Requirements, materials, and construction of monuments
   2. Appropriate accessories
   3. How to mark caps and accessories

C. Determine appropriate documentation
   1. Proper form of field notes and plats
   2. Where to file, submit, or record document(s)
   3. Special instructions

4. Principles of Resurveys 13–20

A. Identify the principles of resurveys
   1. Determination of dependent resurvey
   2. Determination of independent resurvey
   3. Jurisdiction
   4. Protection of bona fide rights of claimants

B. Evaluate the evidence of resurveys
   1. Identification of corners (e.g., existent, obliterated, lost)
   2. Direct evidence
   3. Collateral evidence
   4. How to establish bona fide rights
   5. Special case (e.g., fictitious, fraudulent, grossly erroneous)
   6. How to recognize incorrect original survey (e.g., identify blunders, gross errors, original monumentation, ambiguities)
   7. Line trees, blazes, hacks, posting, and other markers

C. Determine the restoration method
   1. Computation methods for lost corners
   2. How to determine controlling elements
   3. Application of direct or collateral evidence

D. Apply appropriate survey principles to resurveys and water boundaries
   1. How to recognize accretion, avulsion, and reliction
   2. How to recognize navigability
   3. How to adjust record meanders
   4. How to apply ownership as it relates to centerline and/or thalweg
   5. How to determine jurisdiction

5. Special Surveys 5–8

A. Apply appropriate PLSS principles to special surveys
   1. How to recognize departure from the rectangular survey system
   2. Definition of tract, parcel, and lot
   3. Small tracts

B. Apply appropriate PLSS principles to retracement of mineral surveys
   1. Original survey plat and notes
   2. Original monuments
   3. Current monument requirements
   4. How to determine junior/senior rights based on patents
   5. How to recognize split estate ownership interests
   6. Mining claims (e.g., mill site, placer claim, tunnel site, mine survey, lode claim)
   7. Retracement procedures
   8. How to recognize extralateral rights
   9. Location monuments

C. Apply appropriate PLSS principles to the three-mile method of section subdivision
   1. How to recognize and apply the three-mile method
   2. Original survey plat and notes
   3. How to conduct the appropriate resurvey

D. Apply appropriate principles to non-rectangular and other metes-and-bounds surveys
   1. Private land claims
   2. National Forest System lands
   3. Townsite surveys
   4. Indian allotments

6. PLSS Boundary Law 14–21

A. Research and interpret the sources of titles, plats, and notes
   1. How to establish the chain of title
   2. How to apply appropriate principles of title
   3. How to determine the differences in vesting rights
   4. Where to find title records
   5. When does vesting occur
   6. How to interpret patents
   7. Existing ownership at the time of original survey

B. Identify types of land status
   1. Patents (e.g., patents for mineral surveys, homestead entry surveys, ranchos, townsites, deeded lands, tribal reservation lands, state, private)
   2. How to find and interpret the Master Title Plat and Historical Index
   3. How the land status affects the survey
   4. Public domain, private lands, and federally acquired lands

C. Evaluate local surveys
   1. Where to find survey information (e.g., County Recorder, County Survey Office, Government Land Office, National Archives, Department of Transportation)
   2. How to protect bona fide rights
   3. How to protect locally established corners

D. Review types of evidence
   1. How to gather and evaluate parol evidence (e.g., testimony from adjoiners and clients)
   2. How to gather and evaluate physical evidence (e.g., original, occupational, documentation)
   3. How to interpret field notes
   4. How to evaluate original survey evidence

E. Identify which edition of the *Bureau of Land Management (BLM) Manual* applies to the survey if applicable
   1. BLM issue dates
   2. BLM supplements

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NCEES Principles and Practice of Surveying Examination
PUBLIC LAND SURVEY SYSTEM Design Standards

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In addition to the NCEES *PLSS Reference Handbook* and *Glossaries of BLM Surveying and Mapping Terms*, the following codes and standards will be supplied in the exam as searchable, electronic pdf files with links for easy navigation. This NCEES YouTube video shows how standards will be presented on the exam. Standards will be provided as individual chapters on the exam, and only one chapter at a time can be opened and searched. This ensures the exam software runs large files effectively. The handbook and design standards will be available the entire exam.

Solutions to exam questions that reference a standard of practice are scored based on this list and the revision year shown. Solutions based on other standards will not receive credit.

NCEES does not sell design standards or printed copies of the NCEES handbook. The NCEES handbook is accessible from your MyNCEES account.

ABBREVIATION	DESIGN STANDARD TITLE
BLM Manual	*Manual of Surveying Instructions for the Survey of the Public Lands of the United States* (with errata), 2009, United States Department of the Interior and the Bureau of Land Management, Denver, CO, www.blm.gov.
BLM MSPG	*Mineral Survey Procedures Guide*, 1980, United States Department of the Interior and the Bureau of Land Management, Washington, DC, www.blm.gov.
BLM LOC	*Restoration of Lost or Obliterated Corners & Subdivision of Sections: A Guide for Surveyors*, 1974, United States Department of the Interior and the Bureau of Land Management, Washington, DC, www.blm.gov.