

**IDAHO SOCIETY OF PROFESSIONAL LAND SURVEYORS
STANDARDS OF PRACTICE
FOR PROFESSIONAL BOUNDARY LAND SURVEYS**

By the Idaho Society of Professional Land Surveyors, Adopted _____, 20__,

Abstract:

These Standards are meant not only to outline the duties, responsibilities, and accepted Standards of Practice for the Professional Land Surveyor practicing in the State of Idaho, but to remind the Professional Land Surveyor what their duty is to themselves, other Professional Land Surveyors, their clients, and the public.

*Standards not only provide **guidance** ~~threshold limits~~ governing professional behavior and services but, in the process, reach for recognition through increased responsibility and foster appreciative public recognition of quality services. Further, these Standards may foster cooperation, trust, and credibility **within the profession and with the public.***

*These standards are not intended to be an instruction manual on how to survey property boundaries. It is presumed that the educated, experienced, licensed professional surveyor possesses an **adequate** ~~intimate~~ knowledge of legal precedents, interpreting descriptions, gathering evidence, rules of construction, boundary establishment, and boundary laws. If further knowledge in these areas are desired; a defining characteristic of being a professional is continually seeking greater knowledge through self-study and continuing education opportunities, including higher education courses, seminars, and interaction with knowledgeable professionals.*

*Standards of Practice are not **intended** to specifically define what should be done within every possible scenario encountered by the Professional Land Surveyor but should provide guidance for the Professional when encountering not only common, but different, unique, and complicated situations.*

The Professional Land Surveyor should remember the Standard of Care is such care, skill and diligence as others in the profession ordinarily exercise under like or similar circumstances.

These Standards will be regularly reviewed and modified by the Idaho Society of Professional Land Surveyors to maintain the needs of the profession, changing technologies, and expectations of the public.

Section 1. INTRODUCTION

1. To provide for stability of position and security of title through proper location, preservation of boundary location evidence, and delineation of real property boundaries the Idaho Society of Professional Land Surveyors (ISPLS) promulgates these “Standards of Practice” for performing property boundary land surveys for use by surveyors licensed to practice land surveying in the State of Idaho. These Standards recognize the continual changes taking place in land information systems, surveying technology, and to accommodate various classical and modern surveying methods.

2. ISPLS recommends these Standards for all surveys relating to the creation, establishment, retracement, or resurvey of property boundaries (including easements), whether for public or private lands. These Standards provide for public needs such as:
 - a) Surveying, platting, and recording or filing documents to meet requirements of multipurpose cadastres, land-information systems, and statutes.
 - b) Properly describing newly created parcels, including easements.
 - c) Discovering and documenting patent and latent ambiguities and their resolution.
 - d) Establishing, reestablishing, and rehabilitating corner monuments that are identifiable and can be readily located in the future.
 - e) Preservation of relevant evidence pertaining to the location of boundaries and corners.
 - f) Surveying to prescribed accuracy for digital data bases for multipurpose cadastres, and to aid in the recovery, restoration and replacement of existent, obliterated, or lost monuments.
3. These Standards provide surveyors and recipients of a survey with guidance for surveying performance. Wherever these Standards refer to a surveyor's duty, it is intended to include all persons who may perform tasks under the direction and supervision of the licensed professional.
4. It is recognized that those who are dependent upon the Professional Land Surveyor have specific needs, peculiar to the services offered in the establishment, retracement, resurvey, mapping, perpetuation and documentation of property boundaries (including easements) as to matters which ~~may~~ ~~would~~ be discoverable from a survey, inspection and other evidence found in the readily available public records. In the general interest of the public and the surveying profession, the ISPLS promulgate and set forth such details and criteria for Standards. It is recognized that the general public is entitled to rely on the survey furnished to them being of the appropriate professional quality, both as to completeness and as to accuracy.
5. The Professional Land Surveyor is licensed to protect the health, safety and welfare of the public. The practice of Land Surveying requires locating evidence of property boundaries, the perpetuation of that evidence, and establishing, reestablishing, or locating boundaries and corners in accordance with sound surveying principles and established boundary law principles. During the performance of their duties, surveyors must balance the necessity of their client to ascertain their boundary locations with the property rights of adjacent landowners. The surveyor's findings regarding boundary locations play an important role in maintaining the public land cadastre and should be regarded as a benefit to the public welfare.
6. Federal, State, local, and contractual regulations may exist which modify or enhance these Standards. The more stringent requirement, when conflicting, should prevail.

Section 2. DEFINITIONS

1. Words, phrases, and terms used herein, and within the profession, may vary depending on specific circumstances. For definitions, surveyors should refer to appropriate, applicable, and relevant sources such as state statutes and rules, professional treatises, manuals, national surveyor associations, common law, legal and other dictionaries.

Section 3. GENERAL PROCEDURES

1. Determine Purpose

1. Surveyors should inquire as to the intended purpose for which the survey will be utilized by the client. The purpose should incorporate the specific needs of the client for its intended purpose as dictated by unique circumstances and conditions.

2. Determine Scope

1. Surveyors should obtain sufficient information to understand the client's requirements and to define services. If more information is necessary, surveyors should advise clients that it must be obtained prior to determining the scope of services.

3. Evaluate Capabilities

1. Even though legally qualified by professional license, surveyors are still responsible for determining that their own abilities meet special needs of the project. Surveyors must possess proper knowledge, experience, equipment, and resources to undertake contemplated projects, and should determine if their capabilities are adequate or not

4. Estimate Cost and Time

1. At the request of the client it may be necessary to inform clients before work starts of estimated costs, date when work could begin, and estimated time required to complete the project. It is also advisable that the surveyor inform the client that ambiguities, unexpected difficulties, and other unforeseeable circumstances that may be discovered during the survey, may impact the anticipated time of completion and cost of the survey, and that if these circumstances are encountered the client will be fully informed in a timely manner (see 3.5.2).

5. Initiate Agreement

1. Before beginning professional services for which payment is expected, **it is advised that the surveyor and client reach agreement to fix the scope of the professional services provided, surveyor's duty, fee basis, time period involved, and other desirable and applicable contractual terms. For mutual protection, the agreement should be documented (e.g. memorandum, services letter confirmation or work ordered, or contract). The agreement may also establish extent of limitations of responsibility.**

2. If previously unknown factors are discovered during the survey process that will significantly affect the cost or completion schedule, the client should be informed in a timely manner. The discovery of unknown factors including latent or patent ambiguities may require additional scopes of work to be negotiated.

6. Accessing Survey Monuments

1. Survey monuments and other forms of evidence that control land boundaries are often located on properties owned by persons or parties other than the client. The recovery and perpetuation of these are vital to the successful completion of the survey and provides benefit to the public welfare. Survey monuments must be recovered, observed, measured, rehabilitated, restored or established by the surveyor as an essential part of his practice and duty. The surveyor must be

sensitive to the concerns of landowners when accessing others property and should comply with all applicable trespass and surveyor access laws.

Section 4. SURVEY PROCEDURES

1. Record Research

Surveyors should:

1. search for and obtain applicable property records of public agencies to obtain pertinent record and survey history of the subject and relevant adjoining properties. Under the legal doctrine of constructive notice, the surveyor is obligated to make reasonable searches for relevant records. Surveyors having actual notice of other private records should make a reasonable effort to obtain them for consideration in the survey.
2. search for and obtain relevant records which may include, but are not limited to, abstracts, deeds, title reports and opinions, easements, and descriptions and other relevant records of neighboring properties. Surveyors are not required to identify errors or omissions caused by defective or fraudulent title records nor are they required to give title opinions.
3. search for and obtain relevant survey records which may include, but are not limited to, original government survey field notes and plats, subdivision plats and record of survey maps, deed exhibits, affidavits, corner perpetuation records, and court and county surveyor's records.

2. Preliminary Research Analysis

Surveyors should:

1. examine relevant documents to identify evidence to be recovered such as monuments, physical features, and providers of relevant testimony.
2. analyze the record data to determine contiguity between the subject and relevant properties and to identify patent ambiguities,
3. upon discovery of patent ambiguities, additional research may be required, and
4. plan the procedure for performing the field survey.

3. Field Investigation and Survey

Surveyors should:

1. make a reasonable attempt to recover and identify monuments and other physical evidence that may control the determination of the boundary location,
2. obtain and consider extrinsic evidence (e.g. documentary, demonstrative, testimonial) which may impact or control the determination of the position of existent or obliterated corners or may expose latent ambiguities in conflict with the record documents,
3. identify the character, location, and other relevant evidence (age, usage, intent, history, etc.) of possession or occupation observed,
4. make necessary measurements (refer to Section 5 for position standards),
5. make sufficient check measurements to discover blunders and verify or validate other measurements, and
6. document all information and data collected in an appropriate and understandable form (e.g. field notes, sketches, electronic data files, affidavits, photographs, etc.).

4. Computations and Conclusions

Surveyors should:

1. determine geometric relationships between controlling corners, property corners, lines of occupation, and other relevant physical evidence.
2. properly evaluate **available** data and evidence, determine sufficiency of evidence, resolve latent ambiguities, determine position of lost or obliterated corners and supplement with additional data and evidence as necessary to derive proper conclusions,
3. make a determination of facts, based upon the evidence gathered, that may or may not control the position of boundaries, existent, obliterated, or lost corners.
4. properly apply the principles of location for corners and boundaries in accordance with applicable boundary law principles.
5. in the event of disagreement with another surveyor's conclusions or corner positions, attempt to resolve by consultation in accordance with the Rules of Professional Responsibilities,
6. set sufficient monuments to facilitate identification of corners and boundaries and to enable future retracement of the survey (refer to Section 6).
7. document the results of the survey (refer to Sections 7 & 8).

Section 5. POSITION STANDARDS

1. Introduction

1. Position Standards define relative positional tolerances for measurements of lines, corners, monuments, and other physical features performed by the professional land surveyor.

Measurements provide an important means of finding, identifying, reporting, and perpetuating the locations of monuments, corners, boundaries, and other physical features; therefore, it is desirable that measurements should be made with the appropriate the care, repeatability, and precision that is required for the purpose of the survey.

2. These standards will provide guidance in defining the relative positional tolerances that should be strived for in performing most boundary land surveys but will still allow the professional surveyor flexibility in adapting to the practical or contractual requirements for each encountered circumstance.

3. In order to meet these standards, the surveyor should assure that the positional tolerances resulting from the measurements made on the survey do not exceed that which is recommended either by these Standards, the contractual obligations with the client, or what a reasonable professional surveyor would determine to be appropriate under the circumstances and conditions encountered.

4. The lines and corners on any property survey have uncertainty in location which is the result of (1) availability and condition of reference or controlling monuments, (2) occupation or possession lines as they may differ from record lines, (3) clarity or ambiguity of the record descriptions or plats of the surveyed tracts and its adjoiners and (4) positional tolerance.

5. The first three sources of uncertainty must be weighed as evidence in the determination of where, in the professional surveyor's opinion, the boundary lines and corners should be located.

Positional tolerance is a measure of how precisely the surveyor can **perform positional measurements** and report those positions; it is not a substitute for the application of proper boundary law principles. A boundary corner or line may have a small Positional tolerance because the survey measurements were precise, yet still be in the wrong position (*i.e.*, inaccurate) if it was established or retraced using faulty or improper application of boundary law principles.

6. Of these four sources of uncertainty, only positional tolerance **can be limited through proper procedures and care**, although due to the inherent error in any measurement, it cannot be eliminated. The first three can be estimated based on evidence; positional tolerance can be estimated using statistical means.

7. The surveyor should, to the extent necessary to achieve the standards contained herein, (1) compensate or correct for systematic errors, including those associated with instrument calibration, (2) select the appropriate equipment and methods, and use trained personnel, and (3) use appropriate error propagation and other measurement design theory to select the proper instruments, field procedures, geometric layouts and computational procedures to control random errors.

8. If radial survey methods, GPS or other acceptable technologies or procedures are used to locate or establish points on the survey, the surveyor shall apply appropriate procedures in order to assure that the applicable positional tolerance of such points is not exceeded.

2. Computation of Positional Tolerance

1. The **relative** positional tolerance may be tested by: (1) comparing the relative location of points in a survey as measured by an independent survey of equal or higher accuracy or, (2) the results of a minimally constrained, correctly weighted least squares adjustment of the points on the survey.

3. Recommended Allowable Horizontal Positional Tolerance for Measurements Controlling Land Boundaries

1. The surveyor should employ proper field procedures, instrumentation and adequate survey personnel in order to achieve a maximum relative positional tolerance (**based on the direct distance between the two corners being tested**) of **0.10 feet plus 40 parts per million, or 1 part in 10,000 closure, whichever is greater, or as contracted with the client.**

Section 6. MONUMENTATION

1. To identify and preserve boundary evidence Surveyors should set monuments that are permanent, stable, and magnetically detectible, the minimum size of which shall not be less than 1/2 inch in diameter and two (2) feet in length iron or steel rod or a metallic post or pipe one (1) inch in least dimension and two (2) feet long with minimum wall thickness of nominal one-eighth (1/8) inch, or other ~~more~~ substantial monuments designed specifically for use as a survey monument, unless special or extenuating circumstances preclude the use of such monument. Monuments set must be permanently marked with the license number of the professional land surveyor responsible for placing the monument.

2. Corners of the parcel or tract of land being surveyed should be monumented as required to meet the needs of the client for the intended purposes of the survey and to facilitate future retracement. Where practical, monuments shall be set at all un-monumented corners that define, represent, or occupy the corners of the parcel being surveyed, and at controlling corners used in the determination of, or **that** define the location of such boundaries and corners.

3. Where existing monuments are found and used as control in any survey, and are not permanent, stable, and magnetically detectible, they should be rehabilitated or replaced with monuments that conform to this Section.

4. Where the corner position cannot be monumented due to special circumstances, the professional land surveyor should employ reference or witness monument(s) if practical. Reference or witness monuments should be set at locations that reduce uncertainty, provide for adequate recovery of the referenced corner, and comply with Section 6.1. The location, direction, and distance of the reference monument(s) should be clearly shown or noted on the plat, record of survey, or corner perpetuation record.

5. Easements, generally, should be monumented in compliance with Sections 6.1 through 6.4. While it is not possible to anticipate every situation that may be encountered, the following guidelines should be followed.

1. If easements do not run parallel with, and in close proximity to a boundary or lack sufficient and reasonable ties to boundary lines or corners, they should be adequately monumented to facilitate their location by surveyors, easement holders, and landowners.

2. Surveyed easements and lease areas for cell towers, drain fields, power lines, utilities, pipelines, conservation easements, roads, access areas, etc., that are not currently monumented or defined by natural or artificial features, should be monumented in compliance with this section.

3. Easements that cross multiple sections or subdivisions should show ties to record monuments at sufficient intervals to facilitate their location by surveyors, easement holders, and landowners.

Section 7. GRAPHICAL REPRESENTATION OF LAND SURVEYS

1. Records of Survey and Plats

Surveyors should:

1. complete and file surveys and plats, affidavits or certificates with the proper local authority, in accordance with Idaho Code, Idaho Administrative Rules (IDAPA), and other local regulations,
2. prepare survey records in compliance with Idaho Code 50-1304 and 55-1905.
3. clearly and understandably depict the final boundary or clearly disclose unresolved ambiguities and conflicts with adjoining properties and inform clients of their existence,
4. show actual measured values on records of survey, plats, and corner records, to enable their future retracement, and record values where relevant.

2. Survey Narrative

Surveyors should:

1. explain the purpose of the survey such as, parcel division, determination of encroachments, transfer of ownership, etc. Confidential or sensitive information is not required to be stated. (see Section 3.1 & 3.5),
2. explain how the boundaries, corners, and other controlling elements were established or reestablished and the boundary principles and reasoning behind the decisions.
3. explain which deed records, deed elements, survey records, found survey monuments, plat records, road records, or other pertinent data were controlling when establishing or reestablishing the lines or corners.
4. include methods of construction of deed elements and physical evidence upon which conclusions were reached, and
5. identify the theory of location for corners utilized to resolve ambiguities or conflicts and to derive conclusions in accordance with law or precedence (refer to Section 4.4).

6. for surveys that include a vertical component, show the benchmarks used, reference the vertical datum used, and the methodology used to determine the elevations.

3. Legal Descriptions

Surveyors should:

1. include a sufficient caption, body, and where applicable, augmenting and qualifying clauses when preparing a legal description,
2. state clearly the unique location of the property being described,
3. state the basis of bearings or language which otherwise makes definite the method of direction and orientation for the lines of the subject property being described and the survey control related thereto when applicable,
4. include applicable citations to relevant title or survey records which are intended to be incorporated into and made a part of the legal description by reference thereto,
5. call for descriptions of physical monuments, both natural and artificial, to facilitate future recovery and to enable positive identification,
6. **when applicable**, incorporate either directly or parenthetically, sufficient data to enable a check of mathematical closure for the subject property being described.
7. Professional surveyors should be careful providing “as-surveyed” descriptions. When new parcels are being created, combined, etc., it is appropriate to write and provide new descriptions. When retracing or resurveying an existing description, creating unnecessary “as-surveyed” descriptions can interfere with, or break the record title chain of the affected parcels.

4. Basis of Bearings

The surveyor should include a basis of bearing label or statement on records of surveys, plats, corner records, and other final reports where applicable. The basis of bearing is the bearing of a line between two monuments or monumented corners that serves as the reference bearing for lines on the document. A basis of bearing can also be the bearing system used such as a published or custom projection. When a published projection is used the surveyor should state the published projection. When a custom projection is used, the surveyor should state the applicable defining parameters of the projection to allow those using the document to recreate the projection as necessary, such as the datum, epoch, scale factor, convergence angle, etc.

Section 8. CORNER RECORDATION

Surveyors should:

1. file a written record in accordance with Idaho Code Title 55, Chapter 16 and IDAPA 10, Title 01, Chapter 03 for each public land survey corner used as control within 90 days after the completion of the survey, unless the corner and its accessories are substantially as described in an existing corner record.
2. set a monument at the corner position complying with Section 6, when reestablishing, establishing, or rehabilitating a public land survey corner,
3. carefully describe or diagram the monument and all references and accessories, including their bearings and distances,
4. specify the system used and the applicable meta data to facilitate the recovery of the corner when including geodetic or Cartesian coordinates relative to a private, local, county state or federal coordinate system.

5) utilize a form substantially the same as provided by ISPLS.

Section 9. ELECTRONIC DATA DISTRIBUTION

1. The client may request the surveyor to provide the survey data in an electronic format. These formats may include such files as CAD drawing files, digital terrain model (DTM) files, or digital elevation model (DEM) files. When the surveyor provides these files, they are only for the benefit of the client for the intended purpose of the specific survey. The surveyor should also provide a signed and sealed hard copy drawing or similar representation of the survey. The hard copy drawing shall be the official plat or map and shall be deemed to be correct and superior to the electronic data. The electronic data file may also contain a statement that the file is not a certified document and that the official document was issued and sealed by (name and registration number of the surveyor) on (date).
2. The surveyor should retain for his or her records a duplicate copy of the files as submitted to the client with a record of the date the files were prepared. The duplicate copy retained by the surveyor is considered the original copy of the electronic files distributed to the client.
3. The surveyor may also need to address additional liability issues with appropriate contract language.