



# **RECOMMENDED GUIDELINES FOR THE PRACTICE OF LAND SURVEYING IN NORTH DAKOTA**

This document was prepared and adopted by the North Dakota Society of Professional Land Surveyors and is intended to reflect the consensus of practicing Land Surveyors in the State of North Dakota.

\*\*\*4<sup>th</sup> EDITION\*\*\*  
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## SECTION 1 - INTRODUCTION

In order to promote safeguards of property, and to promote public welfare, a MANUAL OF PRACTICE FOR LAND SURVEYING IN THE STATE OF NORTH DAKOTA is hereby adopted.

All persons, in either public or private capacity, practicing, or offering to practice, Land Surveying as defined in North Dakota Century Code 47-20.1-02, are charged with having knowledge of the existence of this manual, and shall be deemed to be familiar with the provisions thereof and to understand them. Consistent or repeated failure to comply with these Standards on the part of a practitioner may constitute negligence or incompetence in the practice of Land Surveying by that practitioner.

The standards for surveying contained herein are recommended for all surveys relating to the creation, establishment or retracement of property boundaries in the State of North Dakota, whether public or private lands. These minimum standards shall apply to every property survey performed in this State.

It is anticipated that these standards will assist in meeting public needs as follows:

One: That the property be mapped in a manner that can be understood by the user.

Two: That newly created parcels may be properly described.

Three: That in the restoration of lost or obliterated corners and subdivision of sections the Land Surveyor will perform all surveys in accordance with the United States Department of the Interior Bureau of Land Management 1974, or current edition of RESTORATION OF LOST OR OBLITERATED CORNERS AND SUBDIVISION OF SECTIONS A GUIDE FOR SURVEYORS.

Four: That in any boundary survey, the client be made aware of gaps, overlaps, and encroachments with adjoining properties that are known to the Land Surveyor.

Five: That the monuments placed can be readily located for a reasonable period of time.

Six: That the accuracy of the survey be such that if a monument is destroyed, it may be replaced within standards prescribed herein.

This document intends to provide the Land Surveyor and recipient of surveys with a realistic and prudent guide for adequate surveying performance. The Land Surveyor will continue to exercise individual skill, discretion, and judgement in each specific task he or she performs.

This document will be reviewed periodically, and appropriate revisions made when needed, and found acceptable to the membership. This document is prepared by the North Dakota Society of Professional Land Surveyors and is intended to reflect the consensus of practicing Land Surveyors in North Dakota.

## SECTION 2 - DEFINITIONS

The Land Surveyor should also refer to: Definitions of Surveying and Associated Terms: 1978 (rev.) or current edition by the American Congress on Surveying and Mapping and the American Society of Civil Engineers, but such "definitions" shall not supersede North Dakota Century Code.

Land Surveyor and/or Surveyor as referred to in this Manual shall be defined as a Person duly licensed to practice land surveying under the laws of the State of North Dakota.

## SECTION 3 - RECOMMENDED PROCEDURAL OUTLINE

### 3.1 Determine the scope of the project.

1. The surveyor serves the client faithfully, but refuses to do that which is illegal or unethical, or violates his duty to the public or to fellow practitioners. The Land Surveyor should question the client in sufficient detail to obtain an understanding of the client's needs and requirements and define the services to be performed. If it is necessary to obtain more information than the client has supplied, the Land Surveyor should advise the client that such information must be furnished or obtained prior to determining the necessary services.

### 3.2 Evidence of Land Descriptions, Records and Research.

1. When a survey is to be conducted, it is incumbent upon the client to provide a land description of the property to be surveyed. If land descriptions allude to unique conditions the surveyor should consult other sources of information referred to in the land description in order to assemble suitable written evidence of the corners and lines of the property being surveyed. Important records may include but are not limited to:

Records of previous surveys; land descriptions of adjacent properties; records of adjacent highways, railroad and utilities; records of public agencies.

2. Abstracts, deeds, Certificates of Title, title opinions, title binders or combinations thereof are sources of proper land descriptions. The Land Surveyor should request additional information from the client that may be available to inform him of such matters as prior surveys, easements, or other encumbrances. Tax statements and other abbreviated documents are usually inadequate sources of a proper land description.
3. It may be necessary for the Land Surveyor to obtain current descriptions of other properties in the area. Land surveyors are expected to exercise reasonable care in doing record research, but cannot be held liable for errors or omissions caused by defects in the chain of title for the property being surveyed, or that of the adjoining. Title defects may be revealed through an examination of title by those professionals trained and experienced in this area.

### 3.3 Evaluation of Capabilities.

1. It is the Land Surveyor's responsibility to determine whether he or she is properly qualified, or has the proper knowledge, experience, personnel, equipment and resources available to undertake the contemplated project. Having appraised the project and evaluated the foregoing criteria, the Land Surveyor should plan a method of successfully completing the project.

### 3.4 Estimate Cost and Acceptance of the Project.

1. It is advisable to inform the client of the approximate cost of the project in advance of doing the work. Some research is also advisable before cost estimating.
2. If previously unknown factors are discovered during the course of the work which will seriously affect either the cost or the completion schedule of the project, the Land Surveyor should inform the client or the client's agent upon such discovery.
3. For the mutual protection of both client and Surveyor, the Land Surveyor may prepare and supply the client or his agent with a memorandum, letter, confirmation of work ordered, or contract for the project. The Surveyor may establish with the client the extent of any known limitations to the Surveyor's responsibility.

### 3.5 Analysis of Research and Preliminary Conclusions

The Surveyor should:

1. Examine and analyze data.
2. Form preliminary conclusions.
3. Plan the procedure for performing the field surveys.
4. Obtain permission to enter lands.

### 3.6 Field Investigation

The Surveyor should:

1. Search for, locate and identify monuments and other real evidence which affect the survey.
2. Investigate possible parole evidence, identify obliterated control monument positions and take testimony when possible.
3. Take necessary measurements to correlate found evidence.
4. Where relevant, locate and describe lines of occupation between adjoiningers.
5. Record information in appropriate form.
6. Conduct the survey in the field with appropriate personnel, equipment and procedures.

### 3.7 Conclusions

The Surveyor should:

1. Make computations to verify measurements.
2. Evaluate the evidence.
3. Contact the other Surveyor if his or her work does not agree with that being done. The disagreement should be investigated and resolved if possible.
4. Apply the proper theory of location in accordance with law or precedent.
5. Set appropriate monuments to delineate the boundary lines surveyed.
6. Prepare a Certificate of Survey showing the results of the boundary survey. The Certificate of Survey should be accompanied by a written report when appropriate. When a survey report is made, appropriate reference to the report should be made on the Certificate of Survey.

## SECTION 4 - TECHNICAL SPECIFICATIONS

### 4.1 Classification of Properties

Class 4.21 City Surveys - Heavily urbanized sections of any city and many industrial areas.

Class 4.22 Urban and Suburban Surveys - Includes property in any densely settled or built up part of a town or city. Land used for residential or industrial subdivision of moderate to high value. Rural property for which development is planned or assured in the near future, and whose value is increasing rapidly.

Class 4.23 Suburban and Rural Surveys - Includes any property such as farms and wooded areas or terrain which primarily consists of marshes, mountains, and/or swamps which have little immediate value, but have potential for future development.

### 4.2 Accuracy Standards

The surveyor is charged with using the correct procedure to attain the horizontal and/or vertical control accuracy demanded of the survey project.

Reference to Standards and Specifications for Geodetic Control Networks, September 1984, or latest revision, by the Federal Geodetic Control Committee, Rockville, Maryland, whenever the scope of the project calls for. This publication can be used as a guide for similar projects also.

### 4.3 Monumentation

Every boundary survey performed in North Dakota shall be monumented, or witness monumented, at all boundary corner locations. All corners shall be marked with a physical monument of a type or character, and set in a manner providing a degree of permanency consistent with that of the local terrain and physical features. Monuments set by a Surveyor shall be made of durable material and should include an element that makes it possible to detect the monument by means of some device for finding ferrous or magnetic objects. Where possible, monuments set by a Surveyor shall bear an identification of the Surveyor by his or her Land Surveyor registration number. The minimum requirements for monuments set shall be as set forth in NDCC 47-20.1-10.

In the event that it is not practical to set a monument of minimum requirements, monuments may be any of a large assortment of markers including iron pipes, cast concrete, cut stone, cast iron, iron rods or pins, chiseled crosses, railroad spikes, masonry nails, etc. Wood stakes shall not be used as permanent monuments. Also small rods, masonry nails are to be used only in such cases in which it is impossible to set more substantial monuments. Examples of acceptable monuments are:

1. Steel re-bar: 5/8" diameter or larger, 18" long.
2. Steel pipe: 3/4" inside diameter or larger, 18" long.
3. Concrete or stone markers: 4" in diameter or 4" square, 18" long and buried in the ground.
4. A drill hole, or a scribed or chiseled mark, in existing concrete or stone.
5. A railroad spike in pavement, etc.

"Witness monumentation": refers to the setting of an offset corner when it is not possible or practical to set the actual corner. For example: in business sections of urban areas, buildings may be erected upon the property line. In such cases chiseled crosses could be set on the extension of the lot lines at a convenient distance from the true corner.

It is recommended that all monuments be prominently marked by the Surveyor in such a manner as to enable the client to easily find the monument. The markings should be appropriate to the conditions and vegetation cover, and may range from paint on pavement in urban areas, to steel fence posts in rural areas. It is also suggested that the Surveyor caution the client on the value and importance of his boundary monuments and recommend various methods whereby they can be protected and preserved. If it is not practical to set a monument at all, the record shall indicate that the corner is not marked.

#### 4.4 State Plane Coordinates

State Plane Coordinates may be placed on maps, plats, drawings and records of surveys whenever it is economical and feasible as prescribed by North Dakota Century Code. All documents must show datum used (NAD-27 or NAD-83), zone, grid factor, error of closure and control stations used. If a G.P.S. system was used, a corner recordation certificate may be filed and, as a public service, the information published in the 49th Parallel.

#### 4.5 Astronomical Observations

All surveys shall be placed on the true meridian whenever it is economical and feasible by one of the following procedures:

1. Observation of Polaris.
2. Observation on the Sun.
3. Celestial Observations on stars other than polaris.
4. North Seeking Gyro.
5. Traverse from a USGS or USCGS Triangulation Station.
6. Traverse between Global Positioning Stations.

### **SECTION 5 - GRAPHIC REPRESENTATION OF SURVEY**

#### 5.1 Certificate of Survey

A certificate of survey within the purpose and intent of this document is defined as a graphic representation of any parcel or tract of real property whose primary purpose is to show the results of a boundary survey.

Certificates of survey shall be neatly drawn to a convenient scale; contain proper linear and angular dimensions; show the method of orientation; correctly designate lines; contain pertinent physical features (natural, artificial or both); and include other data and information developed by and during the survey that is pertinent, relevant, or important to the boundary surveyed.

1. Recommendations for Certificates of Survey. Comply with North Dakota Century Code.
  - a. The size of the certificate should conform to the requirements of the project. A minimum size of eight and one-half inches by eleven inches to a maximum of 24 inches by 36 inches is recommended.
  - b. Prints of the certificate should be reproductions of the original tracing that produce clear and lasting results.
  - c. The Surveyor should be cautious and exercise good judgement to reasonably protect the interest and records of the client for whom the survey was prepared.



- d. The certificate of survey shall be signed by a Registered Land Surveyor.
- e. All certificates of survey shall contain the following information:
  - 1. Title (Certificate of Survey). Section, Township, Range, Principal Meridian and County.
  - 2. A north arrow accurately correlated to the courses shown on the property lines.
  - 3. Indication of basis of bearings or azimuths to the nearest minute, when used.
  - 4. A numerical scale and bar graph.
  - 5. Date of survey.
  - 6. Horizontal length of each boundary line to the nearest tenth.
  - 7. Direction of each line or angle between intersecting lines. Under certain circumstances, such as a simple rectangular lot or tract, only one angle may be appropriate and acceptable.
  - 8. The central angle, arc length of curve and radius for each curved boundary line. Additional curve functions may be shown.
  - 9. Visible encroachments.
  - 10. Land description of the property.
  - 11. Land Surveyor's Certification
  - 12. Known boundary or description gaps or overlaps. Gaps and overlaps should be dimensioned whenever possible.
- f. Certificates of Survey may also contain the following information:
  - 1. Name of owner of the property or the name of the person who requested the survey.
  - 2. A location map and/or a descriptive location of the property by township, city, or county, in addition to the land description.
  - 3. Legend
  - 4. Easements located in accordance with descriptions furnished, or as shown on a plat of record.
  - 5. Measurements to the nearest foot from a traverse or off-set line to the waters edge.
  - 6. Lot and block numbers; names of thoroughfares and waterways.
  - 7. Dimensions of structures showing size and location together with the type of construction, obvious use, and street address, if any.
  - 8. Area of parcel surveyed. On small city lots, square footage may be preferable.
  - 9. All property corner monuments found or set with a notation indicating which were found and which were set, and identified as to character.
  - 10. Survey report. (History)
  - 11. Boundaries formed by water courses; located by traverse or off-set lines and defined with bearing and distance.

## 5.2 Land Title Surveys

- a. Land Title Surveys should adhere to all provisions of "Minimum Standard Detail Requirements for Land Title Surveys", current ALTA/ACSM version.

## 5.3 Mortgage Loan Surveys

- a. The mortgage loan survey shall be signed by a Registered Land Surveyor.
- b. All mortgage loan surveys shall contain the following information:
  - 1. Title (Mortgage Loan Survey).
  - 2. A north arrow accurately correlated to the courses shown on the property lines.

3. Indication of basis of bearings or azimuths when used.
4. A numerical scale.
5. Date of survey.
6. Visible encroachments.
7. Land description of the property.
8. Land Surveyors Certification.

c. Mortgage Loan Surveys may also contain the following information:

1. Name of owner of the property or the name of the person who requested the inspection.
2. A descriptive location of the property by township, city, or county, in addition to the land description.
3. Horizontal lengths of lines of the subject property wherein such lengths are the public record as in a deed or on a recorded plat.
4. Legend.
5. Easements located in accordance with descriptions furnished or as shown on a plat of record.
6. Lot and block numbers, names of thoroughfares and waterways.
7. Dimensions of structures showing size and location together with the type of construction, obvious use, and street address, if any.
8. All property corner monuments found and identified as to character.
9. Known boundary or description gaps or overlaps. Gaps and overlaps should be dimensioned wherever possible.

#### 5.4 Record Drawings

(Not included at this time) Refer to "As-Built" Survey Specifications (A Post Construction Survey) ACSM March 15, 1985, or latest revision.

#### 5.5 Topographical Surveys

a. When the topographical map is combined with a boundary survey, the certification shall be signed by a Registered Land Surveyor and adhere to all provisions of "Boundary Surveys".

b. When there is no boundary survey, all topographic maps shall contain the following information:

1. Title (avoid use of the word "survey"; Topographic Map is suggested)
2. A north arrow
3. A numerical scale
4. Date
5. Contour Interval
6. Vertical Datum (NGVD 1929 adj. is preferred)
7. Bench Mark

c. Topographic Maps may also contain the following information:

1. Name of owner of the property or the name of the person who requested the map.
2. Identify the location of the property.
3. A graphic (bar) scale.
4. Legend
5. Indication of basis of bearings or azimuths when used.
6. Names of thoroughfares and waterways.

7. Size and location of structures together with the type of construction, obvious use, and street address, if any.
8. Identify the person and/or firm who prepared the map.

Care must be taken that the purpose and limitations of this type of map are understood by the user. It is suggested that the words "THIS IS NOT A BOUNDARY SURVEY" be prominently printed upon the map.

#### 5.6 Plot Plans

- a. When combined with a boundary survey, this plan shall adhere to provisions of the regulatory agency, and to those provisions of "Boundary Surveys", that are not in conflict with said provisions of the regulatory agency.
- b. If a boundary survey is not performed and monuments are not placed, then the provisions of the regulatory agency shall apply.

Care must be taken that the purpose and limitations of this plan are understood by the user. It is suggested that the words "THIS IS NOT A BOUNDARY SURVEY" be prominently printed upon the certificate.

#### 5.7 Survey Map and Description

- a. The survey map and description shall be signed by a Registered Land Surveyor.
- b. All survey maps and descriptions shall contain the following information:
  1. Title (Survey Map and Description)
  2. A north arrow accurately correlated to the courses shown on the property line.
  3. Indication of basis of bearings or azimuths when used.
  4. A numerical scale.
  5. Date
  6. Horizontal length of each line as recited in the description.
  7. Bearing or azimuth of each line or angles as recited in the description.
  8. Curves as recited in the description.
  9. Boundaries formed by water courses.
  10. Land description of the property.
  11. Surveyors certification.
- c. Survey maps and descriptions may also contain the following information:
  1. Name of owner or the client.
  2. A graphic (bar) scale.
  3. Legend
  4. Lot and block number, names of thoroughfares and waterways.
  5. Area of parcel.
  6. Owners Certificate

## 5.8 Compiled Maps

The purpose of this map will dictate what generally will be shown.

a. All compiled maps shall contain the following information:

1. Title (do not use the word "survey").
2. A north arrow.
3. A numerical or graphic scale.
4. Date

b. Compiled maps may also contain the following information:

1. Name of owner or client.
2. A location map and/or a descriptive location of the property by township, city or county.
3. Legend
4. Description of source material.

Care must be taken that the purpose and limitations of this type of map are understood by the user. It is suggested that the words "THIS IS NOT A BOUNDARY SURVEY" be prominently printed upon the map.

## 5.9 Photogrammetry

Since World War II, aerial photographs and photogrammetric surveys have served the Land Surveying Profession. In most work performed by the land surveyor, a ground survey is absolutely essential and cannot be replaced by any other currently available method. However, aerial photographs and photogrammetric surveys can be used as an effective tool to make the work of the land surveyor easier and more effective.

Sources of aerial photographs are:

ASCS, FOREST SERVICE, AND SCS PHOTOGRAPHY: Aerial Photography Field Office, ASCS-USDA  
2222 West 2300 South  
P.O. Box 30010  
Salt Lake City, Utah 84109  
Ph. (801) 524-5856

OTHER SOURCES: North Dakota Department of Transportation  
Photogrammetry Division  
State Highway Building  
Bismarck, North Dakota 58075  
Ph. (701) 224-4428

KBM, Inc.  
1604 S. Washington  
Grand Forks, North Dakota 58201  
Ph. (701) 772-7156

Horizons, Inc.  
P.O. Box 3134  
Rapid City, South Dakota 57701  
Ph. (605) 343-2080

Mark Hurd Aerial Surveys, Inc.  
345 Pennsylvania Ave. So.  
Minneapolis, Minnesota 55426  
Ph. (612) 545-2583

### **SECTION 6 - CERTIFICATIONS**

All Certifications for Boundary Surveys must be signed by a Registered Land Surveyor. The wide variety of client needs may require other types of certification. The form used should express the type of service and may be used to limit responsibility.

The following certification is considered a minimum:

I hereby certify that this survey, plan, and/or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of North Dakota.

\_\_\_\_\_  
Date \_\_\_\_\_ Reg. No. \_\_\_\_\_

### **SECTION 7 - SURVEY REPORTS**

Due to insufficient field evidence, ambiguous legal descriptions, or other errors and/or omissions in available research material, the physical location for boundary lines may be uncertain. The Land Surveyor should clearly indicate the nature of the discrepancy of his Certificate of Survey, and may include a written report offering his professional opinion as to the nature of the problem and the probable cause and effect. The Land Surveyor may want to recommend that his client seek legal assistance.

### **SECTION 8 - CONDOMINIUM SURVEYS AND PLATS**

A. Site Plan

1. The provisions of "Boundary Surveys" should apply unless superseded by the applicable North Dakota Century Code.

B. Floor Plans

1. The provisions of North Dakota Century Code should be followed.

## SECTION 9 - REGISTERED LAND SURVEYS, RIGHT-OF-WAY PLATS AND SUBDIVISION PLATS

When land is to be subdivided for development purposes or for other reasons, a recordable "map" may be required. Such "maps" may be a SUBDIVISION PLAT, RIGHT-OF-WAY PLAT or a REGISTERED LAND SURVEY. Local and county ordinances as well as the appropriate state law will apply in most circumstances. SUBDIVISION PLATS and REGISTERED LAND SURVEYS should follow all local, county and state laws that are applicable.

## SECTION 10 - LAND DESCRIPTIONS

The composition of a description necessarily varies with the land described, circumstances encountered and surveyor involved. No two surveyors would write the same exact description, nor need they.

When a new land description is drafted, guidelines set forth in Report Four Metes and Bounds Descriptions by Fant-Freeman-Madson, current edition, along with other sources should be considered.

Boundary Control and Legal Principles current edition  
Curtis M. Brown, Walter G. Robillard, & Donald A. Wilson  
John Wiley and Sons Incorporated  
New York City, New York

Description and Survey in Title  
William C. Wattles  
Title Insurance and Trust Company  
Los Angeles 54, California

Land Survey Descriptions  
William C. Wattles  
Title Insurance and Trust Company  
433 South Spring Street  
Los Angeles 54, California

The Legal Elements of Boundaries and Adjacent Properties  
Ray Hamilton Skelton  
Bobbs-Merrill Company  
Indianapolis, Indiana

Evidence and Procedure for Boundary Location current edition  
Curtis m. Brown, Walter G. Robillard & Donald A. Wilson  
John Wiley and Sons Incorporated  
New York City, New York

Writing Legal Descriptions  
Gurdon H. Wattles  
Parker and Sons, Inc.

When a new land description is to be drafted but is restricted along one or more boundary lines because undesirable wording is already of record, every attempt should be made to: 1) clarify the existing description as much as possible, within limitations, to eliminate doubts as to that description's intent; or 2) write the "new" portion of this description to comply as much as possible with the above mentioned guidelines. Such a new description is often called "A SUGGESTED REVISED LAND DESCRIPTION".

When preparing a Retracement Survey, the existing land description should be examined within itself, with respect to its adjoiners, and with respect to encroachments. If necessary, "A SUGGESTED REVISED LAND DESCRIPTION" may be prepared. When necessary, the client should be advised to seek legal help. The Land Surveyor should recognize his limitations, and refrain from giving legal advice.

Writing a proper description is both a science and an art.

Experience and judgement supply the "art".

A thorough knowledge of the principles involved in writing a description and a willingness to refer to available reference books when needed supply the "science".

One of the few tangible items a client sees, by which to judge the competency of a land surveyor is the description. So, do a professional job, show pride in your work by signing it and protect your descriptions from the errors and omissions that happen when they are copied.

Aids in protecting integrity of description as originally written by The Land Surveyor are as follows:

1. Surveyor should certify that he prepared description and gave data.
2. Surveyor can protect himself and his description by putting a phrase similar to the following at the bottom of the form: "Modification in any way of the foregoing description terminates liability of the surveyor."
3. One example of a description form is shown below.

**CERTIFIED LAND DESCRIPTION**

STATE OF NORTH DAKOTA)  
COUNTY OF GRAND FORKS) SS

I hereby certify that this description was prepared by me on \_\_\_\_\_.

\_\_\_\_\_  
North Dakota Registration No. \_\_\_\_\_

SURVEYING SERVICES  
PROJECT NO. \_\_\_\_\_

**Modification in any way of the foregoing description terminates liability of Surveyor.**

## SECTION 11 - INSTRUMENTS AND EQUIPMENT

Land Surveying in North Dakota is conducted in the field with properly adjusted measuring instruments appropriate to the tolerance of the work being done. The instrument should be tested and adjusted yearly on a calibrated baseline or by a qualified technician to maintain its accuracy.

All other equipment should be regularly maintained, or replaced as necessary, for reasons of safety and efficiency.

## SECTION 12 - DATA PRESERVATION

Every Land Surveyor is encouraged to preserve his records, field notes, and plats. It is of particular importance that arrangements be made for proper transfer of records. Filing records in a public place may excuse this obligation.

The Land Surveyor should file and index all field notes, calculations, maps, plats, photographs, and other data accumulated during the survey.

Land Surveyors are encouraged to accumulate information on the historical development of surveys in the geographical area of their practice.

Although communications between the Land Surveyor and client are confidential, he or she must be prepared to discuss the technical aspects of Surveys with other Surveyors.

## SECTION 13 - SUBDIVISION OF SECTIONS

The procedure by which a government section is to be subdivided is set forth in the current Manual of Instructions of the Survey of the Public Lands of the United States ("Manual") published by the U.S. Government Printing Office. Supplementary discussion is available from the following widely respected and used texts, among others:

Boundary Control and Legal Principals, current edition  
Curtis M. Brown, Walter G. Robillard, and Donald A. Wilson  
John Wiley and Sons Inc.  
New York City, New York

The Legal Elements of Boundaries and Adjacent Properties  
Ray Hamilton Skelton  
Boles-Merrill Company  
Indianapolis, Indiana

Evidence and Procedure for Boundary Location current edition  
Curtis M. Brown, Walter G. Robillard, and Donald A. Wilson  
John Wiley and Sons Inc.  
New York City, New York

Restoration of Lost or Obliterated Corners and Subdivision of Sections a Guide for Surveyors 1974 Edition, Printed in 1979 by the United States Department of the Interior Bureau of Land Management U.S. Government Printing Office Washington, D.C. 20402 (This publication is included for use and reference)



## SECTION 14

### OIL & GAS WELL LOCATION SURVEY STANDARDS

#### 14.1 INTRODUCTION

These standards are intended as a reference for the Land Surveyor involved in the location of Oil & Gas Well Sites and related surveys. These standards intend to provide the Land Surveyor and recipients of surveys with a realistic and prudent guide for surveying and mapping procedures. The Land Surveyor will continue to exercise individual skill, discretion and judgement in each specific task he or she performs or supervises.

These Standards have been approved by the Membership of the North Dakota Society of Professional Land Surveyors (NDSPLS) and reflects the consensus of NDSPLS members. These Standards will be reviewed periodically and appropriate revisions made when needed and found acceptable to the Membership.

#### 14.2 MAPS AND PLATS OIL & GAS WELL LOCATION SURVEY

All plats shall contain the following as minimum requirements for application:

1. All plats shall be submitted on an 8-1/2 x 11 inch sheet of good quality paper using a scale of 1" = 1000' and bar scale.
2. Applicants name and address.
3. The well name and/or number designation.
4. Distances from the two closest section boundary lines in which the well is located: These distances shall be drafted on the plat as well as noted at the top of the plat near the well name or number.
5. Section, Township, Range, Meridian, County and State that the well is located in.
6. A description of all monuments found, established, reestablished, monumented, remonumented, restored, rehabilitated, perpetuated, and/or used as control and notation of all distances and bearings measured between the corners used in establishing the section boundaries in which the well is located, and the filing of these corners according to N.D.C.C chapter 47-20.1, entitled Survey and Recordation Act.
7. Basis of Bearing: The plat shall contain a note explaining the basis of bearing and some retraceable physical object from which the datum meridian can be reestablished.
8. Ungraded ground elevation at the staked location: This provides a basis for the determining of subsurface structures.
9. Basis of Vertical Control: Use State or Federal government Mean Sea Level benchmarks that are accessible to the site. If they are not, Mean Sea Level elevations shall be determined from spot elevations on a United States Geological Survey Topographical Map. A statement describing the vertical control point shall be included, i.e. road intersection.
10. North Arrow:

11. A certification by a North Dakota Registered Land Surveyor: This certification shall indicate that the work was performed by him or under his responsible charge.
12. A stamp or seal and signature of the North Dakota Registered Land Surveyor: If an impression type seal is used, shading of the stamped area shall be done to accommodate visibility on reproduced copies.
13. Date: The date the location was staked in the field.
14. Certificate of Authorization Number where applicable: The number assigned by the State Board of Registration authorizing Partnerships and/or Corporations to work in North Dakota. NDCC 43-19.1-27 (4).
15. As a suggestion, the Land Surveyor may include a statement on the well plat stating; The well stake reflects a proposed/preconstructed site and may differ from the completed drill bore. Any other statement or proposed/as-built check off block on the plat which would indicate the proposed state of the well.

A recommended format is shown on page 16.

Supplemental Plats are required on all Federal Wells and may be required on other wells. The Federal NTL-6 Regulations\* and the Surface Operating Standards for Oil & Gas Exploration & Development\* outline the requirements for supplemental plats for wells on lands with Federal surface or mineral rights. The Oil/Gas Company may have specific guidelines for supplemental plats. Excluding the requirements of the survey Plat and any Federal or State requirements, there are no guidelines for supplemental plats. These are left to the desires of the client and the discretion of the Land Surveyor.

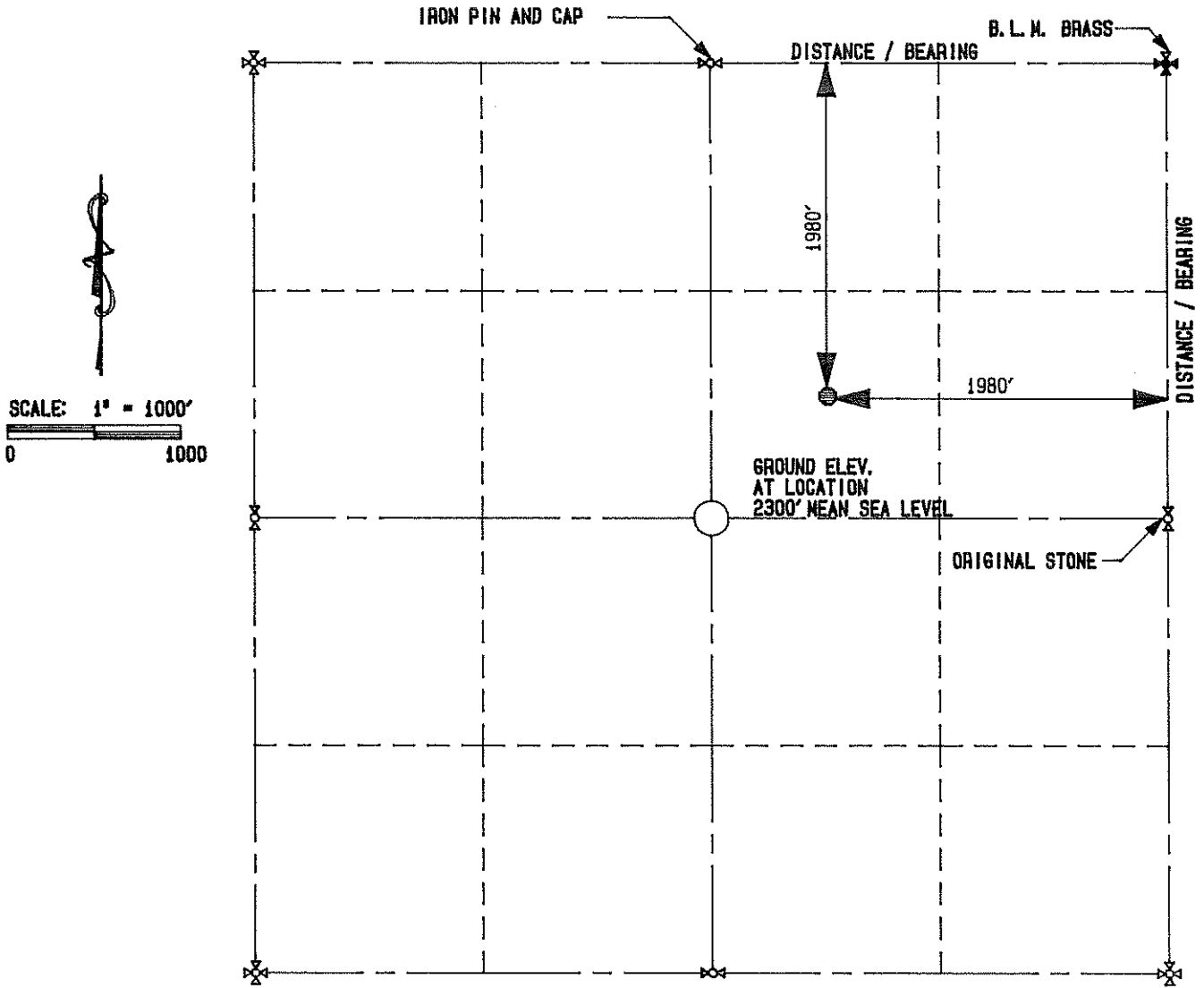
As-built Drawings shall conform to the "AS-BUILT" or "POST CONSTRUCTION" survey guidelines established by the American Congress on Surveying and Mapping, unless these specifications conflict with the clients needs or desires.

Hazard Sketches shall be prepared at the clients request. Guidelines and format for Hazard Sketches are left to the desires of the client and the discretion of the Land Surveyor.

\* See Reference Section 51.1.10

14.3 SAMPLE PLAT

WELL LOCATION PLAT  
 APPLICANT NAME  
 ADDRESS  
 WELL NAME AND NUMBER  
 \_\_\_\_\_ FEET FROM \_\_\_\_\_ LINE AND \_\_\_\_\_ FEET FROM \_\_\_\_\_ LINE  
 SECTION \_\_\_\_\_, T\_\_\_\_N, R\_\_\_\_W, 5TH P. M.  
 \_\_\_\_\_ COUNTY, NORTH DAKOTA



I CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS  
 WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE  
 CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF  
 MY KNOWLEDGE AND BELIEF

EXPLANATION AREA  
 NAME OF PERSON  
 AUTHORIZING SURVEY ETC.

JOHN O. SURVEYOR R. L. S. NO. 000 DATE STAKED

NORTH DAKOTA  
 REGISTERED LAND  
 SURVEYORS SEAL

VERTICAL CONTROL  
 DATUM USED  
 AND  
 BASIS OF BEARING

SURVEYING COMPANY NAME  
 ADDRESS, LOGO, ETC.

CERTIFICATE OF AUTHORIZATION • A-000

## MANUAL OF PRACTICE HISTORY

1. First committee redraft of sample Minnesota Standards dated May 1987.
2. Revised August 1987 per committee review.
3. Revised January 1988 per committee review.
4. Adopted February 20, 1988 NDSPLS Membership.
5. Edited April 1988 Board of Directors.
6. Adopted 3rd Edition February 15, 1989 NDSPLS Membership.
7. Adopted 4th Edition March 10, 1990 NDSPLS Membership.
8. Edited February, 1992, NDSPLS Membership.
9. Changed the name February 24, 2001 from "MANUAL OF PRACTICE FOR LAND SURVEYING IN NORTH DAKOTA" to "RECOMMENDED GUIDELINES FOR THE PRACTICE OF LAND SURVEYING IN NORTH DAKOTA".

## REFERENCE SECTION 51.1.10

### OIL & GAS WELL LOCATION ADDITIONAL INFORMATION

These Standards may also prove helpful to other parties interested in oil and gas well location surveys, but it is not intended to provide a single source reference to all other laws, regulations or practices that may affect oil and gas well location surveys or operations.

The Land Surveyor should be aware that North Dakota Law and Statute has dictated the following:

- a. The Application for Permit to Drill shall be accompanied by an accurate plat showing the location of the proposed well with reference to the nearest lines of a Governmental Section (Chapter 43-02-03-16, Oil & Gas Conservation).
- b. Public Land Survey corners are necessary to establish the position of the Staked Well Bore. Therefore, the Land Surveyor performing the survey should:
  1. Follow Attorney General's opinion 81-43 Dated May 5, 1981, relating to the filing of Corner Records.
  2. File Corner Recordation in accordance with NDCC 47-20.1 "Survey and Corner Recordation Act".
  3. Rehabilitate Monuments in accordance with NDCC 47-20.1-09. Minimum corner Requirements with NDCC 47-20.

### DEFINITIONS

The Land Surveyor should refer to the following sources for the proper definition of terms pertaining to surveying in general and terms unique to the Oil and Gas Industry:

N.D.C.C. 47-20.1-02, DEFINITIONS pertaining to the Survey and Corner Recordation Act;

DEFINITIONS pertaining to the General Rules and Regulations for the Conservation of Crude Oil and Natural Gas by the North Dakota Industrial Commission.

Definitions not defined or deemed adequate in the above references are defined as follows:

- a. **STAKED WELL BORE:** The monumented position of the proposed Oil/Gas Well Location.
- b. **GROUND ELEVATION:** Mean Sea Level Ground elevation at the staked well bore.
- c. **V-DOOR:** Exposed side of the sub-structures on an oil drilling rig. The lay down end of the rig.
- d. **DIMENSIONAL CORNER:** The Section Corner where the two controlling Section Lines intersect.

## **GENERAL PROCEDURES**

The Land Surveyor must be fully aware of private, state and federal rules and regulations pertaining to the surveying of the sectionalized land system and oil and gas well locations in North Dakota.

The Land Surveyor should secure a copy of the "Summary of North Dakota Oil and Gas Field Rules" from the North Dakota Industrial Commission to be able to understand what is required in a given area.

The Land Surveyor should investigate and be aware of the possibility of coming in contact with H<sub>2</sub>S (hydrogen sulfide gas) and its safety hazards to himself and his crew. There are a number of safety firms which could be contacted for an education program to protect Surveyors working around gaseous wells.

The requirements of oil and gas well location surveys will vary with different oil company requirements and will vary with the surface and mineral ownership. There should be close communications on all orders and it is advisable that the Land Surveyor should request that the company confirm telephone orders in writing.

The oil and gas companies will normally make necessary contacts and obtain permits required to perform the survey. However, the Land Surveyor should be familiar with these requirements and should inquire if these details have been performed before the field survey begins.

The Land Surveyor should normally secure the following information before proceeding with any oil or gas well location survey:

1. Name of surface owner or surface lease owner;
2. Permission to enter upon property if this has not been obtained by a representative of the oil or gas company;
3. Instructions for possible alternate drilling locations if original location falls on bad terrain or is too close to existing improvements;
4. Complete instructions for stakeout of drilling location area, including approximate size and orientation of drilling pad, if applicable (depending on size of rig and features of terrain), proposed location of access road, flow line and power line if necessary, preferred location of reference stakes (if desired) and other special instructions, such as grid layout and topography survey.

## **SURVEYS**

Oil and gas well location surveys should be executed with great care in order that the Land Surveyor protect the interests of the public, the client and the Land Surveyor responsible for survey. Some general recommendations for oil and gas well surveys are:

1. Ascertain that the monuments used to determine section lines are the section corner monuments according to the rules as defined by the BLM Manual of Instructions. As mentioned previously, the Land Surveyor is responsible for rehabilitating monuments and corner recordation.

2. It is important that the Land Surveyor keep foremost in his mind, when staking an oil well, the spacing unit position of the well to be staked. The proposed well bore location, together with the spacing unit, determines the number of corners required to locate a well bore.
3. Elevations should be based on known accepted Mean Sea Level elevations and should be determined to the nearest foot. Elevations should be checked whenever possible. USGS 7-1/2 Minute Quadrangle Map spot elevations are an acceptable source of vertical control as a last resort. Two or more spot elevations are recommended to be checked for a datum base. The plat must reflect the source of the vertical datum.
4. As per your clients request, reference stakes, pad layouts and grids may be located. Reference stakes are normally set in all four cardinal directions. The Land Surveyor should perform the location layout according to the preference of the client. Federal or State regulations that apply to the location layout and access roads should be satisfied. The land surveyor should be familiar with the NTL-6 and other regulations\* when staking wells on land with Federal Surface or Mineral Rights.
5. The staked well bore should be evidenced with a permanent and visible monument. The well bore monument or a reference monument should contain the following information: Well Name, Section, Township and Range, Ground Elevation, Ties to the Section Lines. The well hole monument should be detectable with a magnetic locator. The well hole monument or a reference monument should be a minimum of 3 feet above the existing ground.

#### **EASEMENTS & LEASE BOUNDARIES**

Oil and Gas Related Surveys that require easements or the determination of lease boundaries are to be surveyed in accordance with the recommended procedures for Boundary Surveys established by the North Dakota Society of Professional Land Surveyors and the applicable laws governing the Professional Land Surveyor in the State of North Dakota. The State of North Dakota Laws and the needs of the client shall determine the survey plats necessity for these surveys.

#### **SOURCES OF RELATED INFORMATION**

NTL-6 Regulations on Federal Lands  
Standards For  
Oil & Gas Exploration &  
Development on Federal Lands

USGS Conservation Surface Operating  
Division  
District Engineer  
P.O. Box 2550  
Billings, MT 59103  
(406) 245-6711

General Rules and Regulations  
for the Conservation of Crude  
Oil and Natural Gas

ND Industrial Commission  
Oil and Gas Division  
900 East Boulevard  
Bismarck, ND 58505  
(701) 224-2969

Federal Information on  
Oil and Gas Leases

Bureau of Land Management  
Record Assistance  
222 N. 32nd Street  
P.O. Box 36800  
Billings, MT 59107  
(406) 657-6564

U.S.D.A. Forest Service  
Rules and Regulations

U.S.D.A. Forest Service  
Rt. #6,  
P.O. Box 131B  
Dickinson, ND 58601  
(701) 225-5151

As-Built Survey Specifications  
(A Post Construction Survey)

ACSM  
210 Little Falls Street  
Falls Church, VA 22046  
(703) 241-2446

Notes and Plats for Public  
Land Surveys in North Dakota

ND State Water Commission  
900 East Boulevard  
Bismarck, ND 58505  
(701) 224-4961



## REFERENCE SECTION 51.1.11

### Ordinary High Water Mark

The North Dakota Supreme Court has defined "high water mark" in a case (Rutten vs. N.Dak - 1958) involving property line between state property and riparian landowners around Devils Lake. The definition cited by the Supreme Court is as follows:

"High water mark" means what its language imports - a water mark. It is coordinated with the limits of the bed of the water, and that only is to be considered the bed which the water occupies significantly long and continuously to wrest it from vegetation and destroy its value for agricultural purposes. In some places however, where the banks are low and flat, the water does not impress on the soil a well-defined line of demarcation between the bed and the banks. In such cases, the effect of the water upon vegetation must be the principal test in determining the location of the high water mark as a line between riparian owner and the public. It is the point up to which the presence and action of the water is so continuous as to destroy the value of the land for agricultural purposes by preventing the growth of vegetation constituting what may be termed an ordinary agricultural crop.

Raymond RUTTEN, Plaintiff and  
Respondent,

v.

STATE of North Dakota, the Garrison Di-  
version Conservancy District and State  
Water Conservation Commission, Defend-  
ants and Appellants.

No. 7786.

Supreme Court of North Dakota.

Dec. 31, 1958.

Action by an owner of land to enjoin the state from artificially raising the level of the lake. Judgment for the owner in the District Court of Ramsey County, Obert C. Teigen, J., and the defendants appealed. The Supreme Court, Harry E. Rittgers, District Judge, held that the plaintiff failed to sustain the burden of proof resting upon him that the threatened proceedings would result in the flooding of the plaintiff's land.

Judgment reversed and action dismissed.

#### 1. Navigable Waters ⇨40

In action by owner of land on a navigable lake to enjoin the state from artificially raising the level of such lake, burden rested upon the owner to prove by a clear preponderance of evidence that the threatened proceeding would result in the flooding of plaintiff's land, title to which the plaintiff had acquired through reliction. Act Cong. Dec. 22, 1944, 58 Stat. 887; NDRC 1957 Supp. 61-2401 et seq.; NDRC 1943, 61-1501, 61-1502, 61-1503.

#### 2. Navigable Waters ⇨40

In action by owner of land bordering on a navigable lake to restrain the state from artificially raising the level of the lake, wherein defendants asserted the ordinary high-water mark to be 1,425 feet above normal sea level, plaintiff failed to sustain his burden of proof to establish that proceedings would result in flooding of his land, and the defendants failed to prove the

existence of an ordinary high-water level of the lake in excess of 1,419 feet above normal sea level. Act Cong. Dec. 22, 1944, 58 Stat. 887; NDRC 1957 Supp. 61-2401 et seq.; NDRC 1943, 61-1501, 61-1502, 61-1503.

#### *Syllabus by the Court*

The owner of land bordering on Devils Lake, which is navigable in fact, brought this action to restrain and enjoin the State and its agencies from artificially raising the level of such Lake. The defendants asserted the ordinary high water mark of such lake to be 1,425 feet above normal sea level. The burden rested upon plaintiff to prove by a clear preponderance of the evidence that the threatened proceedings would result in the flooding of plaintiff's land title to which plaintiff had acquired through reliction, plaintiff also asserting that the ordinary high water level of such lake was its present level of 1,419 feet above mean sea level. Held, that plaintiff has failed to sustain the burden of proof resting upon him, and defendants have failed to prove the existence of an ordinary high water level of the lake in excess of 1,419 feet above normal sea level, and this action is dismissed.

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Duffy & Haugland, Devils Lake, for plaintiff and respondent.

Leslie R. Burgum, Atty. Gen., Roy A. Holand, La Moure, and I. A. Acker, Bismarck, for defendants and appellants.

HARRY E. RITTGERS, District Judge.

Plaintiff for his cause of action alleges that he is the owner of various tracts of land in Secs. 2, 3, and 4, in Twp. 152, N. of R. 63 W., and part of Sec. 34, Twp. 153, R. 63 W., which lands abut on the shore of Devils Lake. That said Lake has gradually receded leaving a large dry area adjacent to said described lands, title to which has accrued to the plaintiff as riparian owner. That the defendants are threatening to divert water from the Missouri River, and

elsewhere, into Devils Lake which will overflow and flood the lands owned by plaintiff as riparian owner without compensation, and plaintiff prays for an injunction restraining such threatened acts.

The Answer admits that defendants intend and propose to proceed under the laws of N. D. and in co-operation with the U. S. Govt. under Act of Congress approved Dec. 22, 1944 (58 Stat. 887) to accomplish the purposes set forth in Ch. 348, Laws of N.D.1955, NDRC 1957 Supp. 61-2401 et seq., which, among other things, are intended "to replenish the waters, and restore the level of Devils Lake, Stump Lake, Lake Williams and Turtle Lake," which will be accomplished by diverting water from the Missouri River above the Garrison Dam into Devils Lake and by which the level of that Lake will be raised and the height of which will then be controlled by the operation and maintenance of proper facilities, and that the waters of the Lake will be made available "for recreation, municipal, industrial purposes, navigation, and other beneficial uses"; and "that the lands which will be flooded when Devils Lake is raised to the level proposed by defendants, consists of lands which in 1882, and for many years thereafter, were lake bottom from which the waters of the Lake have gradually and perceptibly but not permanently receded." The Answer admits that plaintiff owns the lands described in the Complaint "except \* \* \* defendant claims the legal right to restore and maintain the integrity and level of Devils Lake if and when public welfare will be promoted thereby, and to restore such Lake to a level within the high water mark thereof."

Thereafter, the parties joined in a stipulation of facts, as follows:

"That Devils Lake is a body of water situated in Ramsey and Benson Counties of North Dakota covering an extensive area of land; that the lake constitutes a basin for a drainage area comprising approximately 3,400 square

miles in the north central and north-eastern part of North Dakota; that the lake is landlocked and does not have an outlet.

"That Devils Lake is a body of water navigable in fact; that in 1883 boats were operated thereon for commercial purposes and that the same continued until about 1910; that commencing about 1885 the level of the lake started to decline and, with certain variations from year to year, it continued to decline until about 1940 when the level reached 1402 feet above sea level and the depth of the water was at no place more than 4 feet; that there were several causes for the drying up of the lake, including a diminution of rainfall and snowfall and the breaking up of large tracts of land in the drainage area, resulting in the absorption of much of the run-off which formerly had gone into the lake; that variations in the level of the lake are shown by the following table:

Year	Level of Devils Lake above mean sea level:
1867	1438 Ft.
1879	1435 Ft.
1883	1435 Ft.
1887	1427 Ft.
1890	1425 Ft.
1896	1425 Ft.
1901	1419 Ft.
1910	1422 Ft.
1920	1420 Ft.
1930	1412 Ft.
1940	1402 Ft.
1950	1416 Ft.
1956	1419 Ft.

"It is further stipulated and agreed that when waters of the Missouri River are diverted into Devils Lake the level thereof will be controlled through the construction, maintenance and operation of devices by which waters of the Lake, after reaching a desired level, will flow into Stump Lake and from there into the Sheyenne River. That

in order to raise the level of the lake to 1425 feet above mean sea level it will be necessary to inundate a strip of land around the lake from which waters have in past years receded, 962 feet in average width; and by raising the level of that part of the lake, known as the west bay, 10,620 acres of land from which the lake has receded will again be covered with water and that 2,460 such acres of land will be inundated by east bay of the lake.

"It is further stipulated and agreed that the greater part of the lands which will be flooded if Devils Lake is raised to a level of 1425 feet is not good agricultural land but nevertheless, parts of it have been subject to cultivation and have produced in certain years paying crops of flax and other grains; that most of the land is covered with coarse grass which is not desirable for livestock but which has and does provide pasturage for a substantial number of livestock."

Since it is conceded that Devils Lake is navigable in fact, it constitutes public waters under the laws of this State.

"47-0115. Banks and Beds of Streams; Boundary of Ownership. Except when the grant under which the land is held indicates a different intent, the owner of the upland, when it borders on a navigable lake or stream, takes to the edge of the lake or stream at low watermark. All navigable rivers shall remain and be deemed public highways. In all cases when the opposite banks of any stream not navigable belong to different persons, the stream and the bed thereof shall become common to both."

Roberts v. Taylor, 47 N.D. 146, 181 N.W. 622.

"On the admission of a state to the union, the title of the United States to lands underlying navigable waters within the state passes to it, as incident

to the transfer to the state of local sovereignty, and is subject only to the paramount power of the United States to control such waters for purposes of navigation in interstate and foreign commerce." *Ozark-Mahoning Co. v. State*, 76 N.D. 464, 37 N.W.2d 488.

The defendants are proceeding under the authority granted them by Secs. 61-1502 and 61-1503, N.D.R.C.1943, and Ch. 348, Laws 1955.

It is admitted to be the purpose of the defendants by artificial means to raise the level of the Lake to 1425 feet above mean sea level. The trial court held the 1419 ft. level attained in 1956 to be the ordinary high water level of Devils Lake.

[1] The burden of proof rested upon the plaintiff in this case to establish the high water level of the lake to be at 1419 feet. For evidence to prove such a fact we must look solely to the stipulation quoted above. There is no other evidence before the Court.

The table referred to in the stipulation shows that the Lake stood at a height of 1,425 feet or higher during known history up to the year 1890, and then dropped to a level of 1,419 ft. in 1901. Thereafter, the height dropped to 1,402 ft. in 1940, and then raised to a level of 1,419 ft. in 1956, where it had stood in 1901, or 55 years before. The only time this level was exceeded during said period was in 1910 when the Lake reached 1,422 ft., and in 1920 when it reached 1,420 ft. There is no evidence in the record supporting the stipulation that there has been a diminution of rainfall and snowfall during the period under consideration, but the court will take judicial notice of the fact that for a period of about 10 years from 1929 to 1940 the area of this Lake, and of the whole State, sustained the longest and most severe drought known in our recorded history.

We feel that the evidence is insufficient to sustain plaintiff's contention to the effect that the waters of Devils Lake have

permanently receded and that the ordinary high water line of the Lake stands at 1419 feet above mean sea level.

[2] It is also impossible from the evidence to determine any definite height the lake has attained at any time in the past which would meet the conditions of the definition of "ordinary high water mark." The evidence before the court fails to warrant the conclusion that there has been a permanent reliction to the present level of the lake, or that the waters in the lake will never again reach some higher level.

"'Ordinary high-water mark' shall mean that line reached by water when the lake or stream is ordinarily full and the water ordinarily high." N.D. R.C. Sec. 61-1501.

"From evidence as to the height of water in a lake in different seasons and in different years, without the water marks on the soil or their elevations, it is impracticable to locate the high water mark, defined as the line which the water impresses on the soil as the limits of its dominion." Merrill v. Board of Supervisors, 146 Iowa 325, 125 N.W. 222.

"[It] means neither an extremely high nor an extremely low water line, but, \* \* \* refers to the ordinary high-water mark." Ross v. Burkhard Inv. Co., 90 Cal.App. 201, 265 P. 982.

"'High-water mark' means what its language imports—a water mark. It is co-ordinate with the limit of the bed of the water; and that only is to be considered the bed which the water occupies sufficiently long and continuously to wrest it from vegetation, and destroy its value for agricultural purposes. \* \* \* In some places, however, where the banks are low and flat, the water does not impress on the soil any well-defined line of demarcation between the bed and the banks.

"In such cases the effect of the water upon vegetation must be the prin-

cipal test in determining the location of high-water mark as a line between the riparian owner and the public. It is the point up to which the presence and action of the water is so continuous as to destroy the value of the land for agricultural purposes by preventing the growth of vegetation, constituting what may be termed an ordinary agricultural crop." Tilden v. Smith, 94 Fla. 502, 113 So. 708. 56 Am.Jur., Waters, Sec. 57. 67 C.J., Waters, Ch. IV; 93 C.J.S. Waters § 103. 9 C.J., Boundaries, Sec. 74; 11 C.J.S. Boundaries § 32. 45 C.J., Navigable Waters, Sec. 191; 65 C.J.S. Navigable Waters § 81. Anderson v. Ray, 37 S.D. 17, 156 N.W. 591.

The judgment of the lower court is reversed and the action dismissed.

GRIMSON, C. J., and BURKE and SATHRE, JJ., concur.

MORRIS, J., deeming himself disqualified did not participate.



Jerome A. WHITAKER, Plaintiff and Respondent,

v.

Bertha Haraldson WALTER, Defendant and Appellant.

No. 7784.

Supreme Court of North Dakota.

Dec. 23, 1958.

Plaintiff brought suit to compel defendant to assign to plaintiff three oil royalties in accordance with alleged agreement. The District Court of McKenzie County, Eugene A. Burdick, J., entered

## SECTION 52 - INFORMATION SOURCES

### 52.1 Federal Agencies

National Geodetic Information Center  
MOAA/NOS/NGS/N/G 17  
Rockville, Maryland 20852  
Geodetic Data/Diagrams (301) 443-8631  
Geodetic Publications (301) 443-8315  
Geodetic Software (301) 443-8623

National Geodetic Survey  
Network Maintenance Engineer  
Room 308A Federal Building  
P.O. Box 1059  
Pierre, South Dakota 57501  
(605) 224-9810

U.S. Department of Interior  
Bureau of Land Management  
Cadastral Survey Office  
P.O. Box 36809  
Billings, Montana 59107  
(406) 657-6668

U.S. Department of the Interior  
Bureau of Land Management  
Records of Surveys  
P.O. Box 36800  
Billings, Montana 59107  
(406) 657-6564

U.S. Map Service  
107 North Public Road  
Lafayette, Colorado 80026

U.S. Fish & Wildlife Service  
Federal Building  
Aberdeen, South Dakota 57401  
(605) 225-0250 Ext. 587

U.S. Forest Service  
Medora Ranger District  
Rt. 6, Box 131B  
Dickinson, North Dakota 58601  
(701) 225-5151

## 52.2 State Agencies

North Dakota State Water Commission  
Maps and Survey Data Sales  
900 East Boulevard  
Bismarck, North Dakota 58505  
(701) 224-4961

North Dakota Department of Transportation  
State Headquarters Building  
Bismarck, North Dakota 58505  
Highway Plats (701) 224-4436  
B.M.'s & Aerial Photos (701) 224-4428  
County Maps (701) 224-3534

## **SECTION 53 - MISCELLANEOUS**

- 53.1 Bylaws of the National Society of Professional Sureyors American Congress on Surveying and Mapping
- 53.2 NDSPLS Membership Directory Including Bylaws & Ethics
- 53.3 Calibrated Base Line Data