

CFedS Outline – Unit 1

Course 1: History, Records & Administrative Systems

History of U.S. Surveying

- Historical Perspective
- Similarities in Surveying
- Seniority of Calls
- Lack of Standards
- A National Debt
- Vast Lands to the West
- Surveyors Input
- Sequential or Simultaneous Conveyances

Introduction to PLSS & Records Systems – Part 1

- PLSS Principles
- Plat Creates All Corners in a Section
- Evolution of the System
- Origins of “The Manual”
- Non-PLSS Parcels

Introduction to PLSS & Records Systems – Part 2

- Master Title Plats
- Historical Index
- Patents
- Certificates
- Orders

Non-Federal Records

- Not Working in a Vacuum
- Open States vs. Closed States
- County Records
- Other Governmental Agencies
- In Indian Country
- Tribal Records
- Unfamiliar Territory

Working with Indian Cultures

- Proper Titles
- No Single Culture
- Differing Viewpoints
- Strive to Understand the Differences
- Proper Protocols
- Value of an Open Mind

Indian Land Law – Part 1

- Historical Eras
- First Era
- Second Era
- Third Era
- Fourth Era

- Fractionation
- Fifth Era
- Sixth Era
- 638 Contracting
- Results of Constant Change
- Indian Land Law – Part 2
 - Treaties
 - Rights-of-Way
 - Federal Regulations
 - Court Decisions
 - Scope of Trust Responsibilities
- Current Status of Indian Land Law
- Indian Land Record System
 - Historical Background
 - Types of Indian Land Ownership
 - Land Conveyance Issues
 - Land Status
 - LTRO Functions
- BLM Administration
 - Department of Interior and its Bureaus
 - Cadastral
 - Survey Authorities
 - Federal Survey Process
 - Supplemental Plats
 - Other Records
- BIA Administration
 - Central and Regional Offices
 - Agencies and the Tribes
 - Unique relationship with Indians on their land
 - Records Access
 - Tribal Governments

Course 2: Boundary Law & Title Examination

- Basic Boundary Law – Part 1
 - Historical Background
 - European Background
 - Statute of Frauds and Livery of Siesen
 - Beating of the Bounds
 - Principles of Title
 - Common Estates
- Basic Boundary Law – Part 2
 - Types of Deeds
 - Acquired Lands
- Basics of Metes and Bounds
 - Records and Definitions

- Differs from PLSS
- Unique Measurements
- Classic Metes and Bounds
- Records Research
- Metes and Bounds Case Study
- Chain of Title Evidence Discussion
- Federal Boundary Law – Part 1
 - Why Chains?
 - Basic Principles
 - PLSS Basis of Bearings
 - Clarifying what they did
 - Latitudinal Curve
 - Accuracy Issues
 - Basic Land Units
 - The Sample Plat
 - Water Issues
 - Original Survey Process
 - Closure vs. Limits
- Federal Boundary Law – Part 2
 - Section Numbering
 - Allowing for Convergence
 - Junior/Senior is Different in PLSS
 - Defective Exteriors
 - Protect the Plat
 - All Subdivisional Corners Created
 - Riparian Issues
 - Meander Lines NOT Boundaries
- Federal Boundary Law – Part 3
 - Closing Corners
 - Monument Markings
 - Special Circumstances in the PLSS
 - Military Reservations
 - Types of Resurveys
 - Lotting the sub-surface
- Federal Boundary Law – Part 4
 - Independent Resurveys
 - Confusion with Title
 - Remonumentation Projects
 - Some of the Evidence
 - Background of Case Law
 - Federal Case Law
 - Study Case Law
- Controlling Intermediate Monuments – Part 1
 - Evolution of the PLSS
 - Exercise on “What Controls?”
 - BLM Symbology

Line Tree Evolution
Current BLM Policy
Witness Corners
Lost Witness Corners
Retracements of Retracements
Exercise Review
Controlling Intermediate Monuments – Part 2
Exercise
Witness Points
Meander Corners
Special Meander Corners
Auxiliary Meander Corners
Exercise Review
Exercise
Closing Corners

CFedS Outline – Unit 2

Course 3: Survey Evidence Analysis

Evaluating Corner Evidence – Part 1

- Basic Legal Principles
- Categories of Evidence
- Surveyor's Responsibilities
- Corner Classifications
- Investigation and Evaluation

Evaluating Corner Evidence – Part 2

- A Grey Area
- Wood Posts
- Evidence and the Urban Interface

Evaluating Corner Evidence – Part 3

- Testimony
- Case Law
- The Records, Again
- Common Usage

Evaluating Corner Evidence – Part 4

- Topographic Calls
- The Casebook as a Reference
- Documentation
- Shorelines as Evidence
- Occupation Lines
- Measurements as Evidence
- An Assignment

Evaluating Corner Evidence – Part 5

- Best Available Evidence

Evaluating Corner Evidence – Part 6

- Two Basic Sides to Surveying
- Research the Record
- The “Other Record”
- Use of Quad Sheets
- The GLO Records and County Records
- Order of Field Notes
- Reading Field Notes
- Dependent Resurvey Notes
- Remonumentation Notes

Evaluating Corner Evidence – Part 7

- “Getting There”
- Avoid “Hit and Miss” Corner Search
- Look for ALL the Evidence
- Historic Corner Markings
- Accessories
- Bark Scribing

- Bearing Objects
- Topographic Calls
- The Gunter's Chain
- Random and True Issues with Topo Calls
- Corner Classifications, Again
- Evaluating Corner Evidence – Part 8
 - Confusing Evidence
 - Common Questions about Confusing Evidence
 - Stone and Brass Cap
 - Un-called for Evidence
 - The Keys to Finding Evidence
- Evaluating Corner Evidence – Part 9
 - “Local Surveys” vs. Federal Authority Surveys
 - Following Footsteps
 - Land Status
 - Proper Historical Perspective
 - Resurveyor Guides
- Evaluating Corner Evidence – Part 10
 - Administrative Issues
 - Indian Country Applications
 - Role of the Manual
 - Chasing the Law
 - Inherently Federal
 - States Regulate Surveying too
 - Secretarial Authority
 - Constitutional Guidance
- Evaluating Corner Evidence – Part 11
 - Resurvey Principles
 - Corner Classifications
 - Indexing
 - Special Cases
- Evaluating Corner Evidence – Part 12
 - Three Original Survey Types
 - More Special Cases
 - More State Law Issues
 - Local Points of Control
 - Non-Federal Interest Lands
 - Next Edition
- Evaluating Corner Evidence – Part 13
 - So, Where Do I Put the Corner?
 - Discrepancies in the Record
 - Documentation!

Course 4: Restoration of Lost Corners

Restoration of Lost Corners – Part 1

Is it Really Lost?
Three Corner Conditions
General Principles of Proportioning
Case Law
Single Proportion
Single Proportion – Midpoint
Single Proportion – Closing Section
Single Proportion – Angle Break
Modified Single Proportion
Single Proportions on the Curve
Restoration of Lost Corners – Part 2
Restoration of Lost Corners – Part 3
Indexing
Restoration of Lost Corners – Part 4
Compass Rule vs. Grand Boundary Method
Meander Lines
Closing Corners
Interiors of Sections
Special Cases

CFedS Outline – Unit 3

Course 5: Introduction to Water Boundaries

Water Boundary Surveys Web-Based Course

- Role of the Surveyor
- Riparian Rights
- Surveying Concepts
- Surveying Methods
- Geology and Water Dynamics

Water Boundaries

Course 6: Subdivision of Sections

Regular Section Subdivisions

- The Law
- Definitions
- Regular Section
- Subdivision of a Regular Section
- Factors that Complicate the Subdivision of Section
- Three Mile Method
- Sections Against the Township Boundary
- Elongated Sections
- Corner Markings

Area Relationships – Part 1

- Information Reported on the Official Plat
- Lesson Objectives
- Understanding the Areas
- How the Draftsman Calculated Areas
- Calculating the Protracted/Parentetical Distances for Sections Along the North and West Boundaries
- First Manual Procedure for Area Calculations
- Areas Within a Completion Survey (Sec. 8)

Area Relationships – Part 2

- Areas Within a Completion Survey (Sec. 8) Cont.
- How Will We Subdivide Section 8?
- Section With Bearing Breaks Along A Boundary
- A Second Method to Deal With Breaking Breaks Along a Boundary

Area Relationships – Part 3

- Meander Board Calculations
- Resurvey Lotting
- Determining the Method of Subdivision Once the Protracted/Parentetical Distances are Determined

Fractional Sections – Part 1

- Fractional Section as Defined by Sec. 3-88 of the Manual
- Principles for Determining When a Section is Fractional According to Sec. 3-88

- How to Determine Mean Bearing
- Subdividing a Fractional Section
- Subdivision of Fractional Quarter Sections
- Fractional Section Exercise
- Fractional Sections – Part 2
 - Exercise Review
- Fractional Sections – Part 3
 - Section 21, 5 Chain Blunder on the South Boundary
 - Portions of the Section on Opposite Sides of a River Do Not Line Up
 - Corner Markings

Course 7: Boundary Standards

- Standards for Indian Trust Lands Boundary Evidence – Part 1
 - Origin of the Boundary Standards
 - The Four Certificates
 - Preparation of the Certificates
 - Boundary Standards Financial Agreements
 - Land Description Review Certificate
 - Sufficiency of the Land Description for the Stated Purpose
 - Condition of Corner Monuments
 - Condition of Boundary Line Marking
 - Condition of the Geographic Coordinate Database (GCDB)
 - Area
 - Approval
 - Chain of Surveys Certificate
 - Purpose of the Chain of Surveys
 - Extent of the Research
 - Preparation of the Chain of Surveys Certificate
 - Corner History
 - Approval
- Standards for Indian Trust Lands Boundary Evidence – Part 2
 - Certificate of Inspection and Possession
 - Purpose of the CIP
 - Identification of the Boundaries
 - Title
 - Unwritten Rights
 - Certification
 - Boundary Assurance Certificate
 - Purpose of the BAC
 - Filing the Boundary Standard Certificates
 - Standards for State Authority Surveys
 - Meet State Standards
 - Filed Per State Requirements
 - Filed with Land Title and Records Office
 - Reporting Bearings

Convergence of Meridians
Linear Convergence
True Bearing of Each Line
Corner Description and Monumentation
Complete Documentation
Geodetic Position

CFedS – BLM Manual Reading Assignments

Course 2

Chapter 3

Chapter 4

Chapter 5 Sec. 5-41

Chapter 6 Sec. 6-4, 6-8, 6-12 thru 6-18

Course 4

Chapter 2 Sec. 2-74 thru 2-83

Chapter 5

Course 5

Chapter 7

Course 6

Chapter 3 Sec. 3-74 thru 3-92

Chapter 4 Sec. 4-38 thru 4-44

Chapter 7 Sec. 7-8 thru 7-15