

## **WHITE MOUNTAIN SURVEY & ENGINEERING, INC.**

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### **SURVEYING SERVICES**

Since our founding in 1977, we have completed hundreds of boundary surveys, primarily in Maine and New Hampshire. Because both Maine and New Hampshire were part of the original British colonies, boundary surveys of larger tracts often require deed research back to the King's grants (prior to the Revolutionary War) and a re-creation of original Proprietor's lotting. We have been asked many times to survey property involved in boundary disputes and have usually been successful at assisting our clients with negotiating agreements, but also have extensive experience in courtroom testimony.

This service is also required by virtually every Subdivision, Boundary Line Adjustment and Site Plan Review. A representative sample of the project are described below.

So that perspective clients have a better idea of the services required in preparing a boundary survey, we provide this description of the process.

### **BOUNDARY SURVEY PROCESS:**

#### **Records Research**

Deed research is done in order to obtain the best description of your lot. This includes deed research of the subject parcel and all abutting parcels. Generally, research for the subject parcel will be done far enough back in time so as to obtain the original description for the lot. Similarly, the abutting parcel's deeds are researched as far back as necessary to ensure that the descriptions are consistent with that of the subject parcel. The records research also entails a review of any title information available from you or your attorney, as well as a review of other resources which might yield information about the location and description of the lot. This would include, but not be limited to a review of records of prior surveys, highway reference material, railroad reference material, records of easements, records of utilities, tax assessor's maps, topographic maps, aerial photographs, local histories, genealogies, and court records.

White Mountain Survey & Engineering, Inc. prides itself on its extensive reference library including, but not limited to White Pine Blister Rust Maps, Town Road Layouts, Batchelder State Papers, local history books for many towns through out the state, Railroad Valuation Maps, State D.O.T. Right-of-Way Maps, and the survey files of the late Stephen H. Boomer who practiced land surveying in this area for approximately 60 years; the late Richard O. Hawkins, PE and the files of E. R. O'Brien, formerly of Madison, NH; and Phillips Engineering.

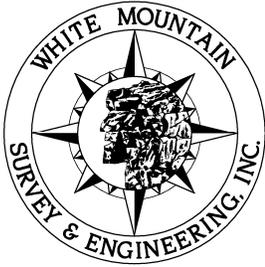
This segment of a survey, while being the most important part, is also one which is difficult to estimate in advance. On those occasions when a project goes over the estimated cost, records research is often a primary cause. Records research has accounted for as little as 10% of the final cost of the survey and as much as 35% or more. Any information which we have in-house, that could affect your survey has been evaluated and factored into the estimate given in the proposal.

#### **Field Data**

Utilizing the record information obtained above, this segment of a survey begins with a perimeter reconnaissance of the subject and abutting properties. In this phase it is hoped the boundary monumentation called for in the deed descriptions can be recovered. If little or no original monumentation

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for the subject or abutting properties is found, the scope of field work and consequently, the research portion of the survey is increased to a point which yields enough information in order to reconstruct the boundaries of your lot. This sometimes adds to the overall expense of the survey.

Boundary evidence as well as other site details helpful in reconstructing the location of boundary lines are located from a reference "traverse". The traverse is a control network of reference points, generally plastic stakes, run very closely to, if not on, the anticipated boundary line utilizing specialized measuring equipment. The "Ethics and Standards, New Hampshire Joint Board" provide for standard equipment and procedures relating to the overall precision of a survey based on the purpose of the survey. The equipment can be as sophisticated as state of the art GPS (Global Positioning Systems) or theodolite/EDM equipment which yield highly precise measurements, or as unsophisticated as Compass and Tape equipment yielding less precise measurements. Generally, theodolite/EDM equipment will be used on surveys of lots less than 10 acres in size which fall into the category of being "Urban, Suburban, Industrial, Commercial, or Rural" in nature. Compass and tape equipment can be used for lots in excess of 10 acres in size and "...predominantly bounded by physical evidence" and which have "... limited potential for development". (Ethics and Standards, New Hampshire Administrative Rules LAN 500.

The base traverse helps to identify other features unique to a site and will isolate any encroachments if they exist. This aspect of the work provides us with subsequent reference and working points from which the final monumentation of the lot will be performed.

### **Office Computation, Boundary Decisions**

The data gathered in the field is input into the computer and rigorous computations are performed in order to ensure that the accuracy of the traverse meets the NH Administrative Rules for accuracy for the type of survey being performed. The accuracy of the boundary evidence is then checked and this work is "reduced" to a plan format.

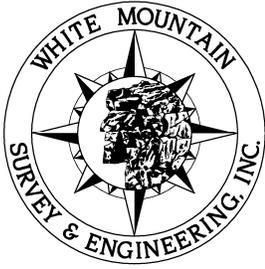
Using the worksheet and the reference information gathered during the records search, the surveyor makes a determination as to the proper location of the boundary line according to the pertinent laws and rules which govern lot reconstruction. It can quite often be the case that further reconnaissance and records research may be necessary to explain why boundary evidence and evidence of current occupation aren't consistent with record descriptions for the lot.

Once a determination has been made, the bearings and distances between the property corners are computed. Finally, information gathered during the records search is applied to the site details located and appropriate notes are written concerning the status of rights-of-way, easements, and encroachments and how they might affect the surveyed premises.

If the boundaries can not be reconciled as a result of this effort, then the use of the boundary line agreement process, pursuant to NHRSA 472:1, may be an option.

### **Layout**

This entails the setting of any lot corners found to be missing, and can, in wooded areas, involve blazing and painting of boundary lines. This service is also one that is difficult to forecast as the final number of corners which need monuments won't be known until the boundary decisions are made.



## **Final Plan**

The worksheet file which is generated, is a working drawing upon which a surveyor makes notes concerning his efforts in trying to reconcile the field evidence with the record descriptions for the lot. From this worksheet, a final ink on mylar plan is made. It is often the case that the clients are seeking to only have their corners monumented. In these instances, a final plan, while optional, is still highly recommended due to the relatively small additional cost for its preparation. In still other cases such as developing the lot, it will be a required service.

Once the final plan has been rendered, it's quality is checked by another surveyor in the office, for transposition/scrivener's errors which might have occurred. Additionally, the bearings and distances depicted on the plan for the boundary lines are checked, mathematically, to ensure accuracy. This plan information is often used in preparing future deed descriptions of the property.

It is a copy of this final plan which will be recorded at the Registry of Deeds, transmitted to the town in which the lot lies, or brought before a state or local planning agencies as the base map information for further development of the lot.