



MINNESOTA

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# SURVEYOR



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## Minnesota Surveyor Upcoming Content Deadlines

Issue	Due Date	Publication Date
Spring 2025	April 1, 2025	April 2025
Summer 2025	July 1, 2025	July 2025
Fall 2025	October 1, 2025	October 2025
Winter 2025-26	January 1, 2026	January 2026



# EDITOR'S COMMENTS

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*ROD SQUIRES, EMERITUS UNIVERSITY OF MINNESOTA*

On January 16, 2025 [Senator Steve Green](#), representing [Senate District 2](#), introduced [SF59](#) “A bill for an act relating to local government; establishing procedures for county to alter preexisting boundary line; requiring counties to restore and perpetuate United States public land survey monuments; amending [Minnesota Statutes 2024, sections 381.12](#), subdivision 1; 508.671, by adding a subdivision; 559.23.” The bill was referred the [State and Local Government](#) Committee.<sup>1</sup>

As is the case with many bills, there is something to like and something to dislike in this proposal. Senator Green is obviously trying to fix a problem that has been brought to his attention, and which many land surveyors should support.<sup>2</sup> However, part of the solution he proposes cannot be achieved, as would have been obvious if he had consulted anyone in the land surveying community.

Two of the four sections make reference to the PLS corner monuments.

Section 1 amends [Minnesota Statutes 2024 section 381.12 subdivision 1](#) to read,

When the county board determines that the monuments established by the United States in the public lands survey to mark public land survey corners have been destroyed or are becoming obscure, it ~~may~~ must employ a land surveyor licensed under chapter 326 to perpetuate said corners with durable magnetic monuments.<sup>3</sup>

“Most surveyors strongly back a requirement for each county to employ a full-time county surveyor, but counties justifiably object to the unfunded mandate, especially in rural counties,” states Phil Raines, the MSPS lobbyist.

Section 4 adds a new section to the statutory law – although where this section will appear in the next issue of the Minnesota Statutes is unclear – which states,

On or before December 31, 2027, a county must conduct a comprehensive assessment of monuments established by the United States in the public land survey that exist within the boundaries of the county. On or before December 31, 2028, a county must preserve and restore all monuments that are destroyed or obscured in accordance with the requirements and procedures of [Minnesota Statutes, section 381.12, subdivision 2](#), in excess of \$.....

I hope that most licensed land surveyors would approve of the change in language from “may” to “must” in Section 1. However, the timeline provisions in Section 4 – for both the assessment and the restoration – are impossible to achieve. As was pointed out in a previous unsuccessful attempt at getting remonumentation legislation passed, “One of the primary reasons that the bill did not pass was the appropriation cost and timeline; \$10 million per year for 30 years was both too much and too long for legislators to support.”<sup>4</sup> “With an estimated 125,000 unknown PLS markers in the state, it would require at least \$300 million in funding to re-establish all missing markers, and the workforce of surveyors to accomplish this task in three years simply isn’t sufficient,” adds Phil Raines. Interestingly and importantly, Senator Green has included no funding source for the work.

The bill received a hearing on Tuesday January 28, 2025 at which Phil Raines testified.<sup>5</sup> After the hearing the bill as amended was passed and re-referred to the 59.<sup>6</sup> According to the most recent information, however, the bill has been “removed from agenda.”<sup>7</sup>

## EDITOR'S COMMENTS

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And now for something completely different.

We need an index to the articles contained in the approximately 250 issues of the MSPS magazine. The most sophisticated one would allow anyone to access any of the articles via any search engine but would require more expense than MSPS wants to incur. Perhaps a simple one that would allow access to users of the MSPS web site is more feasible. Anyone out there with expertise and a willingness to consult with me on the matter? I have suggested, at several chapter meetings, that we could “crowd source” the work of listing authors, titles, and magazine issues.

Endnotes

<sup>1</sup> This is similar to [SF125](#), introduced by Senator Green in a previous legislative session on January 11, 2023.

<sup>2</sup> In the [Summer \(2024\) issue](#) of this magazine, I included a statement made by Senator Green.

<sup>3</sup> Proposed deletions to existing statutory law are indicated by strikethrough.

<sup>4</sup> PLSS Remonumentation [Minnesota Surveyor \(Winter 2023\)](#) p.6.

<sup>5</sup> [State and Local Government Committee Schedule](#). A video of the hearing, 39 minutes long, is available at <https://www.youtube.com/watch?v=mcI1a10q6UA&t=2360s>. Senator Green begins his testimony at 8 minutes and Phil Raines begins at 27 minutes but the additional testimony and the comments by the committee members are worth hearing.

<sup>6</sup> [State and Local Government Committee Minutes](#)

<sup>7</sup> [Minnesota Senate Information](#)

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# RETRACEMENT SURVEYS

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## *SAM GIBSON LS. WASHINGTON COUNTY SURVEY*

As Land Surveyors we function either as an original surveyor, or retracement surveyor. That is we retrace existing boundaries or we layout newly created boundaries.<sup>1</sup> We practice as original surveyors only when our work is relied on by grantors and grantees to define their new boundaries. To the extent that those new boundaries are inherently controlled by the location of the existing boundaries of the parent parcel we cannot escape our role as a retracement surveyor.

As retracement surveyors, we have the responsibility to confirm, not disprove, earlier work.<sup>2</sup> This places our profession in the unique position of being unable to ignore the misconceptions and mistakes of the past. Other professions are at liberty to move on from such misconceptions and mistakes, invoking the mantra of “when you know better, do better.” Engineers and doctors, for example, can look back on past professional practices that would today be unacceptable, simply identifying them as ill-informed techniques that caution today’s practitioners against hubris. Even attorneys, with their much-vaunted respect for the rule of law and precedent, find the means to move beyond outdated decisions and prejudices to better address contemporary challenges, continually revising law and abolishing outdated statutes.<sup>3</sup> While these professions are free to take the good and leave the bad from their predecessors’ work, surveyors must address the consequences of both the very best, and the very worst, work of our predecessors.<sup>4</sup>

Ancient surveys, wholly acceptable in their day, frequently challenge the modern retracement surveyor due to the absence of quantitative information considered standard today. This absence can give rise to suggestions of incompetence or even fraud by long-gone practitioners. Although cases of fraud and incompetence can be found among ancient surveys, most such cases are better seen as the result of a radically different understanding of the value provided by precise measurement in contributing to accurately describing property.<sup>5</sup>

Accuracy is distinct and independent of precision. Accuracy is the condition of a value or measurement being true while precision is the condition of a measurement or value being repeatable. As surveyors our first responsibility is to ensure accuracy in locating the property boundaries, relying on precision only as a tool to communicate clearly.

In 1912 Alfred Mulford effectively expressed the value of correctly identifying the line to be measured (accuracy) over the methodology of measuring the line (precision) stating, “when it comes to a question of the stability of property and the peace of the community, it is far more important to have a somewhat faulty measurement of the spot where the line truly exists than it is to have an extremely accurate [precise] measurement of the place where the line does not exist at all.”<sup>6</sup>

The ancient surveys we are asked to retrace should be considered with an understanding not only of the quality and availability of precise survey instruments but also of the uneven diffusion of technical knowledge and capability in the early days of Minnesota. Even if the local surveyor had access to the latest and most precise instruments, and the training necessary to capably use them, that precision would be lost to the property owner or others to whom such instruments and knowledge were unknown. The ancient surveyor, therefore, was unable to lean on precision as a useful proxy for an accurate representation of the boundary and instead developed the priorities and protocols with which we are familiar today, valuing the lines, marks, and monuments left as evidence of such surveys as more significant than the distances and dimensions returned in the notes.<sup>7</sup>



The surveyor who produced a plat in the early days of Minnesota Territory may well have seen the inclusion of too much quantitative information, based on imprecise or largely unavailable instruments, as more of a hindrance to the understanding the location of a property than a help.<sup>8</sup> In contrast, the availability of highly precise tools puts the modern surveyor in a position so removed from that of his predecessor as to obscure the common goal of accurately locating the property on the ground. This difference in expectation can become an obstacle to the faithful completion of our task to retrace that earlier work.

The area southwest of downtown St. Paul, along West 7th Street, is home to some of the oldest subdivisions in the state. A significant portion of the West 7th neighborhood was platted as

Winslow's Addition to Saint Paul on October 20, 1851. (Figs. 1 & 2) The recorded plat illustrates several of the challenges common to the modern retracements of ancient surveys. Missing or ambiguous distances and directions, haphazard block numbering, the apparent inclusion of previously platted land, indefinite relation between the layouts on separate pages, and other ambiguities challenge the modern surveyor to re-trace these lines.



Figure 1. [Winslow's Addition to St Paul, MN -1851](#)

# RETRACEMENT SURVEYS

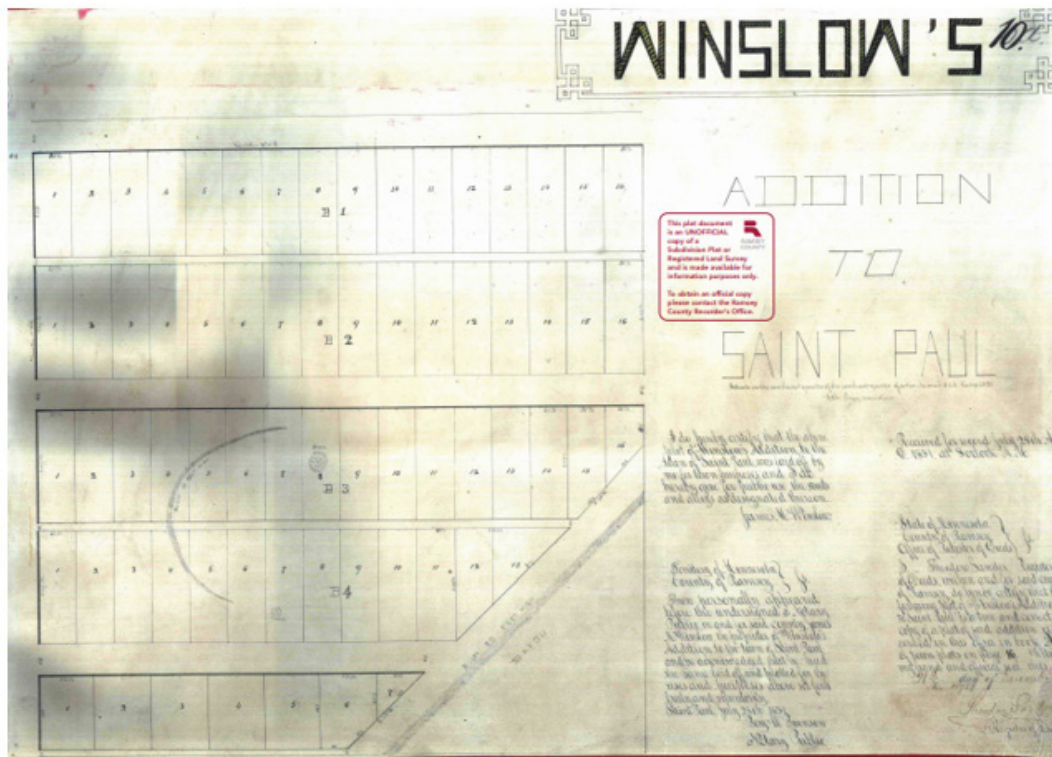


Figure 2. [Winslow's Addition to St Paul, MN](#)

Complicating matters even further, by modern standards, neither the plat dedication nor the plat graphics adequately describe the land included in the plat. There is little indication of its location, save for a caption on the second page stating, “Situated on the southwest quarter of the southeast quarter of Section No. one Range T.28 N. Range 23 W. 4th prin. Meridian.”<sup>9</sup> This description, accepted and consistent with expectations of its day, does not stand up to the precise and quantitative analyses of today. The dimensions shown for the west line of the plat sum to 1,352 feet while the dimensions on the north line along Goodrich Street sum to 2,591 feet; indicating the involvement of the better part of an additional quarter-quarter section. Where is this additional land located? Would it be the southeast quarter of the southeast quarter? Did the plat include the southeast quarter of the southwest quarter as implied by the lone reference to a “1/4 post?” Does it include parts of both the above quarter quarters? What parts of other adjoining quarters might be included? We cannot tell from the plat.

How these dimensions are supposed to fit with the Section is further mystified by the failure to reference any relationship to the Public Land Survey lines which had been completed in the area 4 years prior. Is the plat intended to conform to the PLSS section breakdown, or are the dimensions to be held with the plat being independent of the SE quarter, with the PLSS only controlling to include the southwest quarter of the southeast quarter?

The consequences of assumptions that could be made in trying to place this plat on the face of the earth are thrown into stark relief if we attempt to locate Goodrich Street, shown along the north line of this plat. Is this street excluded from the plat or to be dedicated as part of the plat? If dedicated, to what width? More directly concerning the plat’s location, what is the Street’s relationship to the north line of the south half of



the southeast quarter of Section 1?

If we assume the intent was for the plat to align with the PLSS quarter sections, we might assume that Goodrich follows the east-west quarter-quarter line. If we assume that the plat is largely independent of the PLSS and hold the dimensions, we will be locating the street 28 feet north of the 16th line on the west end of the plat and 8 feet north at the east end. Such differences have consequences, especially in a densely built-up area like the West 7th neighborhood of St. Paul. Such unclear guidance from the past can leave the modern surveyor wandering and wondering.

If we were able to lay such puzzling plats aside, as other professions are at liberty to do with works of the past, we might find simple and comforting answers. Some would follow the math on the face of the plat; or apply a mathematic correction to conform to dimensions from the public land survey. Others would find comfort in simply following existing occupations. None of these approaches assure the fulfillment of our obligation to protect the bona fide property rights of the landowner.<sup>10</sup> Math and dimensions are demonstrated to be suspect in this instance. While the public land survey was completed in the area at the time of the plat, there is not a clear indication that the survey was intended to conform to those lines. Further, the neighborhood has been subdivided and redeveloped over the past 175 years so that it is doubtful that any current occupation could be shown to reliably represent the original intent.

How is a competent modern surveyor supposed to get down to the business of laying out lines along Goodrich Avenue? The answer must be a faithful retracement of the plat lines by which the parties took title to the adjoining lots and blocks. After all, it is the act of the grantor to transfer title in reliance of the surveyed line that imparts a legal standing to the line, not the act of the surveyor in creating the line. That the line is difficult to retrace does not impair its legal relevance.<sup>11</sup>

Fortunately, in this case, several competent surveyors were tasked with retracing and perpetuating these lines as the City of St Paul grew.<sup>12</sup> One of these surveyors, D.L. Curtice, described the methods he used to preserve and perpetuate the lines of the plats that make up the early City in regular reports to the Common Council of the City of St. Paul.<sup>13</sup> (Fig. 3).

Thanks to these reports and several volumes of field notes of surveys from the various Chief Surveyors for the City of St. Paul, many of the original lines of the numerous additions to the City can be reliably retraced today. The field notes from these surveys have been compiled in a series of worksheets often referred to as the “Standard Survey” of St. Paul. These surveys are useful in retracing the location the lines in ancient subdivisions of St. Paul including the location of Goodrich Street as originally laid out.

D.L. Curtice retraced the plat of Winslow’s addition in 1874. Examining his notes we see that he located a number of existing monuments and placed several others at critical points such as the intersections of PLS lines and platted streets. (Fig. 4) From these notes we can see that he set a monument at the northwest quarter-quarter section corner of the southwest quarter of the southeast quarter near the south line of Goodrich at the 1/4 line now occupied by Western Avenue.

## RETRACEMENT SURVEYS

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The following communication from the City Surveyor was read, accepted, ordered printed, and referred to the Committee on Legislation:

To the Honorable President and Common Council of the City of St. Paul:

Gentlemen: I desire to briefly call your attention to the protest of Messrs. Boyle and Von Minden against the passage of a bill legalizing the monuments set during the past year, as permanent landmarks, and to set forth some facts in the case.

They do not claim any personal knowledge of the location of said monuments, and admit the positive benefit permanently marking points correctly ascertained, &c.

In the first place, at my request the Committee on Streets were appointed to superintend the location and setting of said monuments and to fully attend to all the details connected therewith. It was agreed upon by the committee to first set corners that were known and easily proven, and I was authorized and required to get the best possible authority in establishing the required corners, which I have done to the satisfaction of the committee who have thoroughly investigated the matter.

I have consulted Messrs. S.P. Folsom, J.T. Halsted, and F. McCormick, (old surveyors who have surveyed and laid out most of the additions in the city) as well as many of the old, landed proprietors, and government surveys as the best authority so far as monuments have been set. In Winslow's and Leach's additions, where there has been a great deal of discrepancy in the lines of different surveyors, the monuments have only been set to mark the legal subdivisions of the Section, with the view of making a complete survey and taking all the evidence obtainable before connecting the lines of streets and additions with the subdivision lines of the section, and it has been the sole purpose and aim of the committee and myself to correctly and equitably establish the corners, which we may claim has been strictly carried out.

Messrs. B. and V. think that a committee of competent persons should be employed to ascertain the correctness of these monuments while I claim that they have thus far been established upon the most undisputable authority.

Competency in establishing old landmarks does not consist so much in high scientific engineering ability, as in the personal knowledge of the exact location or corners, and in many cases, unprofessional citizens are better authority than even the engineers who are so fearful of disastrous legislation.

I have been engaged in surveying the city almost exclusively, for nearly 15 years, and have spent much valuable time each year in securing the position of the old corners many of which are now removed. I have been willing and glad to give the public the benefit of these notes and have endeavored so to fix these monuments as to do away with their "convenient pegs on which to rest innumerable lawsuits." It is the almost universal wish of property holders that these corners be permanently established.

If the public is to be subject to endless litigation from the use of rolling stones and loose pegs in locating property, to gratify the caprice and whims of surveyors, let the blame rest where it belongs.

Very respectfully,  
D.L. Curtice  
City Surveyor

Figure 3. Minutes from the Common Council of St Paul Feb. 17, 1872



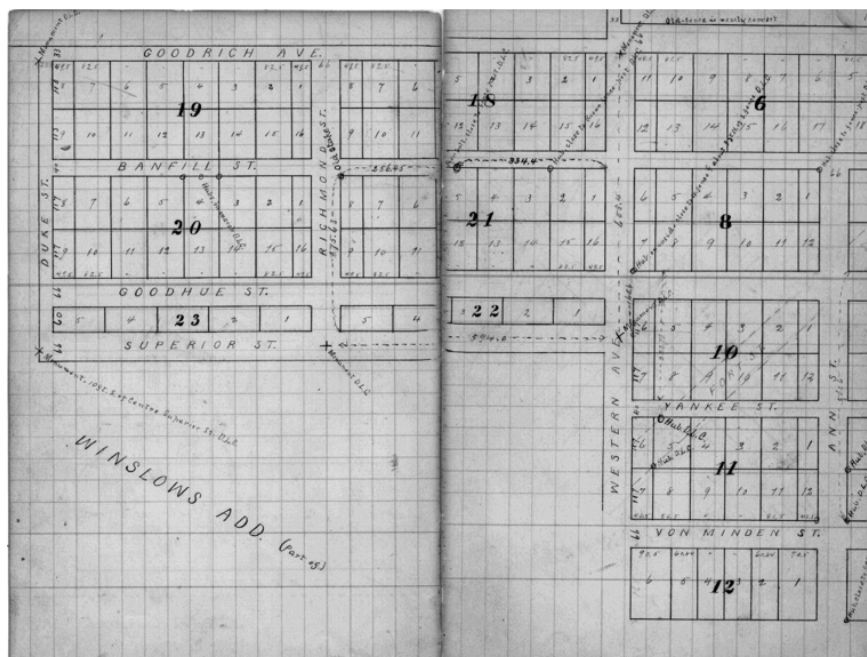


Figure 4. Field book notes from D. L. Curtice's 1874 retracement of part of Winslow's Addition to St. Paul.<sup>14</sup>

City Surveyor, J.H. Armstrong, performing a retracement along Goodrich in 1887, tied into D.L. Curtice's quarter-quarter monument at 42.82 feet south of the Centerline of Goodrich. (Fig. 5) Similarly J.B. Irvine, retracing Western Ave in 1888, located Curtice's monument the same 42.82 feet south of the Centerline of Goodrich. (Fig. 6)

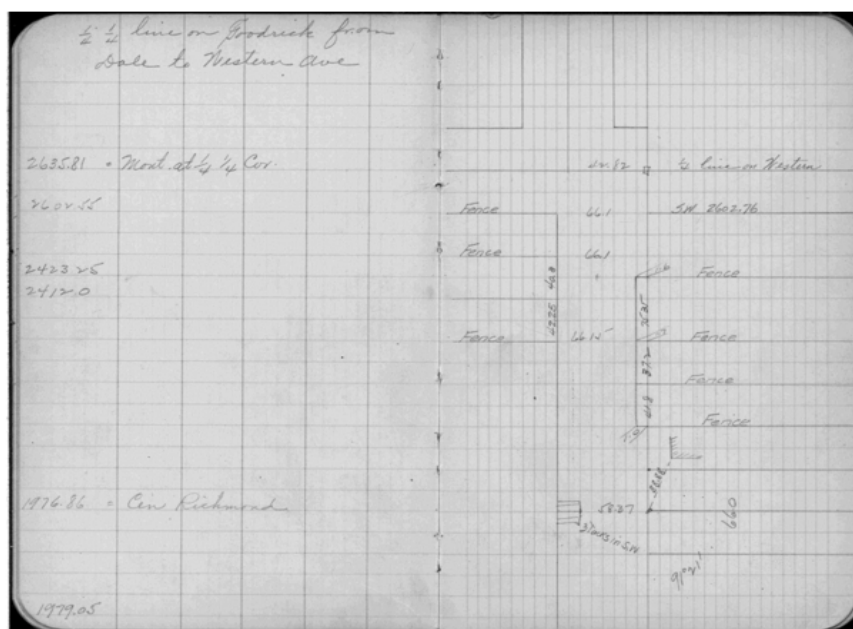


Figure 5. J. H. Armstrong's Survey of Goodrich Street in the plat of Winslow's Addition St. Paul.<sup>15</sup>

# RETRACEMENT SURVEYS

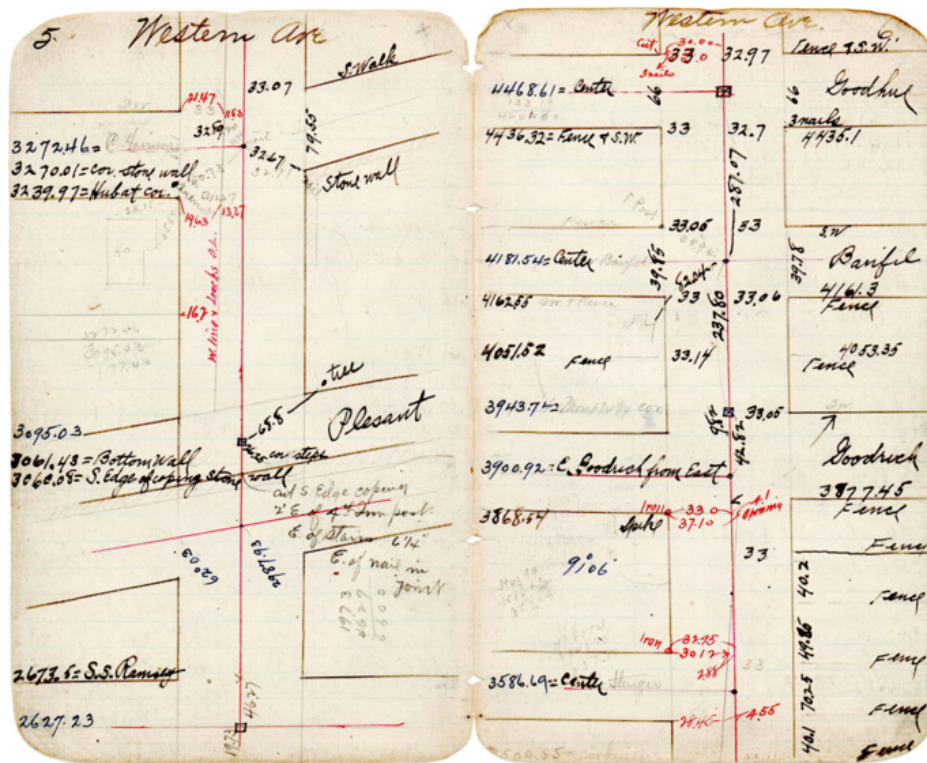


Figure 6. J.B. Irvine's retracement of Western Ave. in the plat of Winslow's Addition to St. Paul.<sup>16</sup>

Together the work of these surveys indicates that Goodrich Street, as it existed at the time of the plat, lay north of the quarter-quarter line east of Western Avenue. This creates a jog in the alignment where the street crosses from one quarter section to another that is not easily discerned on the original plat graphics.

J. B. Irvine's work along Western illustrates some shortcomings inherent in applying a simplistic solution to the problem of locating Goodrich Street. As illustrated in Figure 6, the locations of the streets on the standard survey (labeled JBI SS) are inconsistent with the dimensions shown in Winslow's Addition (labeled PLAT) by several feet and, in some instances over 13 feet. A comparison of the block lengths shown on the plat and the standard survey however show reasonable consistency. The difference in these lengths in most cases is less than a foot. The only significant difference in the block lengths between the standard survey and the plat is in that of Block 12, the plat locating Rice Street (later Von Minden) more than 13 feet northerly of the location returned in the Standard survey. This evidence strongly suggests that the ambiguity in the original plat might be largely the result of an erroneous dimension related to block 12 or Lodwick Street, the most southerly street along the Section line.

Compare this result, and the potential clarity it provides, with the result that might have been obtained by applying a simple proration to the blocks between the south quarter corner and the monumented 16th corner (labeled PRORATION). Such a proration would leave all of the blocks involved several feet short of their platted dimensions. Further complications arise when comparing the locations of the intersecting streets where the prorated locations become increasingly displaced from their as built locations, being more than 9 feet different at Goodrich Street



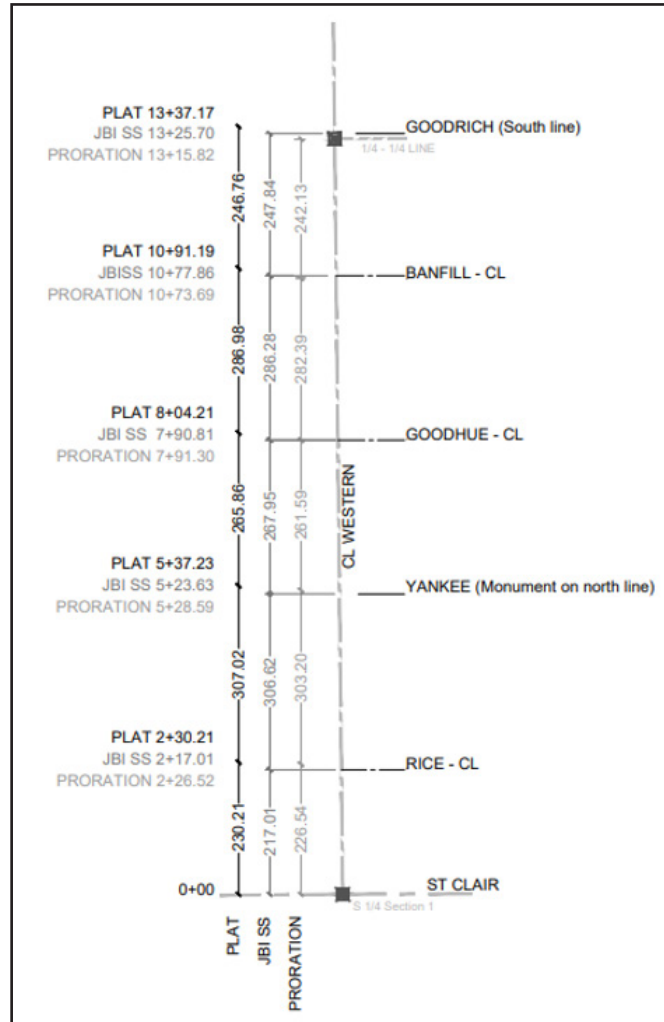


Figure 7. A sketch comparing the relationship between the dimensions found on the plat of Winslow's Addition to St Paul with the dimension returned in the standard survey, and dimensions that would be derived by applying a proration to conform to the plat dimensions to the PLSS dimensions.

Compare this result, and the potential clarity it provides, with the result that might have been obtained by applying a simple proration to the blocks between the south quarter corner and the monumented 16th corner (labeled PRORATION). Such a proration would leave all of the blocks involved several feet short of their platted dimensions. Further complications arise when comparing the locations of the intersecting streets where the prorated locations become increasingly displaced from their as built locations, being more than 9 feet different at Goodrich Street.

The information from these surveys implies that in addition to the plat of Winslow's Addition not being strictly controlled by the PLSS lines, the locations of the Blocks and street intersections in the plat may be compromised by an error in the dimensions locating Rice Street.

# RETRACEMENT SURVEYS

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To safeguard the rights of all parties to the plat, it must be retraced based on both the quantitative data on the face of the plat and the evidence left by the original survey as perpetuated by Curtice, Irvine, and Armstrong.

## Conclusions

It is not the quantitative data and higher precision that imparts value to the City's surveys, but their faithful retracement of the original survey based on evidence left when the plats were made.<sup>17</sup> If Curtice, Armstrong, and Irvine were simply working in the area and laying math on the ground without considering the physical evidence and intent of the original plat, their work would have negligible value in determining the location of the lines of the plat.<sup>18</sup>

It is from the entirety of the work these earlier surveyors did in their retracement that gives value. It is the combination of the 'precise' measurements between the original survey evidence, the PLSS corners and lines, as well as other monuments that are perpetuated through today, together with parol, and other evidence documenting the actions taken by the original parties to the plat in erecting fences and other improvements in reliance on the original marks of the survey, that give these surveys their legal standing as reliable indications of the boundary locations.

Our modern reliance on measurement and quantitative precision reflects an availability and precision of modern instruments and the capacity to readily use them appropriately that was not available to many of the early practitioners whose work we are tasked with perpetuating. It is our responsibility as retracement surveyors to avoid allowing the illusion of precision to distract us from our true task of accurately retracing the title lines represented by the original survey.

Understanding the limitations and expectations of our predecessors can lead us to not only a more generous assessment of their work, but also to more appropriate application of the tools available to us today.

D.L. Curtice warned his contemporaries in 1872 that "if the public is to be subject to endless litigation from the use of rolling stones and lose pegs in locating property, to gratify the caprice and whims of surveyors, let the blame rest where it belongs."<sup>19</sup> This warning remains valid today if we are tempted to allow an affinity for mathematic precision to distract us from our true duty of perpetuating the original location of the boundary.<sup>19</sup>

## Endnotes

<sup>1</sup> Madson T.S. & Louis Seemann. "Fading Footsteps (or, Retracement and the Land Surveyor)" (Gainesville, Land Surveyor's Seminar 1980) pp. 75-76

<sup>2</sup> Clark, Frank Emerson. "Clark on Surveying and Boundaries. Second Edition" (Indianapolis. The Bobbs-Merrill Co. 1939) p.11

<sup>3</sup> See [Minnesota Statutes 2024 Chapter 500.19](#) Subd. 3

<sup>4</sup> [Cragin v. Powell, 128 U.S. 691](#), S. Ct. 203, 32 L. Ed; 566;

<sup>5</sup> "Fading Footsteps" endnote 1 p. 83

<sup>6</sup> Mulford, Alfred C. ["Boundaries and Landmarks: a practical manual."](#) (New York. Van Nostrand Co. 1912) p. 3.

<sup>7</sup> Grimes, John S. “Clark on Surveying and Boundaries 4th Edition” (Indianapolis. The Bobbs-Merrill Co. 1976) § 277 p. 346

<sup>8</sup> “Boundaries and Landmarks: a practical manual” endnote 6 pp. 6-7

<sup>9</sup> Winslow’s Addition to St Paul, Book A of Town Plats Page 16 recorded as Doc. No. ##### Ramsey County MN

<sup>10</sup> [43 USC 772: Resurveys or retracements to mark boundaries of undisposed lands.](#)

<sup>11</sup> “Clark on Surveying and Boundaries 4th Edition” endnote 7 § 507 p.656

<sup>12</sup> [“Saint Paul’s Survey History.”](#)

<sup>13</sup> D.L. Curtice report to common council on Standard Surveys; Minutes of the St Paul Common Council February 17, 1872

<sup>14</sup> Survey field book 0105” p. 07 D.L. Curtice et. al. City of St Paul [FBo105p07.jpg \(4296×3652\)](#)

<sup>15</sup> “Survey field book 0265” p. 35-37 J.H. Armstrong et. al. City of St Paul. FBo265p35.jpg (3836×3075) <https://survey.ci.stpaul.mn.us/survey-book-images/fb/0265/FBo265p36.jpg>

<sup>16</sup> <https://survey.ci.stpaul.mn.us/book-indexes/jbi-scans/jbi20p.33-34.jpg>

<sup>17</sup> [City of Racine v. Emerson, 85 Wis. 80](#), 55 N.W. 177, 79

<sup>18</sup> [Dittrich v. Ubl, 216 Minn. 39](#) 613 N.W. 2d 384. Also see [Decided Guidance: Discovering a Plat on the Ground](#) published in The American Surveyor

<sup>19</sup> D.L. Curtice report to common council on Standard Surveys; Minutes of the St Paul Common Council February 17, 1872.



# FOOTSTEPS... HAMILTON'S PLAN FOR DISPOSING OF THE PUBLIC LANDS JULY 20, 1790

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ROD SQUIRES, *EMERITUS UNIVERSITY OF MINNESOTA*

I have written several articles on the early federal legislation impacting the public land surveying operations.<sup>1</sup> Here, I introduce a report by [Alexander Hamilton](#), one of the seven individuals identified as key founders of the United States based on what Richard B. Morris called the "triple tests" of leadership, longevity, and statesmanship, a list that also included John Adams, Benjamin Franklin, John Jay, Thomas Jefferson, James Madison, and George Washington, and who served as the first U.S. Secretary of the Treasury from 1789 to 1795 when George Washington was President.<sup>2</sup>

Congress received very little revenue from the sale of land surveyed under the provisions of the Land Ordinance of 1785, as White wrote "Settlers just weren't willing to pay \$1 per acre, cash, for lands that were almost totally unprotected from Indian attack and then pay for a survey to locate the boundaries before they could start clearing."<sup>3</sup>

On January 20, 1790 the House of Representatives ordered "that the Secretary of the Treasury be directed to report to this House on a uniform system for the disposition of lands and property of the United States."<sup>4</sup>

A few months later, on July 20, Secretary Hamilton, provided the following report,

(I)n the formation of a plan for the disposition of the vacant lands of the United States, there appear to be two leading objects of consideration; one, the facility of advantageous sales according to the probable course of purchases; the other, the accommodation of individuals now inhabiting the Western Country, or who may hereafter emigrate thither.

The former, as an operation of finance, claims primary attention: the latter is important, as it relates to the satisfaction of the inhabitants of the Western Country. It is desirable, and does not appear impracticable to conciliate both.

Purchasers may be contemplated in three classes. Monied individuals and companies, who will buy to sell again. Associations of persons, who intend to make settlements themselves. Single persons, or families now resident in the Western Country, or who may emigrate thither hereafter. The two first will be frequently blended, and will always want considerable tracts. The last will generally purchase small quantities. Hence a plan for the sale of the Western lands, while it may have due regard to the last, should be calculated to obtain all the advantages which may be derived from the two first classes. For this reason, it seems requisite, that the general Land-office should be established at the seat of Government. 'Tis there, that the principal purchasers, whether citizens or foreigners, can most easily find proper agents, and that contracts for large purchases can be best adjusted.

But the accommodation of the present inhabitants of the Western Territory, and of unassociated persons and families who may emigrate thither, seems to require that one office, subordinate to that of the Seat of Congress, should be opened in the North western, and another in the South western Government.

Each of these offices, as well the general one as the subordinate ones, it is conceived, may be placed with convenience under the superintendence (sic) of three Commissioners, who may either be pre-established officers of the Government, to whom the duty may be assigned by law, or persons specially appointed for the purpose. The former is recommended by considerations of Economy (sic) and, it is probable, would embrace every advantage which could be derived from a special appointment.

To obviate those inconveniences, and to facilitate and ensure the attainment of those advantages which may arise from new and casual circumstances springing up from foreign and domestic causes, appears to be an object for which adequate provision should be made, in any plan that may be adopted. For this reason, and from the intrinsic difficulty of regulating the details of a specific provision for the various objects which require to be consulted, so as neither to do too much nor too little for either, it is respectfully submitted, whether it would not be advisable to vest a considerable latitude of discretion in the Commissioners of the General Land Office, subject to some such regulations and limitations as follow. Vizt.

That no land shall be sold, except such, in respect to which the titles of the Indian tribes shall have been previously extinguished.

That a sufficient tract or tracts shall be reserved and set apart for satisfying the subscribers to the proposed loan in the public debt, but that no location shall be for less than five hundred Acres.

That convenient tracts shall from time to time be set apart for the purpose of locations by actual settlers, in quantities not exceeding to one person one hundred acres.

That other tracts shall, from time to time, be set apart for sales in townships of ten miles square, except where they shall adjoin upon a boundary of some prior grant, or of a tract so set apart, in which cases there shall be no greater departure from such form of location, than may be absolutely necessary.

That any quantities may, nevertheless, be sold by special contract, comprehended either within natural boundaries or lines, or both.

That the price shall be thirty Cents per acre to be paid, either in gold or silver, or in public securities, computing those which shall bear an immediate interest of six per cent, as at par with gold and silver, and those which shall bear a future or less interest, if any there shall be, at a proportional value.

That Certificates issued for land upon the proposed loan, shall operate as warrants within the tract or tracts which shall be specially set apart for satisfying the subscribers thereto, and shall also be receivable in all payments whatsoever for land by way of discount, Acre for Acre.

That no credit shall be given for any quantity, less than a township of ten miles square, nor more than two years credit for any greater quantity.

That in every instance of credit, at least one quarter part of the consideration shall be paid down, and security other than the land itself, shall be required for the residue. And that no title shall be given for any tract or part of a purchase, beyond the quantity for which the consideration shall be actually paid.

## *FOOTSTEPS... HAMILTON'S PLAN FOR DISPOSING OF THE PUBLIC LANDS JULY 20, 1790*

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That the residue of the tract or tracts set apart for the subscribers to the proposed loan, which shall not have been located within two years after the same shall have been set apart, may then be sold on the same terms as any other land.

That the Commissioners of each subordinate office shall have the management of all sales, and the issuing of Warrants for all locations in the tracts to be set apart for the accommodation of individual settlers, subject to the superintendency of the Commissioners of the general Land-office, who may also commit to them the management of any other sales or locations, which it may be found expedient to place under their direction.

That there shall be a Surveyor General, who shall have power to appoint a Deputy Surveyor General, in each of the Western Governments, and a competent number of Deputy Surveyors to execute, in person, all Warrants to them directed by the Surveyor General or Deputy Surveyors General within certain districts to be assigned to them respectively. That the Surveyor General shall also have in charge, all the duties committed to the Geographer General by the several resolutions and ordinances of Congress.

That all warrants issued at the General Land Office, shall be signed by the Commissioners or such one of them as they may nominate for that purpose, and shall be directed to the Surveyor General.

That all warrants issued at a subordinate office shall be signed by the Commissioners of such office, or by such one of them, as they may nominate for that purpose, and shall be directed to the Deputy Surveyor General within the government. That the priority of locations upon Warrants shall be determined by the times of the applications to the Deputy Surveyors; and in case of two applications for the same land at one time, the priority may be determined by Lot.

That the Treasurer of the United States shall be the receiver of all payments for sales made at the General Land office, and may also receive deposits of money or securities for purchases intended to be made at the subordinate offices, his receipts or certificates for which shall be received in payment at those offices.

That the Secretary of each of the Western Governments, shall be the receiver of all payments arising from sales at the office of such Government.

That controversies concerning rights to patents or grants of land shall be determined by the Commissioners of that office, under whose immediate direction or jurisdiction, the locations, in respect to which they may arise, shall have been made.

That the completion of all contracts and sales heretofore made, shall be under the direction of the Commissioners of the General Land Office.

That the Commissioners of the General Land Office, Surveyor-General, Deputy-Surveyors General, and the Commissioners of the Land Office, in each of the Western Governments, shall not purchase, nor shall others purchase for them in trust, any public lands.

That the Secretaries of the Western Governments shall give security for the faithful discharge of their duty, as receivers of the Land Office.



That all patents shall be signed by the President of the United States, or by the Vice-president or other officer of government acting as President, and shall be recorded in the office, either of the Surveyor General, or of the Clerk of the Supreme Court of the United States.

That all officers acting under the laws establishing the Land-Office, shall make oath faithfully to discharge their respective duties, previously to their entering upon the execution thereof.

That all Surveys of land shall be at the expense of the purchasers or grantees.

That the fees shall not exceed certain rates to be specified in the law, affording equitable compensations for the services of the Surveyors, and establishing reasonable and customary charges for patents and other Office papers for the benefit of the United States.

That the Commissioners of the General Land Office shall, as soon as may be, from time to time, cause all the rules and regulations which they may establish, to be published in one gazette, at least, in each State, and in each of the Western Governments, where there is a Gazette, for the information of the citizens of the United States.

Regulations, like these, will define and fix the most essential particulars which can regard the disposal of the Western lands, and where they leave any thing to discretion, will indicate the general principles or policy intended by the Legislature to be observed; for a conformity to which the Commissioners will, of course, be responsible. They will, at the same time, leave room for accommodating to circumstances which cannot, beforehand, be accurately appreciated, and for varying the course of proceeding, as experience shall suggest to be proper, and will avoid the danger of those obstructions and embarrassments in the execution, which would be to be apprehended from an endeavor at greater precision and more exact detail.<sup>5</sup>

C. Albert White wrote, following a summary of Hamilton's plan, "Congress did not accept all of Hamilton's ideas and in fact did not act affirmatively on any of Hamilton's recommendations for nearly six more years."<sup>6</sup> Finally, when Congress established the General Land Office on April 25, 1812, he stated "the act established a bureau responsible for the land surveys and sales, which Alexander Hamilton had suggested 22 years earlier. It also got the War Department and the State Department out of the land business."<sup>7</sup>

## Endnotes

<sup>1</sup> [The Public Land Surveys and the Land Act of 1796](#). Minnesota Surveyor vol. 9 no.4 (Fall, 2002) republished as Chapter 32, in "[A Striking Triumph of Geometry over Physical Geography: Vignettes of the Public Land Surveys](#)." (Minnesota Society of Professional Surveyors. 2010), [A Geography of the Public Land Surveys in the United States: Part 1 – The Beginnings](#). Minnesota Surveyor vol.19 no.4 (Winter 2011-2012), [Footsteps ... The Land Ordinance of 1785](#). Minnesota Surveyor vol. 29 no.3 (Summer, 2021), [Footsteps ... Instructions of the Secretary of the Treasury to the Surveyor-General of the Northwest \(1796\)](#). Minnesota Surveyor vol. 32 no 4 (Fall, 2024)

<sup>2</sup> [Morris, Richard B. Seven Who Shaped Our Destiny: The Founding Fathers as Revolutionaries](#). (New York. Harper & Row. 1973). Hamilton, Secretary of the Treasury, and Thomas Jefferson, Secretary of State, had opposing political views and were leaders of rival political parties, see [Rivals in Washington's Cabinet](#).

<sup>3</sup> White, C. Albert. A History of the Rectangular Survey System (Washington D.C. U.S. Government Printing Office, 1983) p. 28 <https://www.blm.gov/sites/default/files/histrect.pdf>

# *FOOTSTEPS... HAMILTON'S PLAN FOR DISPOSING OF THE PUBLIC LANDS JULY 20, 1790*

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<sup>4</sup> Journal of the House of Representatives of the United States, 1st Congress (1789-1791) Wednesday January 20, 1790 p.143. <https://www.congress.gov/house-journal/141/image>.

<sup>5</sup> Report on Vacant Lands, 20 July 1790. <https://founders.archives.gov/documents/Hamilton/01-06-02-0408> “Plan for Disposing of the Public Lands.” American State Papers Public Lands. Vol. 1 No. 3. <https://hdl.handle.net/2027/mdp.35112103325769?urlappend=%3Bseq=16%3Bownerid=13510798902181153-16>

<sup>6</sup> White, endnote 3 p. 28

<sup>7</sup> White, endnote 3 p. 59 The GLO was established 2 Stat

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# THE SURVEYING OPERATIONS OF JEROME E. WHITCHER

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*ROD SQUIRES, EMERITUS UNIVERSITY OF MINNESOTA*

## **Introduction**

The field notes handwritten by the deputy surveyors awarded contracts by the surveyors general to run and mark the lines comprising a cadastral net between 1847 and 1908 are, quite obviously, essential to understanding how these individuals ran and marked the lines described in their contracts. Without them, the work completed by the deputy surveyors cannot be recreated and the corners they established cannot be remonumented – making the provisions laid down in the Act enacted by Congress on February 11, 1805 a nullity.<sup>1</sup> These notes, containing the first description of the location and boundaries of parcels of land that the United States government would offer for sale at public auction, remain fundamental to legal records of land ownership in Minnesota.

The collection of 1,417 paper volumes containing 304,370 pages and housed in the Minnesota Historical Society collections, have been digitized, as have the township plats on which the information contained in those notebooks are graphically shown.<sup>2</sup>

Some land surveyors may rarely, if ever, deal with these notes. Those who make use of them probably only deal with a few volumes and concern themselves with the actions of deputy as recorded in them. The notebooks are merely sources of information to help them carry out their particular task, perhaps retracing a line or replacing a monuments, or subdividing a legal (original) subdivision established by the lines and monuments described in the notebook. In using them they assume that the field notes “are the true and original field notes of the said survey” and were certified by the surveyor general or some other public official.<sup>3</sup>

The printed instructions issued by the Surveyor General of Wisconsin and Iowa, George W. Jones to those individuals to whom he awarded contracts - sometime between August 4 and November 3, 1846 - governed the field surveying operations in the Minnesota Territory until 1853, when the Commissioner of the General Land Office issued instructions to Surveyor General Warner Lewis, supplementing the instructions he had issued two years earlier to the Surveyor General of Oregon.<sup>4</sup> These instructions concerned both the content and the structure of the notebooks, describing not only how each deputy was to run and mark the lines, what information each was to record and what each of them should observe, but also how each was to record what they did and saw. Of particular interest in this article is the statement that the field notes were “to form a full and perfect history of your operations in the field” and “date of each day’s work must follow immediately after the notes for that date.”

There is considerable variety in the contents of the notebooks even during the territorial period. As I wrote in a previous article describing the field notes of James M. Freeman There is no reason to suppose these are either typical or idiosyncratic without further investigation.

## **Jerome E Whitcher**

On August 27, 1847, Surveyor General Jones awarded Jerome. E. Whitcher a contract to run and mark the township exterior lines north of the district of townships made by James M. Marsh, again on both sides of St. Croix.<sup>5</sup> Along with his contract Whitcher was given a sketch showing the presumed location of the work to be completed, on which, according the general instructions he was told to,

represent, as you progress with your survey, the crossing and courses of all streams of water and of the bottom land through which they meander; the intersection, situation and boundaries of all lakes, ponds, prairies, marshes, swamps, windfalls and all other objects, mentioned in your field notes, that can be shown upon said diagram. All the topography thus noted upon your diagrams must be joined or connected, so as to form a complete map of the townships of your district.<sup>6</sup> (Fig. 1)

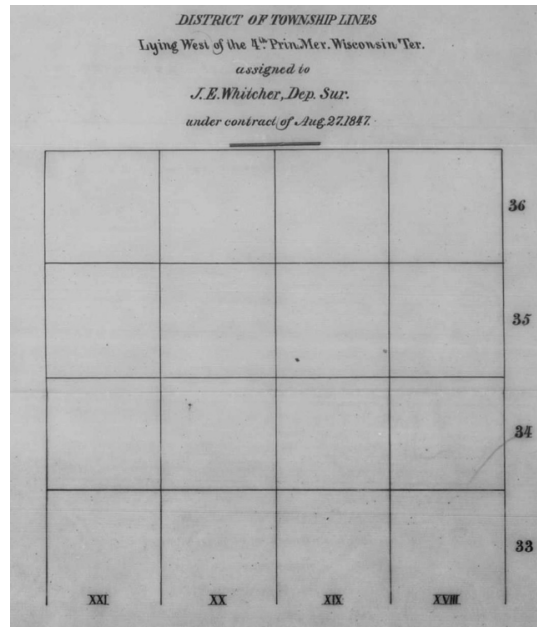


Figure 1 Diagram accompanying the agreement (contract) between Surveyor General Jones and Whitcher.<sup>7</sup>

He was admonished that “These diagrams form an essential part of, and must be returned with your field notes.”<sup>8</sup> (Fig. 2) Like the notes of James E. Freeman, the subject in a previous article, Whitcher’s notes described his work in what would become the State of Wisconsin and in what would become the Minnesota Territory.<sup>9</sup> This makes the notes of interest because the Commissioner of the General Land Office had pointed out the law concerning surveys that crossed such boundaries in a letter dated July 9, writing,

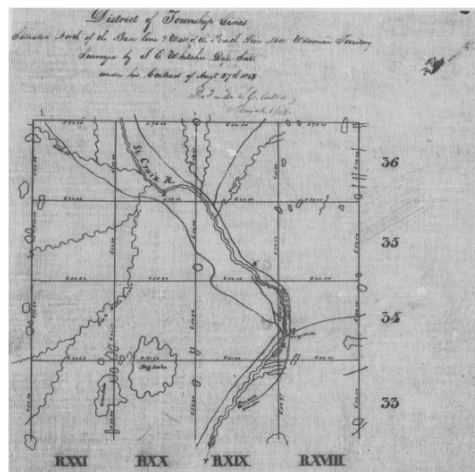


Figure 2. Whitcher’s diagram completed as instructed.<sup>10</sup>

# THE SURVEYING OPERATIONS OF JEROME E. WHITCHER

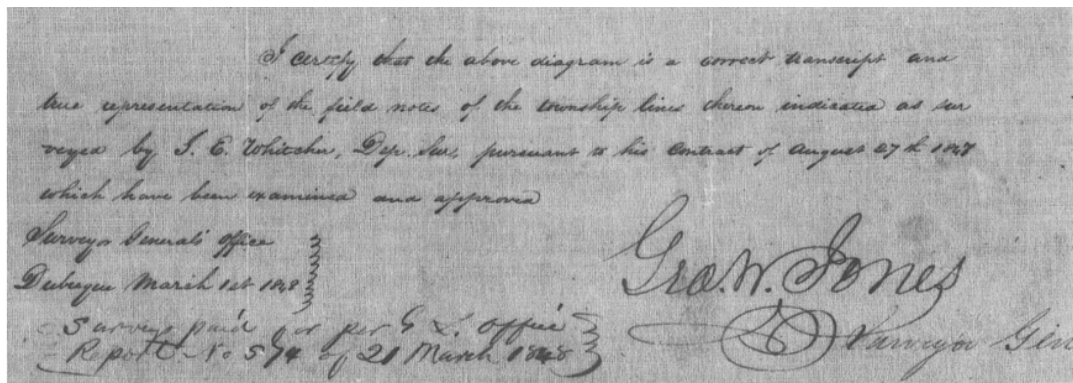


Figure 3. Surveyor General's certificate to the diagram shown in Figure 2.

By the 1st Section of the Act of 12th June 1840 entitled “an act for the discontinuance of the office of the Surveyor General in the several districts” etc. it is provided that “whenever the surveys and records of any such district or State shall be completed, the Surveyor General thereof shall be required to deliver over to the Secretary of State of the respective States, including such surveys, or such other officer as may be authorized to receive them all the field notes, maps, records and other papers appertaining to the land titles within the same.”<sup>11</sup>

In view of the provisions of law, it is requested that you will cause the field notes of the surveys in Wisconsin to be kept separate and distinct from those of the surveys in Minnesota and the same course should also be pursued with reference to the lands in Iowa, and Minnesota after the Northern boundary of Iowa shall have been established. Separate plats of the surveys will also be required.<sup>12</sup>

The Surveyor General informed David Owen, then supervising the geological surveys being carried out at Prairie du Chien, of Whitcher's appointment, writing,

I have just contracted with Mr. J. E. Whitcher for the survey of a district of Township lines North of and adjoining Mr. Marsh's and lying equally upon either side of the St Croix river, This contract embraces four Townships in depth and width as shown upon the enclosed Diagrams. Mr. Whitcher will commence operations in the field about the 5th Inst. This district has been let in compliance with your communication under date of 23rd of July last and tho' not as large as you suggested it is as nearly so as the means left at my disposal would permit.<sup>13</sup>

Deputy Whitcher completed his fieldwork, recorded in two notebooks, on October 27 1847 but did not return the notes to the Surveyor General until February 27, 1848.<sup>14</sup> In his 1848 annual report, dated October 18, the Surveyor General stated that the deputy had run and marked 261 miles 2 chains and 98 links of lines and was paid \$1,296.22.<sup>15</sup>

The volumes contain the description of surveying operations carried out by one deputy under a single contract so both should be considered a single entity. Unusually, neither of the volumes contain a title. Also, and I think unusually, in each volume, the database image number and volume page numbers are identical.<sup>16</sup> The cover of both volumes contains an index showing the starting page of each of his 6-mile line segments that established the townships. (Fig. 1 & 2) Both volumes contain the Surveyor General's certificate dated February 27, 1848.



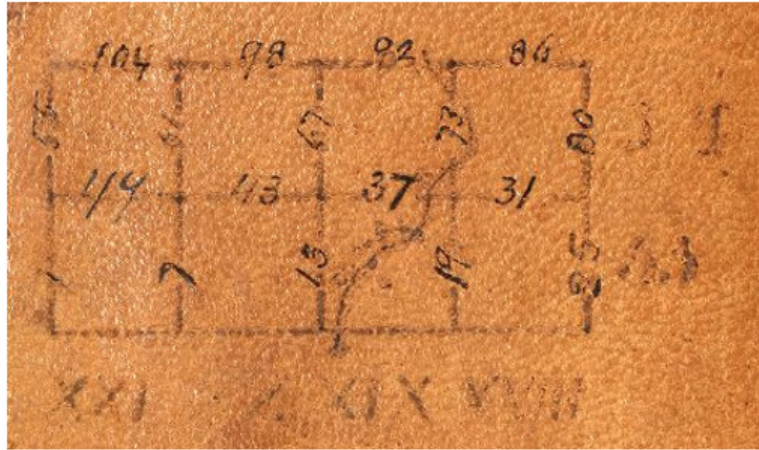


Figure 2. Volume 1 of Whitcher's notes. [E4134](#)



Figure 3. Volume 2 of Whitcher's notes. [E4137](#)

The interesting feature of these notebooks is their structure. The sequence Whitcher recorded, as shown in his notebooks and as evidenced on the cover, is not the sequence he ran and marked the lines according to the dates he attached to each segment in the notes themselves.

Volume 1, contains the notes of his work September 16-October 15 1847. Figure 4 is the notebook record, showing he ran the lines, in 18 six mile segments according to the 1846 instructions.<sup>17</sup> Note his first entry described his work on September 16 and his second entry described his work on September 14.

Segment	Images	Date	Direction	Work
1	1-6	Sept.16	N	T.33N between R.21W & R.22W
2	7-12	Sept.14	N	T.33N between R.20W & R.21W
3	13-18	Sept.20	N	T.33N between R.19W & R.20W
4	19-24	Sept.27	N	T.33N between R.18W & R.19W
5	25-30	Sept.30	N	T.33N between R.17W & R.18W
6	31-36	Sept.26	W	R.18W between T.33N & T.34N

# THE SURVEYING OPERATIONS OF JEROME E. WHITCHER

7	37-42	Sept.21-22	W	R.19W between T.33N & T.34N
8	43-48	Sept.22-23	W	R.20W between T.33N & T.34N
9	49-54	Sept.25	W	R.21W between T.33N & T.34N
10	55-60	Oct.16	N	T.34N between R.21W & R.22W
11	61-66	Oct.14	N	T.34N between R.20W & R.21W
12	67-72	Oct.6	N	T.34N between R.19W & R.20W
13	73-79	Oct.4	N	T.34N between R.18W & R.19W
14	81-86	Nov.2	N	T.34N between R.17W & R.18W
15	87-92	Nov.3	W	R.18W between T.34N & T.35N
16	93-98	Oct.7	W	R.19W between T.34N & T.35N
17	99-104	Oct.13	W	R.20W between T.34N & T.35N
18	105-110	Oct.15	W	R.21W between T.34N & T.35N

Figure 4. Whitcher's notes in [E4134](#) as paginated

However, the dates he attached to each of the 18 segments suggests that he ran his lines as shown in Figure 5.

Segment	Images	Date	Direction	Work
1	7-12	Sept.14	N	T.33 between R.20W & R.21W
2	1-6	Sept.16	N	T.33 between R.21W & R.22W
3	13-18	Sept.20	N	T.33 between R.19W & R.20W
4	37-42	Sept.21-22	W	R.19 between T.33N & T.34N
5	43-48	Sept.22-23	W	R.20 between T.33N & T.34N
6	49-54	Sept.25	W	R.21 between T.33N & T.34N
7	31-36	Sept.26	W	R.18 between T.33N & T.34N
8	19-24	Sept.27	N	T.33 between R.18W & R.19W
9	25-30	Sept.30	N	T.33 between R.17W & R.18W
10	73-79	Oct.4	N	T.34 between R.18W & R.19W
11	67-72	Oct.6	N	T.34 between R.19W & R.20W
12	93-98	Oct.7	W	R.19 between T.34N & T.35N
13	99-104	Oct.13	W	R.20 between T.34N & T.35N
14	61-66	Oct.14	N	T.34 between R.20W & R.21W
15	105-110	Oct.15	W	R.21 between T.34N & T.35N
16	55-60	Oct.16	N	T.34 between R.21W & R.22W
17	81-86	Nov.2	N	T.34 between R.17W & R.18W
18	87-92	Nov.3	W	R.18 between T.34N & T.35N

Figure 5. Whitcher's notes in [E4134](#) arranged by date

Volume 2, contains the notes of his work October 9-November 14 1847. Figure 6 is the notebook record, showing he ran the lines, in 18 six mile segments according to the 1846 instructions.<sup>18</sup>

Segment	Images	Date	Direction	Work
1	1-6	Oct. 16	N	T.35N between R.21 & 22W
2	7-12	Oct. 19	N	T.35N between R.20 & 21W
3	13-18	Oct. 8	N	T.35N between R.19 & 20W
4	19-24	Oct. 10	N	T.35N between R.18 & 19W
5	29-30	Nov. 8	N	T.35N between R.17 & 18W
6	31-36	Nov. 9	W	R.18W W between T.35 & 36N
7	37-42	Oct. 9	W	R.19W W between T.35 & 36N
8	43-48	Oct. 24	W	R.20W W between T.35 & 26N
9	49-54	Oct. 17	W	R.21W W between T.35 & 36N
10	55-60	Oct. 26	N	T.36N N between R.21 & 22W
11	61-66	Oct. 23	N	T.36N N between R.20 & 21W
12	67-72	Oct. 28	N	T.36N N between R.19 & 20W
13	77-78	Nov. 11	N	T.36N N between R.18 & 19W
14	79-84	Nov. 13	N	T.36N N between R.17 & 18W
15	85-90	Nov. 14	W	R.18W W between T.36 & 37N
16	91-96	Oct. 29	W	R.19W W between T.36 & 37 N
17	97-102	Oct. 27	W	R.20W W between T.36 & 37W
18	103-108	Oct. 14	W	R.21W W between T.36 & 37N

Figure 6. Whitcher's notes in [L4137](#) as paginated

Segment	Images	Date	Direction	Work
1	13-18	Oct. 8	N	T.35N between R.19 & 20W
2	37-42	Oct. 9	W	R.19W between T.35 & 36N
3	19-24	Oct.10	N	T.35N between R.18 & 19W
4	1-6	Oct.16	N	T.35N between R.21 & 22W
6	49-54	Oct.17	W	R.21W between T.35 & 36N
7	7-12	Oct.19	N	T.35N between R.20 & 21W
8	61-66	Oct.23	N	T.36N between R.20 & 21W
9	43-48	Oct.24	W	R.20W between T.35 & 36N
10	55-50	Oct. 26	N	T.36N between R.21 & 22W
11	97-103	Oct. 27	W	R.20W between T.36 & 37W
12	67-72	Oct. 28	N	T.36N between R.19 & 20W
13	91-96	Oct. 29	W	R.19W between T.36 & 37N
14	29-30	Nov.8	N	T.35N between R.17 & 18E



# THE SURVEYING OPERATIONS OF JEROME E. WHITCHER

15	31-36	Nov. 9	W	R.18W between T.35 & 36N
16	77-78	Nov. 11	N	T.36N between R.18 & 19W
17	79-84	Nov. 13	N	T.36N between R.17 & 18W
18	85-90	Nov. 14	W	R.18W between T.36 & 37N

Figure 7. Whitcher's notes in [I4137](#) arranged by date.

If Figure 6 and 7 are combined and all the line segments ordered by date then we can see the sequence in which Whitcher ran and marked his lines. (Fig. 8)

Segment. 4136	Segment. 4137	Images	Date	Dir.	Work
1		7-12	Sept.14	N	T.33 between R.20W & 21W
2		1-6	Sept.16	N	T.33 between R.21W & 22W
3		13-18	Sept.20	N	T.33 between R.19W & 20W
4		37-42	Sept.21-22	W	R.19 between T.33N & 34N
5		43-48	Sept.22-23	W	R.20 between T.33N & 34N
6		49-54	Sept.25	W	R.21 between T.33N & 34N
7		31-36	Sept.26	W	R.18 between T.33N & 34N
8		19-24	Sept.27	N	T.33 between R.18W & 19W
9		25-30	Sept.30	N	T.33 between R.17W & 18W
10		73-79	Oct.4	N	T.34 between R.18W & 19W
11		67-72	Oct.6	N	T.34 between R.19W & 20W
12		93-98	Oct.7	W	R.19 between T.34N & 35N
	13	13-18	Oct. 8	N	T.35N between R.19 & 20W
	14	37-42	Oct. 9	W	R.19W between T.35 & 36N
	15	19-24	Oct.10	N	T.35N between R.18 & 19W
16		99-104	Oct.13	W	R.20 between T.34N & 35N
17		61-66	Oct.14	N	T.34 between R.20W & 21W
	18	103-109	Oct.14	W	R.21W between T.36 & 37N
19		105-110	Oct.15	W	R.21 between T.34N & 35N
20		55-60	Oct.16	N	T.34 between R.21W & 22W
	21	1-6	Oct.16	N	T.35N between R.21 & 22W
	22	49-54	Oct.17	W	R.21W between T.35 & 36N
	23	7-12	Oct.19	N	T.35N between R.20 & 21W
	24	61-66	Oct.23	N	T.36N between R.20 & 21W
	25	43-48	Oct.24	W	R.20W between T.35 & 36N
	26	55-50	Oct. 26	N	T.36N between R.21 & 22W
	27	97-103	Oct. 27	W	R.20W between T.36 & 37W

	28	67-72	Oct. 28	N	T.36N between R.19 & 20W
	29	91-96	Oct. 29	W	R.19W between T.36 & 37 N
30		81-86	Nov.2	N	T.34 between R.17W & 18W
31		87-92	Nov.3	W	R.18 between T.34N & 35N
	32	29-30	Nov.8	N	T.35N between R.17 & 18E
	33	31-36	Nov. 9	W	R.18W between T.35 & 36N
	34	77-78	Nov. 11	N	T.36N between R.18 & 19W
	35	79-84	Nov. 13	N	T.36N between R.17 & 18W
	36	85-90	Nov. 14	W	R.18W between T.36 & 37N

Figure 8. Whitcher's notes in both volumes arranged by dates

Transferring the data in Figure 8 to Whitcher's completed diagram shown in Figure 2 reveals the path he took in carrying out his contract. I am not sure what to say about the sequence.

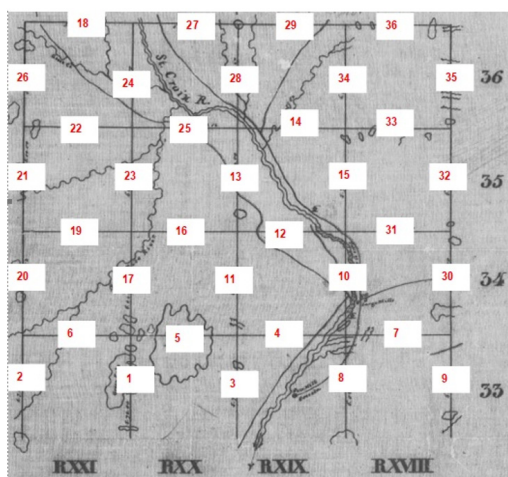


Figure 9. Apparent dates on which Whitcher ran and marked the 36 one-mile line segments added to Figure 2.

## Conclusion

In an earlier article I pointed to the dates being a problem, writing,

The notes of each deputy should present a chronological sequence of how he carried out his contract. Thus, in theory, it should be easy to describe how he ran the lines and established the corners. But it is not that simple, as can be seen from the above account. The dates do not show a simple chronology; perhaps the dates were included as an afterthought by the deputy or the transcriber. Some of the dates could, of course, simply be incorrect, but why? Another intriguing thought is that the dates are correct, but the notes were rearranged after they were transcribed.

Whatever future research might reveal, I don't think the dates shown in the notebooks can be entirely relied on to show the sequence in which deputies ran the lines and established the corner monuments.<sup>19</sup>

Perhaps, during the months between when the deputy finished his fieldwork, as evidenced by the last date

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in his notebook, November 17 1847, and when the Surveyor General accepted the notebooks Whitcher was reorganizing his notes, which recorded when he ran and marked his lines, to conform to the way in which the 1846 instructions directed him to run and mark his lines. As Fred Roeder wrote,

In the real world a surveyor would have to be nuts to run his lines in the manner in which they appear in the field notes; topography and convenience - not government rules - governed the order in which he established his corners, especially in the rough terrain of the West.”<sup>20</sup>

## Endnotes

<sup>1</sup> I have previously written several articles describing the contents of the field notes. (With March Senjem) [The public land survey lines and the St. Croix River in Washington County](#) Minnesota Surveyor vol.18 no.1 (Spring, 2010), [The public land survey notes for Minnesota: An introduction and examination of the earliest volumes](#) Minnesota Surveyor vol. 21 no.2 (Summer, 2013), [Some observations on the volumes of the digitized original field notes](#) Minnesota Surveyor vol.21 no.3 (Fall 2013), [The Surveys of James E. Freeman](#). Minnesota Surveyor vol.28 no.3 (Summer 2020), [The Field Notebooks of Judson A. Stanton](#). Minnesota Surveyor vol. 30 no. 1 (Winter 2022)

<sup>2</sup> [Original Public Land Survey Field Notes of Minnesota](#) 2011 The digital database containing the field notes and the township plats can be accessed at [Bureau of Land Management General Land Office Records](#) (BLM)

<sup>3</sup> Certified means that the Surveyor General, or some other public official, a notary public or a judge of probate for example, received the notes and witnessed the final affidavits of the deputy and his assistants, see [BLM E4137 image 110](#)

<sup>4</sup> [The Public Land Surveys in Minnesota Territory, 1853-1857](#) MSPS Dis-Closures no. 2 (Spring 1993) reprinted as chapter 6 in [A Striking Triumph of Geometry over Physical Geography: Vignettes of the Public Land Surveys](#). (MSPS, 2010) [A Geography of the Public Land Surveys in Minnesota Territory, 1853](#) Minnesota Surveyor vol. 12 no. 4 (Fall, 2005) reprinted as chapter 36 in [A Striking Triumph of Geometry over Physical Geography: Vignettes of the Public Land Surveys](#). (MSPS, 2010)

<sup>5</sup> Whitcher had previously worked in the Iowa Territory, running and marking and parts of correction lines I and 2, establishing and subdividing township, and surveying islands in the Mississippi see Dodds. J. S. ed. [Original instructions governing public land surveys of Iowa, a guide to their use in resurveys of public lands](#). (Ames IA. Iowa Engineering Society, 1943) p.267-268

<sup>6</sup> A copy of the 1846 instructions issued by Surveyor General Jones can be found in White, C Albert. [A History of the Rectangular Survey System](#) (Washington D.C. United States Government Printing Office. 1983) p. 339-355

<sup>7</sup> This diagram and the agreement (contract) can be found in M236 [The Territorial papers of the United States; the territory of Wisconsin, 1836-1848 : a microfilm supplement](#) roll 49 frames 1340-1344. NB. You can search in the FamilySearch database without charge but you must register as a user.

<sup>8</sup> Id p. 343.

<sup>9</sup> See [The Surveys of James E. Freeman](#). Minnesota Surveyor vol.28 no.3 (Summer 2020). The St. Croix River had been defined the western boundary of the State of Wisconsin in “[An Act to enable the People of Wisconsin Territory to form a Constitution and State Government, and for the Admission of such State into the Union](#)” enacted August 6, 1846. 9 Stat. 56 The River had been defined the eastern boundary of the



Minnesota Territory in “[An Act to Establish the Territorial Government of Minnesota](#)“ enacted on March 3, 1849 9 Stat. 403

<sup>10</sup> M236 [The Territorial papers of the United States; the territory of Wisconsin, 1836-1848 : a microfilm supplement](#) roll 122 image 119

<sup>11</sup> “[An Act: For the discontinuance of the office of Surveyor General in the several districts, so soon as the surveys therein can be completed, for abolishing land offices under certain circumstances, and for other purposes.](#)” 5 Stat 384

<sup>12</sup> [National Archives, Microcopy No. 27, General Land Office, Letters Sent to the Surveyors General, 1796-1901. Roll 13 image 165.](#)

<sup>13</sup> Book 196 Iowa Historical Society, US Surveyor General. Letters Sent Vol. D p.196

<sup>14</sup> Why would a deputy take four months to take his notes to the Surveyor General’s office? He was not paid until his account was sent to the Commissioner of the General Land Office in Washington D. C., who would then check its accuracy and then send it to the Treasury Department for payment.

How the volumes of the notebooks were indexed is a bit of a mystery. Described in this article are two volumes containing the notes of a single deputy operating under a single contract establishing two adjacent townships yet they are not numbered consecutively. Volume 1 is indexed as E4134 and Volume 2 is indexed as E4137. Rather obviously, these two volumes should be considered together despite being indexed. We do not know who devised the indexing scheme of the notebook volumes. There appears to be no real reason for the numbers given each volume. See [Some observations on the volumes of the digitized original field notes](#) Minnesota Surveyor Vol. 21 no.3 (Fall 2013) p.18

<sup>15</sup> [H. Ex. Doc 12 30th Cong. Serial 539 p.114](#)

<sup>16</sup> See [The Field Notebooks of Judson A. Stanton](#). Minnesota Surveyor vol. 30 no. 1 (Winter 2022)

<sup>17</sup> See White endnote 6 p.342 for instruction on how to run and mark township lines

<sup>18</sup> See White endnote 6 p.342 for instruction on how to run and mark township lines

<sup>19</sup> [The Public Land Survey Lines in Carver County; Township Exteriors.](#) Minnesota Surveyor Vol. 21 no. 3 (Fall 2014) p.26

<sup>20</sup> Fred Roeder, LS [A Critique of the Public Land Survey System](#) American Surveyor vol. 2 issue 3 (2005)

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