

# A Metamorphosis in the Maintenance of Land Records

Charles A. Szypszak

**L**ocal governments perform the usually inconspicuous but vital function of maintaining public records of private real estate ownership. The purchase and the financing of real estate in a market economy depend on accessible and reliable information

**North Carolina's public real estate records are managed by county registers of deeds. These elected officials are governed by laws and practices that fundamentally have remained the same during radical increases in the volume and the complexity of real estate conveyances and finance, even as entirely new technologies have become available for processing information.**

about ownership interests: Purchasers count on the records to confirm that sellers have rights that may be transferred. Lenders rely on the records to make certain that the interests borrowers offer as security are what they are represented to be.

*The author is a School of Government faculty member specializing in real property law. Contact him at szypszak@sog.unc.edu.*

North Carolina's public real estate records are managed by county registers of deeds (for definitions of "register" and other terms that appear in boldface type, see the sidebar on page 6). These elected officials are governed by laws and practices that fundamentally have remained the same during radical increases in the volume and the complexity of real estate conveyances and finance, even as entirely new technologies have become available for processing information.

North Carolina now is transforming its land record laws and recording procedures to adjust to the modern transactional environment. The state just took a big step with legislation that fundamentally changes the registers' role by limiting their responsibility for reviewing documents submitted for recording, or **registration**.

The registers' role soon will change even more dramatically with the implementation of widespread electronic recording. This article briefly describes the challenges and the opportunities now facing registers of deeds.

## Real Estate Transfers

Real estate is a major component of investment and wealth. From an individual perspective, it may be someone's cherished home. Valuable assets attract fraud. Much of real estate law is in-

tended to address this risk, providing mechanisms for protecting valid rights of ownership against wrongdoing.

At the heart of this law are rules requiring documentary proof of ownership and giving priority rights in competing claims to those who record their documents publicly. The land records maintained by county registers play a central role in the operation of the rules. This role is evolving in response to changes in the nature of real estate transactions and in the technology for creating, transferring, and storing documents.

## Authenticating Documents

For centuries the law has required that those claiming to have acquired an interest in real estate have some written evidence of the conveyance.<sup>1</sup> This rule stems from the English Statute of Frauds, which was imported into the American legal system and is firmly embedded in North Carolina law.

But documents can be forged and used to commit fraud. The law therefore imposes requirements of formality on documents intended to convey real estate interests.

Not much is required for a document to prove a real estate conveyance—only enough information to identify the property and the parties, and a signature by the person making the conveyance. But such an informal document may raise questions of authenticity.

To address this concern, a document's execution is acknowledged by a third party with official capacity. Usually this function is performed by a **notary** or a **notary public**, who is commissioned by the state and governed by procedural

rules (which in North Carolina fall within the secretary of state's jurisdiction). Certain other government officials, such as clerks of court and registers, also are authorized by statute to perform this function. The official verifies the signer's identity on the basis of the official's personal knowledge, identification such as a driver's license, or recognition by someone else known to the official. The official then puts evidence of this **acknowledgment** on the document, with a statement of the event and his or her signature and seal. In North Carolina, instruments of conveyance, including deeds, deeds of

prevent fabricated claims that real estate was conveyed. Fraud also can occur with multiple transfers, each of which involves a document that is properly signed and acknowledged. The recording system provides a mechanism for buyers to ascertain the ownership rights of people offering to convey real estate, and to protect themselves against wrongful claims.

Elaborate rules have evolved on the basis of the notion that those who first make a public record of their ownership have priority over those who do not. Potential buyers can protect themselves

person conveys the same real estate twice, and only recording matters, a second buyer who knows of the prior conveyance is rewarded by recording first.

Most states address this problem by subordinating the rights of a buyer who had actual knowledge of a prior transfer to the first person who innocently bought real estate. North Carolina is one of the few states that do not take actual knowledge into consideration in determining the priorities of competing real estate transfers. Since 1885 the state has had what is known as a "race" type of recording statute, in which the first to



**trust**, and **mortgages**, may not be recorded without such acknowledgments or equivalent forms of **proof** or **verification** recognized by state law. If they are, they are denied the legal effect accorded to instruments properly recorded.<sup>2</sup>

### Recording Documents

The requirements for documentation and acknowledgment are intended to

against fraud and verify the sellers' rights by examining the public record for prior conveyances. Someone who fails to record a conveyance runs the risk that someone else will acquire a superior right to the property by recording first.

Although recording priority may seem straightforward, occasionally someone has actual knowledge of a prior conveyance that has not yet been recorded. If a

record prevails in a contest of priorities, with only very narrow exceptions.<sup>3</sup> Thus, recording promptly and properly is extremely important.

The land records maintained by registers therefore are vital to real estate transactions. The enforceability of someone's claim to ownership depends on both the validity of the instrument by which the ownership was acquired

## *Some Common Terms Used at the Register of Deeds*

**Acknowledgment:** An act in which a signer who is personally known to an official, or whose identity is proven to the official by satisfactory evidence, indicates in the official's presence that he or she has signed a record voluntarily.

**Conveyance:** Transfer of property, or an interest in property, from one owner, usually known as the grantor, to another, usually known as the grantee.

**Deed:** An instrument conveying an interest in real property. Usually referred to by the nature of the assurances being given by the seller, such as "warranty deed," which gives the greatest assurances, or "special warranty deed" or "quitclaim deed," which give more limited or no assurances. Deeds also can be used for transfer of real estate interests that are less than ownership, such as easements.

**Deed of trust:** A security instrument by which a third-party "trustee" is conveyed an interest in real estate as security for an obligation owed by the owner to a lender. The deed enables the trustee to sell the real estate and apply the proceeds to the obligation if the owner breaches the loan agreement.

**Mortgage:** An interest in real estate conveyed by its owner to a lender as security for an obligation, which will entitle the lender to sell the real estate and apply the proceeds to the obligation if the owner breaches the loan agreement.

**Notary, notary public:** A person commissioned by a state authority to perform notarial acts, including acknowledgments, verifications, and proofs. The laws of various states and nations also give similar powers to other officials, such as registers, clerks of court, attorneys, justices of the peace, military officials, and consular officers.

**Proof, verification:** An act in which a person certifies under oath or affirmation to have witnessed another person execute, record, or acknowledge his or her signature on a record already executed.

**Register:** In North Carolina, an elected county official charged with maintaining real estate records, which involves accepting real estate instruments for recording, indexing them, and maintaining the records for public access. In some jurisdictions, called "registrar" or "recorder." Registers in North Carolina are local custodians for several other types of records, such as marriage licenses, military discharges, birth and death records, certificates of assumed names, and notary commissions.

**Registration:** The process by which an instrument conveying an interest in real property becomes a public record and is deemed to give constructive notice to the public. Historically this notice was given by storing the instruments, or copies of them, in the order of receipt in sequentially numbered pages in books. Also called "recordation."

**Satisfaction:** A record that a security instrument, such as a deed of trust or a mortgage, is no longer an effective lien on the real estate. Also, the act of fulfilling the obligations of a security instrument, or the act of making a record of that event. Sometimes called "discharge," "release," "termination," or "cancellation."

**Security instrument:** Any of a number of documents granting a creditor an interest in property as security for an obligation, including a mortgage or a deed of trust.

and the rights that follow from having properly recorded the transfer with the register of deeds.

To perform their intended function, the records must be both accessible and reliable. The laws intended to make them so were written when transfers were infrequent and mortgage arrangements were simple. The laws and their related practices remain much the same today, despite an explosion in the volume and the complexity of real estate transactions and mortgage financing. What once called for a simple, familiar document now often involves lengthy documents prepared to comply with complex regulatory and mortgage market requirements assembled via an electronic process connecting distant parties. Changes now are under way to align the registers' role with these modern realities.

### **The Registers' Role**

The importance of public recording places a heavy burden on registers. As a general rule, registers only provide a mechanism for private parties to record their instruments of conveyance. Registers are not licensing or reviewing authorities who validate conveyances. But rules for recording are inescapable if the records are to be accessible and reliable. The rules that all registers must enforce include ensuring that the instruments submitted for recording are land records, that they can be reproduced legibly, and, increasingly, that certain other formalities are observed, such as payment of recording fees and excise taxes.

In almost all states, registers have tightly circumscribed responsibilities for reviewing the contents of documents submitted to them for recording. The law requires, for example, that registers review documents presented for recording only for basic indexing information and reproduction quality; registers do not look at the documents' contents to see that they include everything needed for legal sufficiency, such as a notarial acknowledgment.<sup>4</sup> Some jurisdictions require that the register simply check for an acknowledgment or a proof and not accept an instrument if an acknowledgment or a proof is missing.<sup>5</sup>

An eighteenth-century deed book in Warren County.



judged the instruments to be duly acknowledged and the certificates to be in due form, it ordered the instruments to be recorded by the register. In 1967 the burden of probating was shifted to the registers of deeds and remained with them until 2005.<sup>9</sup>

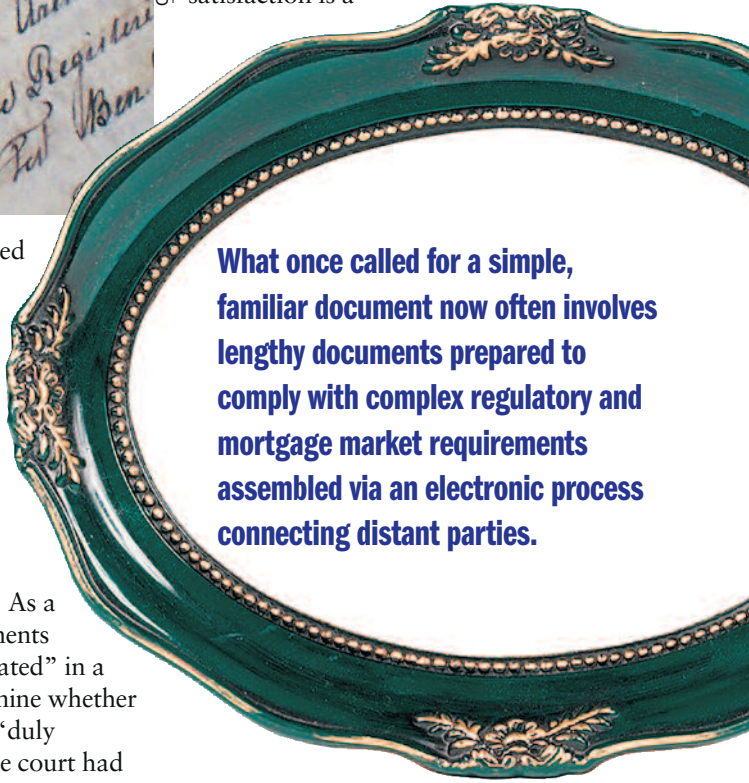
North Carolina registers also have played an unusually active role in handling records of real estate finance. A **security instrument**, which in North Carolina may be a mortgage or a deed of trust, is recorded with the register at the time the loan is made, to give the lender rights in the real estate, including the right to foreclose on default. Usually when a loan is made for a new mortgage or deed of trust, the real estate is subject to a prior mortgage or deed of trust, which will be satisfied with the proceeds from the new loan (for a graphic representation of a real estate closing, see Figure 1). Lenders want to be sure that the record shows **satisfaction** of the prior loan to avoid problems if the lender later needs to foreclose. Borrowers want to be sure that the record does not indicate the existence of a security interest that already has been discharged. The instrument showing satisfaction is therefore important to real estate conveyances and financing.

In most states, creating a record of satisfaction is a

North Carolina registers have long been charged with additional, unusual responsibilities. They are directed to record only after determining “that all statutory and locally adopted prerequisites for recording have been met.”<sup>6</sup> Also, until 2005 they were obliged to “pass on” (evaluate) the acknowledgment or the proof that appeared on the instrument by determining whether it was in “due form” (the form specified by statute) and “duly proved or acknowledged” (apparently legitimate with no visible improprieties) and, if so, by placing a certification on the instrument.<sup>7</sup>

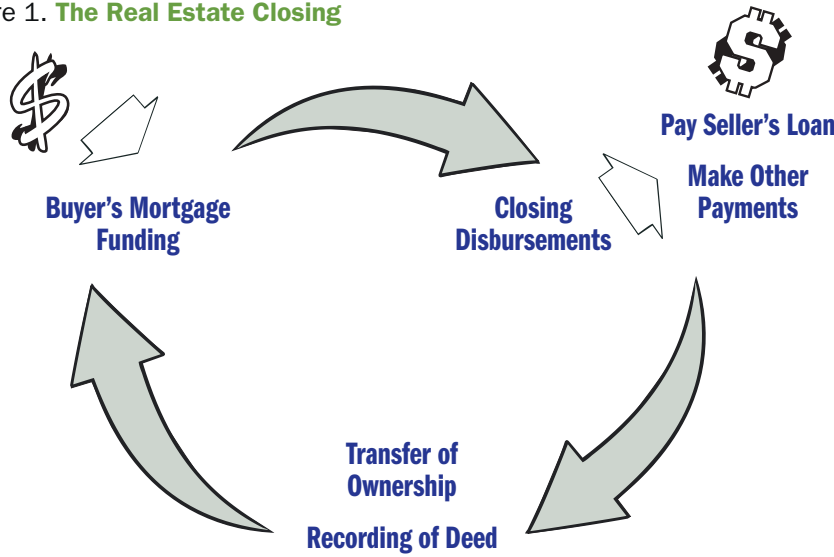
These certification responsibilities were a remnant of eighteenth-century

law, when those who wished to register their real estate ownership were required to complete a judicial procedure. This process can be traced further back to early land ownership, when many real estate instruments were not recorded and competing claims derived from different proprietors. As a kind of validation, instruments were required to be “probated” in a court, which would determine whether the instruments had been “duly acknowledged.”<sup>8</sup> When the court had



**What once called for a simple, familiar document now often involves lengthy documents prepared to comply with complex regulatory and mortgage market requirements assembled via an electronic process connecting distant parties.**

Figure 1. **The Real Estate Closing**



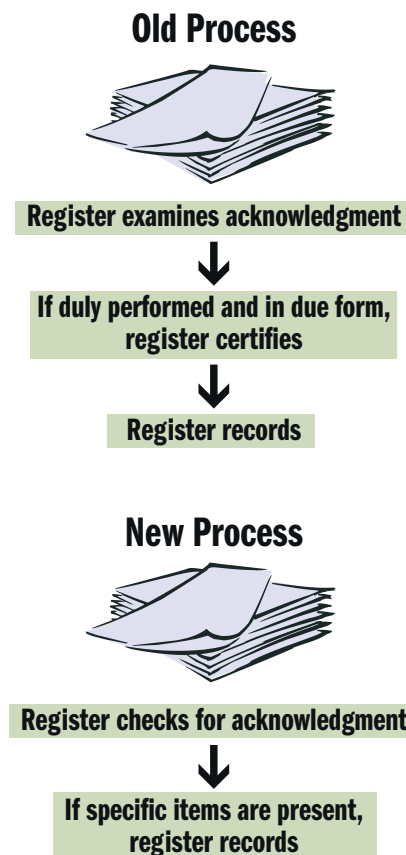
simple procedure of lenders preparing a one-page document and mailing it to the register, who simply records it. In North Carolina, lenders also have been able to mail in satisfaction documents, but the process was not reliable enough from their perspective. Registers, abiding by the review responsibilities that they understood were imposed on them by state law, examined the satisfactions and the acknowledgments on them for completeness, accuracy, and compliance with form. This review usually meant a delay between when lenders submitted satisfactions and when the record showed their submission, especially during busy times for financing and refinancing. Lenders also worried that the satisfactions would be rejected for a technical reason, causing further delay and complication.

As a result, they tended to use an alternative to the mail-in procedure: their representatives would take instruments with payment endorsements to the registers, the registers would review the documents for sufficiency, and the registers themselves would prepare records of satisfaction. This cumbersome process might result in complications, and it required lenders to devote resources to managing a process that was much simpler in other jurisdictions. It also consumed registers' limited resources.

These unusual review and document-preparation responsibilities were assigned to registers when most real estate transactions were simple and occurred within a small community. North Caro-

lina registers have not necessarily wanted to relinquish their unusual role or the opportunity to be helpful to their constituents. But maintaining the records has become a much greater challenge, and modern real estate transactions occur at a furious pace and often involve much

Figure 2. **The Old and New Processes of Recording Documents**



complexity and many legal subtleties. Registers necessarily focus on matters of form in their review, which may have little to do with transactional realities and at best have a tenuous relationship with prevention of fraud.

Yet the decision about accepting an instrument for recording could have serious financial implications for the parties to the transaction. Many parts of the transactional machinery may be in motion when instruments are presented for recording, and those parts may be difficult or impossible to reassemble if a recording is thwarted. For example, loan proceeds will be disbursed at the closing to pay off prior security instruments encumbering the real estate, to bring real estate taxes current, and to pay other obligations connected to the transfer. If complications arise that delay consummation of the closing after disbursements have been made, the lender may be unable to retrieve the disbursements and not yet have any enforceable security interest in the real estate to recover losses.

In America's litigious society, registers worry that someone will seek to hold them liable for loss alleged to have resulted from a decision to accept or reject an instrument for recording. This might occur, for instance, if a forged instrument is recorded with an irregularity in the acknowledgment form that could have been the basis for rejection, even though the irregularity was not connected with the fraud. Risk of liability has given registers an incentive to err on the side of rejecting instruments submitted for recording, even though substantial financial loss to the parties is at least as likely from a rejection as from an oversight in acceptance. This puts registers in a position that is unusual and unexpected in modern real estate transactions nationally.

The parties always bear a risk of fraud and error, a risk now largely borne by well-developed assurance mechanisms, especially title insurance, a ubiquitous multibillion dollar industry. Title insurance involves risk prevention: policies are issued on the basis of title searches intended to identify existing problems, and title insurers have standards and protocols aimed at preventing new problems when conveyances are



*Attorney Jules Banzet III reviews a record at the Warren County Register of Deeds office.*

Charles Szypszak

made. The development of such assurances alone warrants reconsideration of the extent to which registers bear responsibility for instruments prepared by others and submitted for recording.

### Sea Change

Legislation that became effective on October 1, 2005, has limited North Carolina registers' review obligations.<sup>10</sup> It is the biggest change in registers' responsibilities in decades.

The North Carolina legislation was prompted by introduction of the Uniform Mortgage Satisfaction Act, which was drafted by the National Conference of Commissioners on Uniform State Laws. The uniform act is intended to reduce the transactional complexities, costs, and risks in real estate transactions that result from idiosyncratic rules for mortgage satisfactions, and to ad-

dress problems that arise when the satisfactions cannot be obtained from lenders. The North Carolina General Assembly adopted key aspects of the uniform act and made other fundamental changes in registers' responsibilities.

North Carolina registers no longer certify that an instrument has been "duly" proved or acknowledged or that the proof or the acknowledgment is in "due form." Instead, registers review an instrument to see if it "appears to have been proved or acknowledged before an officer with the apparent authority to take proofs or acknowledgements, and the said proof or acknowledgement includes the officer's signature, commission, expiration date, and official seal, if required."<sup>11</sup> Registers therefore check for basic elements of an acknowledgment,

but they are not required to verify an instrument's legal sufficiency or the authority of

the officer taking the acknowledgment.<sup>12</sup> (For a graphic representation of the old and new processes, see Figure 2.)

The 2005 legislation also simplified the process for mortgage lenders to make a record of satisfaction of a deed of trust or a mortgage. They can use simple instruments prepared and signed by the trustee or the secured creditor, and acknowledged, subject to the register's review only for basic acknowledgment requirements. The new law makes clear that registers are not to reject satisfaction documents on the basis of variances in form. It states that "no particular phrasing" is required for the document, meaning that substance prevails over form, and instructs the register to record it unless it has one of two problems: it is in a medium not authorized, such as an electronic record sent to a registry that is not accepting such submissions, or it is not signed and acknowledged.<sup>13</sup> The law also provides that registers are not "required to verify or make inquiry concerning . . . the truth of the matters stated" in any satisfaction document or "the authority of the person executing" the document.<sup>14</sup>

**Maintaining the records has become a much greater challenge, and modern real estate transactions occur at a furious pace and often involve much complexity and many legal subtleties.**

Table 1. **Summary of Legislation Empowering Registers to Record Electronic Records**

Legislation	Level and Year of Enactment	Purpose
ESIGN—Electronic Signatures in Global and National Commerce Act	U.S. 2000	Generally to validate electronic records and signatures in consumer transactions
UETA—Uniform Electronic Transactions Act	N.C. 2000	Generally to validate electronic records and signatures under state law
URPERA—Uniform Real Property Electronic Recording Act	N.C. 2005	To validate use of electronic records by registers of deeds
UMSA—Uniform Mortgage Satisfaction Act	N.C. 2005	To simplify recording of security instrument satisfactions and to narrow registers' review of documents

Sources: ESIGN, 15 U.S.C. §§ 7001–06, 7021, 7031 (2000); UETA, G.S. 66-311 through -330; URPERA, G.S. 47-16.1 through -16.7; UMSA, G.S. 45-36.2 through -36.21, 45-37 through -37.2, 45-38, 45-39, 45-42, 45-42.1, 47-14, 47-46.1 through -46.3, 161-14.1.

Registers' emergence from responsibility for the details of the mortgage satisfaction process extends to other changes, including elimination of marginal notes by registers. Historically,

**Widespread use of electronic recording awaits resolution of thorny questions about what appropriate types of electronic records, signatures, and acknowledgments are, and how they should be handled.**

registers made these notes for the convenience of title searchers, even though the satisfaction instrument could be matched to the deed of trust or mortgage by use of the register's index. When presented with a satisfaction, the registers noted the event on the page at which the original security instrument was recorded, making it easier for the title searcher to confirm the satisfaction in one step. But this added a burden to the registers' responsibilities and could be risky. The registers' offices, many of which handle a large volume of instruments in a wide variety of forms, might not easily be able to compare the information provided in the satisfaction with

previously recorded instruments. The burden of this comparison more appropriately rests with lenders and will be met with careful instrument preparation.

The changes shift some burdens away from the register and leave them to the parties involved in the transaction and their professional representatives. Ultimately, lenders and parties already have these burdens as a legal matter and are routinely expected to bear them in other jurisdictions. Modern real estate transactions can involve millions or billions of dollars, very complex instruments, and numerous interested parties. The parties' professional advisers do not want the product of their deliberation and careful document preparation to be overridden by a register's review of inconsequential formatting requirements. Nor should they realistically expect loss assurance from registers of deeds. The registers' resources are limited: the bonds they are required by statute to have for their offices may not exceed the modest sum of \$50,000.<sup>15</sup> Counties typically provide additional insurance coverage, but such protection cannot fairly be expected to be a main source of indemnity against problems that could have been prevented with appropriate diligence by the parties with financial stakes in the transaction.

### Assembly of the Electronic Recording Puzzle

Even more dramatic changes in land records management are about to occur with the widespread introduction of

electronic recording. Although such capabilities will make the real estate conveyance system potentially more efficient, they also will create new challenges, not only for effectively implementing the technology but also for maintaining the records' integrity.

### Empowering Registers to Record Electronic Records

Many registers already employ electronic recording technology by making their records available for searching and viewing on the Internet. A few have made it possible for high-volume submitters to send documents to them electronically.<sup>16</sup> But widespread use of electronic recording awaits resolution of thorny questions about what appropriate types of electronic records, signatures, and acknowledgments are, and how they should be handled.

In 2000, federal legislation called the Electronic Signatures in Global and National Commerce Act, or ESIGN, accelerated the movement toward legislative endorsement of electronic records.<sup>17</sup> ESIGN was enacted to facilitate use of electronic records in matters subject to federal jurisdiction. Congress declared a "general rule of validity" for electronic records and signatures.<sup>18</sup> The law used a broad definition of "electronic record," to include "a contract or other record created, generated, sent, communicated, received, or stored by electronic means."<sup>19</sup> It also used a broad definition of "electronic signature," to include "an electronic sound, symbol, or process, attached to or logically associated with a contract or other record and executed or adopted by a person with the intent to sign the record."<sup>20</sup> ESIGN set no standards for security or authentication, leaving the tough questions for others to answer.

Since the enactment of ESIGN, almost all states have adopted the Uniform Electronic Transactions Act (UETA), which was drafted by the National Conference of Commissioners on Uniform State Laws. North Carolina adopted it in 2000.<sup>21</sup> UETA declares that any record or signature required by law may be satisfied with an electronic record or an electronic signature that complies with UETA.<sup>22</sup> UETA uses broad definitions similar to those in ESIGN.



Charles Szypszak



This means that an electronic record may be any of a variety of common actions such as a facsimile transmission, a voice recording, a click on a web page, or an e-mail, as well as sophisticated technologies such as encrypted messages.

UETA did not resolve a basic question about the extent to which registers may accept and maintain official land records electronically. North Carolina law has been interpreted as requiring an “original signature” on real estate instruments submitted for recording unless a statute specifically authorizes a copy to be recorded. This conclusion is based on (1) the requirement that instruments of conveyance be in writing; (2) the express legal authority in certain situations to use copies, implying that they are not otherwise acceptable; and (3) the requirement before 2005 that registers be able to certify the acknowledgment or the proof.

The concern about authority for electronic land records is addressed in the Uniform Real Property Electronic Recording Act (URPERA), which was enacted in North Carolina in 2005.<sup>23</sup> The National Conference of Commissioners on Uniform State Laws drafted the act to respond to what it described as “uncertainty and confusion” about whether electronic documents may be recorded in the land records offices.<sup>24</sup> The drafters attribute the problem to legacy laws and regulations that allow only paper or “original” documents to be recorded.<sup>25</sup> URPERA is intended “to remove any

doubt about the authority of the recorder to receive and record documents and information in electronic form.”<sup>26</sup>

URPERA overcomes the requirement that a document be a paper “original” by defining “document” to include “information that is . . . [i]nscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form,” and by stating that registers may accept electronic documents, broadly defined, provided that such records comply with standards to be established by the North Carolina secretary of state.<sup>27</sup> Registers also are authorized to convert paper documents for recording into electronic form.<sup>28</sup> The statute specifically provides that “[a] physical or electronic image of a stamp, impression, or seal need not accompany an electronic signature” as long as the necessary information “is attached to or associated with the document or signature.”<sup>29</sup> These definitions are broad and leave unanswered the de-

tailed questions about what will constitute an acceptable electronic document, signature, and acknowledgment for recording purposes. Meanwhile, registers and others involved in real estate transactions await such standards before investing the resources necessary for electronic recording to begin in earnest.

(For a summary of the legislation empowering registers to record electronic records, see Table 1.)

### Setting Standards

URPERA defers the question of standards for electronic records and signatures to a state advisory body. It requires the secretary of state to develop “standards for recording electronic documents and implementing the other functions” of electronic recording, and creates an Electronic Recording Council to advise the secretary about the standards to be adopted. The council is to have a majority of registers of deeds but include representatives from North Carolina’s bar association, society of land surveyors, bankers association, land title association, association of assessing officers, and the office of the secretary of cultural resources.<sup>30</sup> This council and the secretary of state also must address standards for electronic notarization, not only in response to legislation allowing electronic recording but also as part of the secretary’s overall governance of notaries and the need to address their role in the new dimension of electronic recording.

Table 2. **Workload and Staff in Selected Counties**

	Instruments Recorded Annually (approx.)	Staff
Tyrrell County	1,000	2
Mecklenburg County	300,000	46

Sources: Hon. Judith Gibson, Mecklenburg County Register of Deeds; Hon. Melanie Armstrong, Tyrrell County Register of Deeds.




The viability of electronic recording ultimately depends on the nature of the standards that are adopted. Those charged with developing them have a difficult task. North Carolina will be breaking ground; no ready-made model exists. Meanwhile the absence of standards leaves interested parties uncomfortable with making the kinds of investments required to implement electronic recording to a significant extent.

Electronic recording makes sense only if it provides efficiencies that outweigh the required substantial investment of money and other resources by registers of deeds, lenders, and others for whom electronic recording holds promise. At the same time, the standards must be sufficiently rigorous to protect the integrity of the recording process and the public records. They must be specific enough to provide comprehensive guidance to those charged with implementing them but not anchor the process to particular vendors or technologies that may become inaccessible, obsolete, or unsupportable.

Existing technologies provide a wide range of possibilities for electronic recording, signatures, and notarization. At its most basic, electronic recording involves receipt of an image, as already is commonplace in homes and offices. Documents can be created in electronic format, as with “pdf” (portable document format), or scanned from print. Receipt of records in such format eliminates the burden on the register to convert print to an electronic image, and makes it easier for the register to handle the records. But the ease with which such documents can be created, transferred, altered, and duplicated raises serious concerns about the records’ integrity and security. Those who accept such records must rely on safeguards other than what appears on the document, such as the use of closed networks or other methods of verifying the source of submission. This effectively has limited a register’s acceptance of such filings to particular trusted sources (such as financial institutions that regularly file numerous records executed by familiar officials) that operate across reliable connections.

At higher levels of sophistication, electronic records include data, such as



**Existing technologies provide a wide range of possibilities for electronic recording, signatures, and notarization. At its most basic, electronic recording involves receipt of an image, as already is commonplace in homes and offices. But the ease with which documents can be created, transferred, altered, and duplicated raises serious concerns about the records’ integrity and security.**

indexing information, as well as the document image. The signatures may take various forms. Signatures that are a graphical image of a handwritten signature are commonly referred to as “digitized.” They can be created by use of a digital pen and pad, as has become common in retail credit and debit transactions. But a number of alternatives exist to add a measure of authentication. A signature device can be made to capture other data, including biometric elements such as the speed and the strength of a pen stroke, which can be compared with reference data. Products are available for notaries that record a signature, a thumbprint, and a photograph in an electronic journal of the notarization event. A notary’s seal data also can be embedded in the electronic file.

The term “digital signature” generally refers to the technologically sophisticated encryption process of creating mathematically related keys, such as with a public key infrastructure, or PKI technology. An authority or enterprise administrator generates and distributes mathematical key pairs, one “public” and one “private.” The public key is available to the recipient and can be linked by use of a “one-way” formula to a private key known only to the sender. For practical purposes the link cannot be used by the user or an interceptor to deduce the private key. The mechanism is very secure, provided that the private key remains confidential. Digital signature technology also can be used to reveal alterations made to the document after the digital signature was made, by use of a function that creates a digital representation of the entire record when it is sent.

A notary could employ keys in the acknowledgment process. A method

that dispenses with the need for the notary to be present at the acknowledgment involves the notary issuing an electronic signature certificate to a signer for use of keys. Recipients of such an electronically signed document rely on the pairing of the keys to verify that the document originated from the certificate’s subscriber. Although this approach provides a high degree of authentication of the document’s origin, it has not been well received (by the secretary of state, among others) because the notary’s presence at the signing is considered to be an important part of the acknowledgment process.

Use of keys and digital signatures requires specialized knowledge and a significant investment in technology. One approach is to define electronic signatures in a way that virtually mandates such technology if electronic records are to be used. Such a definition requires that an electronic signature have four characteristics: be unique to the person using it; be capable of verification; be under the sole control of the person using it; and be linked to the data in such a manner that the signature is invalidated if the data are changed. This is the standard employed in statutes first authorizing electronic filings with government agencies.<sup>31</sup> It is so restrictive that its use effectively limits electronic recording to a small group of very sophisticated users.

The challenge of setting standards for electronic records and signatures is made even greater by technology’s ever-moving frontiers. For example, the technology already exists for use of a SMART (secure, manageable, archivable, retrievable, transferable) document that contains embedded, executable code. A SMART document can manipulate

relevant data from multiple sources and organize them. This technology may make it possible to integrate a recorded instrument and a notary acknowledgment with the indexing process in innovative ways.

Whatever level of technology is required or allowed, the transformation of practices for registering land records will just have begun. The purchase and the upkeep of the hardware and the programming for electronic recording will require substantial resources and new kinds of expertise. Recording fees can be used to cover much of this expense, but such fees add up faster in heavily populated counties with more real estate transactions than they do in rural counties (for a comparison of workloads and staff in two counties, see Table 2). Rural counties therefore will have resource obstacles to overcome in responding to demands for electronic recording. Part of this challenge may be addressed by the use of centralized electronic sites, or "portals." Rather than each county hosting its own electronic recording system, regardless of transaction volume or available resources, a portal could provide access to the records for all counties in the state. Such an approach would require statewide resources and cooperation, and its feasibility has just begun to be explored.

The submitters' resources also must be considered. The recording system must remain accessible and reliable for all who depend on it, including those with limited access to technology. The system's integrity will be jeopardized if those with access to sophisticated technology can gain a tactical advantage in recording or accessing the public records.

Registers also will face new kinds of threats to the integrity of their records. Documents still must be screened to ensure that they are appropriate for the purposes for which land records are maintained. That task will be of a different magnitude when documents can be submitted electronically. Spam and identity theft are but two examples of known challenges.

Registers will have to reconsider even the most basic internal rules and practices. For example, if it becomes possible for documents to be received at the register's office electronically at any

time of day or night, registers will need to develop protocols and safeguards to preserve the integrity of the critically important order of recording.

The electronic recording process may redefine the roles of those involved in it. For example, registers' verification of the integrity of digital signatures does not now seem feasible. How ironic it would be if registers were required to develop this capability and they assumed a highly complex electronic gatekeeper role just as the law narrowed their responsibility for reviewing acknowledgments on paper.

The future register's function is likely to be consistent with the basic notion of providing a means for others to record effectively if they exercise care and diligence, and enabling them to make informed decisions about the authenticity of the records with their own examination. Electronic recording, however, introduces a wholly new level of concern about the ability of the public to engage in it.

## Conclusion

In North Carolina those involved in real estate transactions often have used registers as a tool to prepare their transactional instruments properly. But the registers' role is not meant to be validator of instruments. Rather, it is to be custodian of an accessible and secure public record for use by those involved in property transactions who take responsibility for documenting their intent and assessing the validity of previously recorded instruments. In the future, as registers transform their process to reflect modern transactional and technological realities, they still will play the vital role of maintaining public records while providing tools for others to protect themselves against fraud. A metamorphosis in how this is accomplished is under way.

## Notes

I express my appreciation to Charles Moore, visiting lecturer at the School of Government, the Honorable Ann Shaw, Randolph County register of deeds, and the Honorable Judith Gibson, Mecklenburg County register of deeds, for their willingness to share their knowledge and expertise and their insights into the issues discussed in this article. The opinions in the

article, however, are mine and should not be attributed to these helpful contributors. I also thank the Honorable Elsie Weldon, Warren County register of deeds, for arranging for photographs.

1. Courts have made limited exceptions to the rule requiring written evidence to enforce a real estate transaction. These exceptions generally have arisen under circumstances involving obvious injustice, such as in a "constructive trust," when one party wrongfully attempts to keep property transferred in trust for someone else's benefit.

2. N.C. GEN. STAT. § 47-14(d) (hereinafter G.S.); *New Hanover Shingle Mills v. Roper Lumber Co.*, 171 N.C. 410, 88 S.E. 633 (1916).

3. G.S. 47-18.

4. *E.g.*, N.H. REV. STAT. ANN. § 478:4-a (2003).

5. *E.g.*, VA. CODE ANN. § 55-106 (2003).

6. G.S. 161-14(a) (Supp. 2005).

7. G.S. 47-14(a).

8. N.C. CODE ch. 37, § 4 (1855).

9. 1967 N.C. Sess. Laws ch. 639, § 1 (codified as amended at G.S. 47-14(a)).

10. SL 2005-123 (codified at G.S. 45-36.2 through -36.21, 45-37 through -37.2, 45-38, 45-39, 45-42, 45-42.1, 47-14, 47-46.1 through -46.3, 161-14.1).

11. G.S. 47-14(a) (Supp. 2005).

12. G.S. 47-14(a).

13. G.S. 45-36.10(b), -36.11, -36.20(e), -36.21.

14. G.S. 45-36.10(b)(2), -36.20(e)(2).

15. G.S. 161-4(a).

16. SL 2002-115, §§ 1-4 (affecting G.S. 161-14), authorized Cabarrus and Mecklenburg counties to accept electronic records as broadly defined in G.S. 66-312(8), if the electronic signature of the official performing the notarial act is attached to or logically associated with the record. SL 2003-326, § 2.1 (affecting G.S. 161-14), extended the authorization to Durham, Harnett, Moore, New Hanover, and Randolph counties.

17. Electronic Signatures in Global and National Commerce Act, 15 U.S.C. §§ 7001-06, 7021, 7031 (2000).

18. 15 U.S.C. § 7001(a) (2000).

19. *Id.* at § 7006(4).

20. *Id.* at § 7006(5).

21. G.S. 66-311 through -330.

22. G.S. 66-317(a), (c), (d).

23. SL 2005-391, §§ 1-2 (codified at G.S. 47-16.1 through -16.7).

24. Uniform Real Property Electronic Recording Act, Prefatory Note, 7B U.L.A. (Supp. 2005).

25. *Id.*

26. *Id.*

27. G.S. 47-16.4, -16.5.

28. G.S. 47-16.4(b)(5).

29. G.S. 47-16.3(c).

30. G.S. 47-16.5.

31. G.S. 66-58.5(a).