ERERTF Business Analyst Services Project
Electronic Recording Standards Summary

May 30, 2002

I. PURPOSE

This document includes the electronic real estate recording standards prepared by the BenNevis team for the ERER Task Force. The majority of the standards are encapsulated in the best practice workflow, use cases, data element list, and XML schema contained within Appendixes A through D.

In addition to the electronic recording standards, BenNevis was asked to address many of the 37 considerations listed in the ERERTF work plan dated January 15, 2001. A discussion of alternatives for most of those considerations is included within this document. Discussion of the legal topics contained within the work plan is captured in the Legal Considerations Summary. Discussion of the financial topics contained within the work plan is captured in the cost benefit analysis.

Please note, the text of the ERERTF work plan consideration is presented in italics at the start of each topic.

II. EXECUTIVE SUMMARY

Virtually everyone uses and relies on the real estate record. Home ownership is the single biggest investment of most Minnesota families. Mortgages are a critical component of the financial industry. The property tax system relies on the real estate record to determine ownership of parcels that are subject to taxation. The interests of citizens, the mainstay of the economy, and the operation of government all depend on the real estate record.

County recorders and registrars of title throughout Minnesota work very hard to operate their offices efficiently and cost-effectively, and to date they have succeeded. However, as presently equipped, Minnesota recording offices can accept only paper documents for recording. Increasingly, the real estate, lending, title insurance, and consumer communities as well as the secondary mortgage market are urging Minnesota recorders and registrars to accept and record documents electronically.

A number of benefits are expected from electronic real estate recording. These include:

❑ A significant reduction in the work effort required by counties to record documents. This will allow counties to avoid staffing increases as volumes increase, and to improve service to the public.

❑ A significant reduction in the elapsed time incurred in recording documents. What currently may take days can be done in seconds. This is of significant benefit to the private sector organizations that are submitting documents for recording.

❑ A significant reduction in the document rejection rate, benefiting both the private sector and the counties.

- ❑ Significant benefit to consumers. Electronic recording will largely eliminate the delay in recording real estate transactions (which today can take days, weeks, or months). This means that consumers:
    - o Can be more secure in the knowledge that their purchase or sale is quickly posted to the public record.
    - o Will avoid potential fee increases since the private sector organizations and counties will be more efficient in preparing and recording documents.

The cornerstone to electronic real estate recording in the State of Minnesota is the Electronic Recording Standards. The standards assure the private sector and the Minnesota counties that there is a uniform approach for sending and receiving documents electronically. With potentially 87 counties and hundreds of private organizations participating in electronic recording, the Electronic Recording Standards are absolutely necessary.

Substantial research has gone into the development of Electronic Recording Standards. All Minnesota counties were visited on-site or interviewed by phone to gain background on the current state of real estate recording and discuss how electronic recording could fit within the county offices. Several private entities were interviewed to assess sources and uses of recording information. Best practices were collected via interviews with several out-of-state counties that have already implemented electronic recording. Additionally, vendors and industry organizations were researched to better understand future direction of current initiatives. Collectively this information was used to develop the electronic recording standards and additional considerations discussed in this document.

The next step for electronic real estate recording within the state is to perform pilots. The pilots will use the standards, and the standards will be updated based on the pilot experience.

The standards will need to evolve as technologies change and new technologies are introduced. As the ERER Task Force completes its charter, we recommend that an organization should be formed to take responsibility for maintaining the standards. The ERER Task Force should determine the nature of the ongoing organization.

III. *ELECTRONIC RECORDING STANDARDS*

13. Consider how to build a framework for sharing and communicating information that would rely on existing, recognized policies and standards for technology, metadata, or data, and that would best support and improve procedures for recording, gaining access to, searching, preserving and retrieving real estate records.

The majority of the electronic recording standards are encapsulated in the best practice workflow, use cases, data element list, and XML schema contained within appendix A of this document. The standards are applicable to both abstract and Torrens documents. Instances where Torrens and abstract differences occur are highlighted in the attached use cases. The standards apply to all county offices included in the recording process (Recorder, Registrar of Titles, Auditor, Assessor, Treasurer) and roles are clearly identified in the attached use cases.

A best practice workflow is a graphical depiction of a recommended business process. The standards include best practice workflows for trusted submitter qualification, document submission and document recording.

A use case is a narrative that describes a recommended business process. Two use cases are included in the standards; one for processing a satisfaction and one for processing a full closing package (deed, mortgage, assignment of mortgage and certificate of release).

A schema is a document that defines the structure and semantics underlying an XML document. Schema are included for the documents defined as in-scope. They include satisfaction, certificate of release, deed (warranty, quit claim and limited), assignment of mortgage, certificate of real estate value, and affidavit of purchaser for Torrens property. The well disclosure certificate is intended to be attached as an image to an electronic deed and does not require a schema.

A data element list is a document that defines all of the data elements that are included in the schema.

Recommended Standards:

- **Adopt the best practice workflows as Minnesota standards (Appendix B).**

- **Adopt the satisfaction and closing package use cases as Minnesota standards (Appendix D and E).**

- **Adopt the schema for satisfaction, certificate of release, deed, assignment of mortgage, certificate of real estate value, and affidavit of purchaser for Torrens property as Minnesota standards (Appendix A).**

Adopt the data element list as Minnesota standards (Appendix A).

IV.   *OTHER FUNCTIONAL CONSIDERATIONS AND RECOMMENDATIONS*

The following are functional considerations from the 37 considerations listed in the ERERTF work plan dated January 15, 2001. The BenNevis team was asked to review these considerations and provide input and recommendations.

A. Data Preservation

12. Consider requiring that any technology-based improvements to existing systems that it recommends provide for long-term maintenance and development of electronic real estate recording, including the migration, conversion, and preservation of data over time.

15. Consider the implications of integrating existing paper, microfilm, microfiche, and optical methods of storing real estate documents with any digital, encrypted, or other document formats that the ERER Task Force recommends, to help make access to and searches of the real estate recording system as seamless and uniform as possible.

Implementation of electronic recording should integrate with existing recorded information as seamlessly as possible. To that end, images created from XSL or XHTML documents and images submitted as part of a model 1 or model 2 implementation are expected to be archived similarly to documents recorded today. Following the same approach for making documents available for public viewing will facilitate uniformity and minimize disruption. Images created from electronic documents will reside with existing images and can be accessed in the same manner as today.

In a model 1 or model 2 implementation, the document submitter transmits an electronic image of the document to be recorded. This replaces the scanning process currently taking place within the counties. This scanned image can then be made available for public viewing in place of an image created manually at the county. As is standard practice today, a copy of this image will be stored off-site as well.

Images created from a model 3 implementation would also be archived alongside the existing documents. Processing within the county would include a step to generate an electronic image of the document based on the data elements and XSL format provided. By creating open standards, we expect to eliminate dependence on any single technology and minimize the likelihood of obsolescence.

Recommended Standards:

- **Images of recordable documents that are created or submitted as part of electronic recording should be archived with existing document images.**

B. Open standards

14. Consider developing performance standards for electronic management of real estate records that do not specify particular hardware or software applications.

The electronic real estate recording standards have been developed utilizing XML schemas and XSL. XML/XSL standards are platform neutral. The intent of using

XML/XSL for the electronic real estate recording standards is to allow for the broadest possible implementation. By developing open standards, any party that chooses to can participate in the electronic recording process.

Recommended Standards:

- **Parties that are transmitting/receiving real estate records in the State of Minnesota must follow the Electronic Recording Standards, which are platform neutral.**

C. Right to Privacy

17. Consider ensuring that any electronic real estate recording system that the ERER Task Force recommends accommodates citizens' statutory rights to privacy and confidentiality of sensitive data and information as well as lawful uses of the real estate record, and supports units of government that are authorized to (i) revise, supplement, or otherwise modify certificates of real estate value (CRVs) and other documents that are part of the real estate recording process, (ii) search and compile such data for purposes unrelated to real estate recording, and (iii) require an audit trail of particular real estate transactions.

The migration to electronic recording cannot compromise citizen's rights to privacy. With this in mind, certain aspects of the electronic recording must be tempered to not extend access to information inappropriately.

The certificate of real estate value (CRV) is one example of this. Currently the CRV is a multi-part form with one copy containing social security number. This copy is passed to the Department of Revenue where it is used for several purposes. One use, which requires social security number, is to confirm that an individual has not filed homestead status for more than one property. In electronic recording, data will pass from the Recorder to the Department of Revenue in lieu of a multi-part form. While the Department of Revenue continues to need social security number, this personal information cannot be disclosed in the publicly viewable version of the document. As a result, the document standard requires social security number to be encrypted and not viewable throughout the recording process until received by the Department of Revenue.

Further, to ensure that private information is appropriately protected, any application developed for electronic recording should conform to the applicable sections of the Minnesota Governmental Data Practices Act (MN Statute 13).

Recommended Standards:

- **Social Security Number data element within the certificate of real estate value must be encrypted and viewable only by the Department of Revenue. If other information is identified in the future that requires privacy, it should be processed in the same manner.**

- **Applications developed to support electronic recording must comply with Minnesota Statutes Chapter 13.**

D. Tract Index

19. Consider whether a tract index should be mandatory in all counties, and if so, whether it should replace the grantor-grantee index as the official index.

With one exception, all Minnesota counties surveyed maintain a tract index. Roughly 25% of the counties maintain only an electronic tract index with a similar portion maintaining only a manual tract index. The balance, nearly 50%, maintain both an electronic and manual tract index.

This near universal presence of a tract index is presumably due to responsiveness to customer needs. The private entities interviewed indicated the tract index is the primary source of information. The grantor/grantee index is used much less frequently. The ERERTF Legal Subcommittee should consider these factors as it determines if tract index should become the mandatory and/or the official index.

To facilitate automated recording of documents into the tract index some additions were made to the XML document standards. The Minnesota Uniform Conveyancing Blanks were used as the baseline for the XML documents. However, on some documents data elements were added to capture the legal description of the property. A data element was added to all documents for PIN. These additional fields have been established as optional. The use of legal description and PIN vary greatly from county to county, and in many counties, vary from system to system within the county. It would be impossible for counties to comply with mandatory standards for legal description and PIN at this time. However, over time it should be possible for counties to implement standards for legal description and PIN, as systems are modified or replaced.

Recommended Standards:

- **Applications developed to support electronic recording should utilize the standards for PIN and legal description to create tract index entries, as soon as is practical.**

E. Real Estate Records

22. Consider defining the term "real estate records," including, for example, clarifying whether probate records and judgments are included.

The initial set of electronic recording standards includes the following documents:

➢ Satisfaction – 51M (1 document)

➢ Deed (1 document to cover 3 types: warranty, quit claim, and limited warranty)

➢ Assignment of Mortgage – 47M (1 document)

- ➢ Certificate of Release - 131M (1 document)
- ➢ Certificate of Real Estate Value – PE20 (1 document)
- ➢ Affidavit of Purchaser for Torrens property (1 document)
- ➢ Well Disclosure Certificate (scanned image)

Additional documents can be accommodated in future releases of the recording standards.

It is advisable for Minnesota to conform to national standards where possible. This will promote access to the broadest number of trusted submitters since Minnesota counties could easily transact with entities that have adopted national standards. This approach also takes full advantage of the broad expertise present in national organizations.

As such, the MISMO standard for e-mortgages was thoroughly analyzed for use as a Minnesota standard. The newly published e-mortgage standard appears to be in-line with the set of document standards developed for Minnesota. One difference to note however is that the e-mortgage standard has been developed in DTD format rather than schema. It is our understanding that a future release of the MISMO standard will be in schema format. Given that the e-mortgage standard supports the needs of Minnesota, it is more practical to adopt it with the DTD format, knowing that MISMO will publish a schema format over time. It is our recommendation that the e-mortgage standard should be adopted without modification.

The efforts of Legal XML and PRIJTF should also be monitored to determine the appropriate time to analyze emerging national standards for suitability and compatibility with Minnesota document standards.

Recommended Standards:

- **Adopt the schema for satisfaction, certificate of release, deed, assignment of mortgage, certificate of real estate value, and affidavit of purchaser for Torrens property as Minnesota standards (Appendix A).**
- **Adopt the DTD for MISMO e-mortgage standard as the Minnesota standard.**

F. Parcel Identification Numbers - PIN

25. Consider recommending the inclusion of parcel identification numbers (PINs), geographic information system (GIS) identifiers, or other unique labels in recordable instruments to foster cross-referencing among real estate records and other layers of public data such as city assessor's records and Minnesota Department of Revenue records.

It is important to allow for future enhancements. To accommodate interaction with existing GIS systems and provide for additional integration in the future, the document standards are being developed with a data element to capture parcel identification number (PIN). This optional field provides counties with a link from recorded documents to a GIS system. Multiple PINs can be associated with a single document. It should be noted however that currently most counties do not capture PIN in the recording system and to do so may require procedural and system changes. Additionally, retroactive inclusion of PIN on recorded documents would be a significant undertaking and is not recommended.

Recommended Standards:

- **A data element for PIN is included in the document standards as an optional field to accommodate entry into tract index and allow for future integration with GIS and other systems. The PIN number should have the following characteristics:**
  - **It should be unique**
  - **It should not be reused**
  - **It should be retained in perpetuity**
  - **The application should support tracking a split property to the original property**
- **Counties should implement PINs on a prospective basis**

V.   *OTHER TECHNICAL CONSIDERATIONS AND RECOMMENDATIONS*

The following are technical considerations from the 37 considerations listed in the ERERTF work plan dated January 15, 2001. The BenNevis team was asked to review these considerations and provide input and recommendations.

A. E-Signature

Capabilities for electronically signing the documents were developed following the general approach taken by MISMO. Documents can be signed using a digital signature or using one of three types of electronic signatures. Documents can be signed by multiple parties with the portion of the document being signed by each party clearly identified.

1.   *Digital Signatures*

A digital signature is the most secure and reliable way of electronically signing a document. Digital signatures are implemented using asymmetric cryptography and are based on the Public Key Infrastructure (PKI). Digital signatures support authentication of identities, non-repudiation of transactions, and data integrity.

Each party maintains control of its own private key. Documents are signed with the private key and digital signatures can be verified using the party's public key. Public keys can be distributed freely without compromising security. In addition, public keys are bound to a digital certificate issued by a trusted Certifying Authority.

The standards use the W3C XML Signature specification for digital signatures. As of February 2002, the Director of the W3C officially endorsed the XML Signature specification as a Recommendation. The standard is stable, instructions for its use are well documented, and it is being widely adopted for use in XML transactions.

Security requirements and best practices for implementing systems using digital signatures are well documented and readily available. However, two aspects of security for digital signatures are appropriate to mention in the context of these standards.

a) Use of Public Keys

Parties should establish separate key pairs for digital signatures and encrypting data. For example, one mechanism for transferring data between parties would be to send documents over the Internet using the File Transfer Protocol (FTP). Any data sent using FTP should be encrypted to prevent unauthorized access to that data. A separate key pair should be used to perform this data encryption from the key pair used to create a digital signature for the data. Two public keys should be provided to parties receiving the data.

b) Multiple Parties Should Not Sign the Same Data

Digital signatures are more prone to attacks if multiple parties sign the same data using different keys. As a result, care should be taken to ensure that no two parties are signing the exact same portions of any given document. In practice this should be easy to implement, as it is common practice for each party to add some content to the document that they will sign.

2. *Electronic Signatures*

An electronic signature provides a degree of identity authentication but it does not provide non-repudiation of transactions nor does it support data integrity. However, it is recognized that not all parties participating in the real estate transactions will have digital signatures.

Electronic signatures can provide an adequate level of transactional integrity when used in conjunction with digital signatures. For example, a notary with a digital signature could digitally sign an electronic signature created by another party. Alternatively, electronic signatures may be adequate when they are captured as part of a process where documents are system-generated and the process itself has been certified.

The standards allow for three types of electronic signatures. *Signature Images* are digitized images of an individual's signature. *Text Signatures* consist of text captured by an application. For example, a user might sign a document by typing their name into a text field, which is captured by an application. The captured text is then considered to be the signature. *Signature Objects* are external data objects considered to be forms of electronic signature. For example, biometric devices might be used to capture a handwritten signature that in addition to capturing an image of the signature also validates the identity of the user by checking the manner in which the signature is created.

Like digital signatures, electronic signatures have Reference elements to indicate what data objects are being signed. A Reference element for an Electronic Signature can be a Simple Reference, consisting of a Uniform Resource Identifier (URI), or it can be a Qualified Reference. A Qualified Reference utilizes the Reference element from the W3C XML Signature specification. In addition to indicating the URI of the data being signed, the Qualified Reference provides capabilities for creating digest values and specifying any transformations applied to the data being signed. These digest values might then be digitally signed by a notary or they may be useful in cases where there is a certified process for system-generated documents. In practice, this may or may not prove to be valuable. It's possible that the standards could be simplified to limit References for Electronic Signatures to Simple Reference types after feedback has been gathered from a pilot implementation.

Recommended Standards:

- **Parties should establish separate key pairs for digital signatures and encrypting data.**

- **Multiple parties should not sign the same data.**

B. **Target Namespace**

XML Schema supports the use of namespaces. A namespace provides a way to uniquely identify a group of elements and attributes. For example, an XML document might need to refer to the title of a document as an element and include an HTML title element. Namespaces provide a way to distinguish between these two elements even though they share the same name.

Namespaces are defined as URLs. This can be confusing because namespaces are symbolic and are not required to resolve to an actual Web address. URLs were chosen for namespace names because they are unique and because they contain domain names that can work on the Internet.

The standards were created with a target namespace of *http://www.erertf.org/0.1/schema*. The namespace for the standards can be easily modified at a later date once the namespace is finalized.

Recommended Standards:

- **The target namespace for standards should be**
  http://www.erertf.org/0.1/schema

VI. OTHER PROCESS CONSIDERATIONS AND RECOMMENDATIONS

The following are process considerations from the 37 considerations listed in the ERERTF work plan dated January 15, 2001. The BenNevis team was asked to review these considerations and provide input and recommendations.

A. Maintenance of Standards

26. Consider identifying the entity(ies) that will be responsible for developing and updating standards for the content and format of electronic real estate records.

Electronic real estate recording standards should be considered a living collection of documents. It is common practice to support on-going revisions to the standards by establishing a standards maintenance body. Typically this governing body is composed of volunteers from various organizations with a material interest in the standards. In the case of the ERER Task Force effort, it would be advisable to retain a subset of the Task Force as the initial standards maintenance board.

This group would be chartered with monitoring the activities of related organizations (MISMO, PRIJTF, Legal XML) and initiating updates to the ERER standards as appropriate. Attention must also be paid to the industry in general (i.e., vendors and out-of-state counties) to sense overall progress. This group would also need to monitor statute changes to ensure that the electronic standards comply with the latest legislation. New electronic document standards will also need to be reviewed to determine what information should be encrypted or secured to maintain citizens' right to privacy.

The governing body should focus primarily on those standards specifically developed for the state of Minnesota. The governing body should also critically assess any additional standards that MISMO, PRIJTF, or Legal XML produce for compatibility with Minnesota standards.

Recommended Standards:

- **Retain a subset of the ERER Task Force to serve as the initial standards maintenance board.**

B. Procedures and policies

11. Consider emphasizing the overriding importance of identifying features that will both (i) facilitate or enhance county recorders' numbering, indexing,

recording, payment, verification of receipt, certification, return of documents, and on- and off-site customer access services, and (ii) foster procedures and policies that promote uniform, secure, accessible, and user-friendly electronic creation, transmission, recording, storage, retrieval, and preservation of, as well as payment for, real estate documents.

Two primary scenarios are considered in this phase of electronic recording of documents. The first involves generation of satisfactions or certificates of release. In this case it is expected that electronic documents could be generated manually via data entry to an electronic form, or systematically via automated generation from the mortgage company/title company system. In the case of manual generation of documents, a digital signature would be required of a company officer and a notary. However, in the case of a system-generated document, counties and trusted submitters should consider certifying the process rather than each individual transaction. Similarly, a trusted submitter may choose to combine multiple properties and mortgagors in a single satisfaction filing.

The other scenario involves a package of documents required at closing. The set of documents considered includes deed, mortgage, assignment of mortgage, satisfaction (or certificate of release), certificate of real estate value, and well disclosure certificate. For Torrens property, an affidavit of purchaser would also be included. In each instance where an individual signs a document it is expected that this is a digitized signature. Each document would then be "wrapped" with a digital signature. *Please note, the difference between a digital and digitized signature is explained in the technical considerations section of this document.*

1. *Workflow:*

A best practice workflow has been drafted as part of this project (Appendix B). The workflow contains four components: trusted submitter qualification, document submission, document validation, and document recording.

a) Trusted submitter qualification

During trusted submitter qualification, a potential submitter is identified and evaluated based on criteria such as transaction volume, systems capabilities, and security standards. Also during this process payment mechanisms are established and contractual agreements related to electronic signatures and payment are executed. The final component of this stage is to test submission and receipt of documents between the county and trusted submitter.

b) Document submission

Document submission includes the process required to get a document from the originator to the county processing queue. During this process documents are scanned for viruses, document integrity is confirmed, and basic validation checks are completed. This component of the document flow could be accomplished at the county or by a third party.

c) **Document validation**

Document validation occurs at the receiving county. In this process the document enters the county processing queue and is evaluated relative to county-specific processing rules. County specific processing rules will need to be defined in greater detail by the counties during implementation. These specific processing rules include items such as Auditor validation, confirmation of current taxes, and other variations of the high-level workflow presented here.

Deed and mortgage registration taxes as well as recording and other fees are calculated. The total amount due for fees and taxes is collected from the trusted submitter in the manner agreed to initially. Any application built to support electronic recording should also include a mechanism to notify trusted submitters when escrow balances are low. Applications must also handle transaction sets (e.g., closing packages) and provide functionality to reject all documents in a package if one document is rejected.

d) **Document recording**

The final step in the process is document recording. A time stamp, document number, and the county's digital signature are applied to the document. Appropriate information is collected from the document and applied to both the tract and grantor/grantee indexes. A document image is then generated and archived. The document, receipt information, and recording confirmation are then sent back to the document submitter. Data, document copies, and funds are then transferred to other government entities (both inside and outside the county). Finally, indexing information and the document image are made available to the public and the recording process is complete.

Recommended Standards:

- **The best practice workflow should be used as a starting point for counties as they refine their document recording process (Appendix B).**

2. *Use Cases:*

In addition to the best practice workflow, counties can utilize the use cases included in the standards to develop or supplement policy and procedure manuals (Appendix C and D). The functional requirements included in the use cases tie to statutes where appropriate. The functional requirements can in turn then be tied to county processing manuals. Any legislation-driven changes to standards should then be reflected in revised policy manuals.

Recommended Standards:

- **Adopt the satisfaction and closing package use cases as Minnesota standards (Appendix C and D).**

3.   Payment method:

Counties should consider use of escrow accounts for collection of fees and taxes. Utilizing an escrow account facilitates immediate validation of funds availability and eliminates any delay in receipt. Because of the relative simplicity and low cost, our recommendation is to implement escrow accounts. Some alternative payment methods include credit cards, direct debit of accounts and electronic funds transfer.

Recommended Standards:

- **Implement escrow accounts with trusted submitters for payment of taxes and fees.**

- **Investigate alternative payment options as part of the pilot process or prior to standards implementation.**

4.   Storage and retrieval:

In the above process definition an image is created based on the XSL or XHTML contained within the electronic document. This image becomes the document of record. The electronic transaction to create the image need not be retained by the county. As a result, the image generated can be stored and retrieved in a manner consistent with existing document images. No change to storage or retrieval is required.

Recommended Standards:

- **Images created or submitted as part of electronic recording should be archived with existing document images.**

C. Ancillary Functions and Documents

16. Consider the many ancillary functions that are part of the real estate recording process, including for example (i) collection of deed and mortgage registry taxes; recording, well and conservation fees; special assessments and past-due real estate taxes; and Green Acres amounts, (ii) disclosure of information regarding wells and waste disposal systems, (iii) subdivision of land and lot-splitting, (iv) filing of Affidavits of Purchaser and Examiner's Directives in the Torrens system, and (v) with respect to real estate conveyances, verification of the tax parcel number; determination of the assessed value of the real estate; and disclosure of the name and address of the new taxpayer.

Numerous ancillary functions and documents are necessary for the recording of real estate documents. As mentioned above, it is our recommendation that counties establish escrow accounts with trusted submitters for payment of deed tax, mortgage registration tax, recording fees, and other fees. During the document validation component of the workflow, a withdrawal can be made from

the escrow account for the amount of the taxes and fees for an individual electronic document. The mechanics behind calculating the taxes and fees and executing the withdrawal will need to be defined and implemented at a county-level to accommodate the business rules unique to each county. Along with this, distribution of fees and documents to other entities will need to be developed as part of the county-specific workflow process.

Recommended Standards:

- **Implement escrow accounts with trusted submitters for payment of taxes and fees.**

- **Investigate alternative payment options as part of the pilot process or prior to standards implementation.**

Three ancillary documents are included in the electronic recording standards. The well disclosure certificate, certificate of real estate value, and affidavit of purchaser for Torrens property are all required for a standard closing package (Appendix A).

Split processing and verification of tax parcel number was considered out of scope. Initial implementations should focus on basic real estate transactions. Integration with tax, GIS, and Assessor systems will need to occur as part of the implementation of electronic recording at an individual county level. This step has been identified within the best practice workflow during the document recording phase.

An initial validation will need to occur to confirm that the property being recorded is not a division or split. This could be done with an electronic validation of legal description, combined with a manual review for non-matches. The actual implementation of this validation will vary from county to county, depending on the capabilities of the county systems.

Recommended Standards:

- **Implement a process for identifying divisions or splits and removing them from the electronic recording process, so that they can be manually recorded.**

VII. GRANTOR/GRANTEE INDEXING STANDARDS

The Property Records Industry Joint Task Force (PRIJTF) has invested a significant amount of effort into developing grantor/grantee indexing standards through the work of Carl R. Ernst. Draft 3 of *Indexing of Grantor/Grantee Names by Land Recording Offices* (see http://www.prijtf.org/Papers/indexingreport/indexingreportdraft3.PDF) discusses numerous items to consider in a modern grantor/grantee indexing process. It also outlines a set of model name rules that have been tested via an actual index

conversion effort. The considerations and recommendations presented here build on several topics included in Mr. Ernst's work.

A. Creation and revision of uniform grantor/grantee indexing standards

20. Consider recommending the creation, evaluation, and revision of uniform indexing standards to facilitate computerized searches, for example, by clarifying whether "John Smith Truck Co." will be indexed as Smith, John, Truck Co. or as John Smith Truck Co., and whether a name that starts with "Saint" be indexed as Saint, St., or St.

Grantor/Grantee indexing standards are essential for implementation of electronic recording. Business rules and standards need to be codified as part of the automation activities. Unless indexing norms are defined, human intervention and judgment will always be required to record even the simplest document. Grantor/Grantee indexing standards must be implemented before electronic recording of documents can be fully automated.

The approach outlined in the PRIJTF document (see http://www.prijtf.org/Papers/indexingreport/indexingreportdraft3.PDF) is founded on practical experience. It is our recommendation that these guidelines should serve as the starting point for implementation of grantor/grantee indexing standards. Items such as name sequence and concatenation, abbreviations, and special characters are addressed in the indexing guidelines. These items are discussed in greater detail later in this document.

Creation of uniform, statewide standards deserves consideration. Incremental benefits of statewide standards to individual counties may be limited. However, counties could share best practices and benefit from a collective approach. Benefits to the private sector could be significant. Consistency between counties would allow trusted submitters to more easily access a broader number of counties (and higher transaction volume) which would increase the productivity gains realized through automation. There is enough potential benefit that we recommend creation and adoption of statewide standards. Uniform grantor/grantee indexing standards in conjunction with statewide document standards would allow trusted submitters to transact with any county in Minnesota in a consistent manner.

Continuous uniformity in grantor/grantee indexing standards would require oversight by a governing organization. This overhead would need to be considered as a cost of maintaining uniform standards. Another challenge is gaining consensus on indexing norms across 87 counties. On-going evaluation and revision of the indexing standards would be required. A similar governing body would need to be in place for the document standards being developed for

the ERER Task Force. Should statewide standards be adopted, it is our recommendation that maintenance of the uniform grantor/grantee indexing standards also reside with the document maintenance organization.

Recommended Standards:

- **Adopt the PRIJTF grantor/grantee indexing guidelines as a statewide standard, prior to pilot testing.**

- **Maintain the grantor/grantee indexing standards through the same maintenance organization responsible for Minnesota document standards.**

B. **Mandatory use of uniform grantor/grantee indexing standards**

21. Consider whether use of any uniform indexing standards should be mandatory; whether such use should be prospective only; and if indexing standards are to be used retrospectively as well as prospectively, how far back in time existing indexes should be amended.

As automation of the recording process takes place, programmatic normalization of index entries can occur. This normalization will transform the standardized data elements of an electronic document into consistent index entries. The standard document components can be ordered and grouped according to the individual county needs. This ability to adapt the standard data into a county-specific format supports an argument against mandatory use of uniform indexing standards.

However, consistency between counties could become increasingly important over time. As more of the recording process is automated, additional index information generated by the recording systems may be utilized. Consistency in output would simplify future standardization and provide significant benefit to the trusted submitters of the counties. Therefore, following the premise that statewide consistency provides maximum benefits, it is our recommendation that as counties adopt the electronic recording standards they are required to adopt the uniform grantor/grantee indexing standards as well.

1. ***Conversion of legacy information:***

    Ideally all grantor/grantee index information would conform to the same indexing standards. However, ensuring consistency would require review and modification of existing index entries. While some of the conversion of legacy information could be automated, manual review and modification of information would be required. Such an undertaking would be a significant time commitment for most county offices. Given the current workload witnessed in the Recorder's offices, it would not be appropriate to require conversion of legacy information at this time.

Our recommendation is to implement new grantor/grantee indexing standards prospectively as part of the electronic recording implementation effort. As efficiency is realized via implementation of electronic recording, more time to accommodate activities such as retroactive indexing will become available. Counties should consider the benefits of converting legacy information as staff workload returns to a level to allow for this activity.

2.   *__Programmatic normalization of index entries:__*

The recording system should be utilized to ensure consistency in grantor/grantee index entries. Consistency in case, punctuation, and order can be maintained by rules contained within the recording system. The same logic used to create the index entry can be used to generate a search request. As a result the normalized indexing and search routines will provide more accurate and complete search results. Specific items to consider in normalization include:

a) __Name sequence and concatenation:__

PRIJTF recommends entering all forms of multiple name surnames in the index. Using this approach, surnames would be concatenated for consistency. The example presented is John de la Hoja. This name would be indexed multiple ways (HOJA JOHN DE LA, LAHOJA JOHN DE, DELAHOJA JOHN).

b) __Abbreviation standards:__

PRIJTF recommends a "reversal test" to determine if an abbreviation is acceptable. The concept is simple but very effective (can the abbreviation be reversed to its original word without confusion?). Ernst provides examples of good and bad abbreviations in the PRIJTF document.

c) __Special characters:__

Different character sets are recommended for human and non-human names. PRIJTF recommends the capitalized letters of the alphabet plus additional special characters. For human names, apostrophes and hyphens are the only allowed special characters. For non-human names the list of accepted special characters is longer and is captured in section 10 of the document.

d) __Human vs. non-human names:__

Indexing standards will differ for human and non-human names. The document standards being developed as part of this project recognize this and allow for separate data elements for each type of

name. As a result, different normalization rules can be applied to human names and non-human names. These normalization rules are discussed in sections 9 through 12 and a recommended approach is captured in appendices 11 and 12 of the PRIJTF document.

e) <u>Keying process:</u>

Section 5 of the PRIJTF document discusses rules for the keying of data. Many of the rules necessary to ensure consistency in index information can be built into the recording system. This reduces the number of manual decision points for those documents not received electronically. For electronic recording, these same decision points must be pushed upstream to the document originator. Additional rules can be built into the document originator's systems to improve acceptance rate. Training of the document preparers will also be required to ensure the manual decision points are understood and consistently addressed.

Adoption of the document standards will further reduce the number of decision points. Utilizing one field for each name segment eliminates the possibility of having different spelling of the same name in different sections of the document. Similarly, a distinction is made within the document as to whether the name is for a human or non-human, which allows for different normalization rules to be applied.

Recommended Standards:

- **Require adoption of uniform grantor/grantee indexing standards as counties move to electronic recording.**
- **Implement uniform grantor/grantee indexing standards prospectively only.**

VIII. *RECOMMENDATIONS FOR THE PILOT PHASE*

18. Consider requiring that any enhancements or changes to existing applications that the ERER Task Force recommends be designed to be developed in phases and adaptable to various systems.

The next step in achieving electronic recording in Minnesota is to perform pilot implementations. Counties, private sector organizations and vendors will need to

be selected/recruited to perform the pilots. A list of possible vendor evaluation criteria has been included in Appendix E.

The ultimate selection of models to implement in the pilots will need to be made based on the pros and cons for each model and the capabilities and resources of the counties, private sector organizations and vendors involved. Pros and cons for each model have been included in the cost benefit analysis. The greatest benefits to counties and private sector organizations are achieved with model 3. Model 3 requires significant systems enhancements in order to be fully effective. The effort to perform these enhancements will need to be considered by the parties involved as part of the process of defining the pilots. One alternative that could be considered would be to pilot a non-integrated model 3 for one of the pilots. Under this approach, the county would not integrate automated posting to the indexing system. Rather, the county would electronically receive the document, print it and process it normally. This is an approach that smaller counties are likely to implement to accommodate electronic recording. A model 1 approach could also be considered for this process.

Another consideration that will need to be reviewed with the parties involved is the use of XSL or XHTML. The standards have been drafted with XSL, but there may be some vendors or private organizations that have systems using the older XHTML technology, that would find it difficult to convert to XSL for a pilot.

The out-of-state counties interviewed that implemented a model 2 or model 3 solution unanimously recommended starting with a high-volume, simple document. The successful implementations started with their state's equivalent of a satisfaction or certificate of release. This approach should be considered for the pilots. A model 3 implementation would need to include a trusted submitter with adequate volume to justify the effort. In this case a national or regional bank should be considered for satisfactions and a large title company should be considered for certificates of release.

There are several factors that could complicate the pilot effort in Minnesota. Many of these issues have not been addressed in efforts in other states.

- o Tract index: Virtually all counties within Minnesota record documents in both a grantor/grantee and tract index. Many out-of-state counties record only in a grantor/grantee index. Experience from other implementations is limited. Gathering adequate information to automatically record documents in the tract index will require that the county systems have the capability of automatically finding a legal description based on the document number.

- o Torrens: Most counties in states outside of the Midwest are composed solely of abstract property. Only one out-of-state county interviewed indicated a presence of Torrens property. As a

result, experience from other implementations is limited. Initial pilot efforts may be best served by focusing exclusively on abstract property. The additional processing required to create memorials and generate new certificates of title should be held for a future phase.

The net impact of these complicating factors is that, depending on the approach taken, it may take additional time to complete a pilot effort in Minnesota. The additional challenges these factors present need to be considered when deriving the timeline and work plan for pilot activities.

IX. FUTURE CONSIDERATION

An implementation approach that should be considered in the future (ie, after the pilots), is using a central switch for document transmission. This switch could be used by all the counties who want the advantages of a switch, while allowing counties who prefer to transmit directly to do so. The following describes a central switch implementation.

In the current paper-based recording process documents are typically transported from the submitter to the county by a third party. Generally this third party is the US Postal Service or a delivery service. In either case, the submitter follows established procedures (e.g., addressing) as it provides documents to the third party for delivery. The third party is then responsible for transporting the documents to the intended county. The county receives the documents at a single point and processing begins.

In this scenario the submitter does not need to know where the county mailroom is or even where the county office is located. Similarly, the county does not need to know what process the submitter used to generate and mail the documents. At the simplest level, this process involves two parties exchanging documents in an agreed upon manner. This allows exchange of documents in a standard manner without intricate knowledge of, or exclusive relationships with, the other party.

The post office analogy can be carried over to the electronic world. One approach to simplify submission of electronic documents and promote consistency in process is to establish a central switch for electronic transactions. In this scenario a third party would establish a central point for collection and distribution of electronic documents. This would allow submitters to transport electronic documents to any participating county by utilizing a single mechanism. The counties would also be able to receive electronic documents from a broader number of trusted submitters without establishing unique conduits to each.

A "county pull" approach could be utilized in which submitting companies deposit documents into the central switch and counties are responsible for monitoring the submissions and processing documents as part of their work

queue. Counties could choose to automate the gathering of documents or treat this similar to a courier or mail drop. A phased implementation approach should be considered. Similar to a pilot effort, a small number of counties should participate in the early implementation of a central switch. Once full functionality is established additional counties should be brought on line.

A central switch approach offers a number of benefits when compared to a county direct approach:

- o The central switch could perform standard validation of documents prior to sending them on to the counties. This could significantly reduce the document rejection rates at the counties, thus reducing workloads. It will also assure that the standards are uniformly enforced. The central switch approach could be of particular benefit to the midsize and smaller counties that are likely to begin participation by simply downloading and printing electronic documents.

- o Rather than having each county deal with multiple private companies, each county will only have to work with the central switch to establish electronic processing.

- o Rather than having to deal with 87 counties and multiple options for communicating electronic documents, the private companies will only have to work with the central switch to establish electronic processing. However, the central switch is simply a conduit between the trusted submitter and the county. Contractual relationships are between the county and trusted submitter.

The central switch concept should be considered after initial pilots are complete. Costs and benefits of this approach should be assessed as well.

The schema and data element list are available in XML Spy and Microsoft Word format at the Task Force website or on CD by contacting the State Project Coordinator, or can be accessed below by clicking on the hyperlink.

1. View Element
A View Element has been created in each of the schemas to facilitate the creation of a printable version of the document. The View Element is defined as an occurrence of the "anyComplexType" XML Schema datatype. This datatype allows for the inclusion of an embedded XSL Stylesheet or XHTML element that defines the view.
XSL – XSL or The Extensible Stylesheet Language is a language for the creation of stylesheets. An XSL stylesheet is a document that contains instructions on how to display the data in an XML document. XSL stylesheets work in conjunction with XSL Transformations (XSLT). XSLT can be used to render the data in an XML document into an HTML form viewable on any web browser. XSLT accomplishes this transformation using the formatting instructions contained within the XSL stylesheet.
One advantage of using XSL for transforming XML data into HTML is that it supports the clear separation of data and instructions for the presentation of that data. XSL uses XPath to access data within an XML document. This is significant because it ensures that the data presented in the view is exactly the same as the data within the data portion of the document.
A view created using XHTML may require the duplication of data within the view section that exists within the data section of the document. Applications written to support these types of documents would have the additional requirement of ensuring the data in the view section is an exact match of the data in the data section of the document. Another advantage of XSL is that the view does not have to be defined within every XML document. XSL stylesheets can be stored once and referenced from within multiple XML documents. For example, a specific entity might have one stylesheet for the creation of views for Satisfaction documents. This stylesheet could be kept on file at each of the counties. When Satisfaction documents are sent to the counties, the stylesheet would be referenced inside the Satisfaction document.

2. List of Schema
To view the schema (*.xsd, *.xml and *.xslt files) using XMLSPY: go to www.xmlspy.com and download the 30 day demo version. All you need is an email address where your userId and password will be sent to. Once you download XMLSPY, you can then use it to view the schemas and XML files.

XML Files: (*.xml)

The following files are examples of data embedded in the datatags identified in the schema. The files can be viewed using XMLSPY or Word.

AffidavitOfPurchaser.xml
AssignmentOfMortgage.xml
CertificateOfRelease.xml
Satisfaction.xml
WarrantyDeed.xml
SatisfactionForSampleDocXML.doc

Schema files: (*.xsd)

These files can be viewed using XMLSPY or Word. Word will give a text view where XMLSPY gives a graphic and text view.

All schema files beginning with dt*.xsd represent the datatypes used for attributes.

dtAcreageNumber.xsd
dtAdjustmentCode.xsd
dtCapacity.xsd
dtCERNumber.xsd
dtCommunicationMethod.xsd
dtContactMethod.xsd
dtCOrT.xsd
dtCountryCode.xsd
dtCountryRegionCode.xsd
dtCountyRejectCode.xsd
dtCRFRejectReasons.xsd
dtCRPRIM.xsd
dtCRVComment.xsd
dtCRVStatus.xsd
dtDocumentCode.xsd
dtDocumentTitle.xsd
dtFeeCode.xsd
dtFeePaymentType.xsd
dtFeeStatus.xsd
dtGreenAcresCode.xsd
dtImage.xsd
dtLeaveBlankCode.xsd
dtMaritalStatus.xsd
dtMethodOfFinancing.xsd
dtMoney.xsd
dtNeedToInvestigate.xsd
dtOtherNameType.xsd
dtPersonnelRole.xsd
dtPlannedUseOfProperty.xsd

dtPropertyCode.xsd
dtPropertyTypeCode.xsd
dtRecordingCountyCode.xsd
dtRecordingCountyID.xsd
dtRecordingStateCode.xsd
dtReferenceNumberType.xsd
dtRegulatoryCategory.xsd
dtRelatedIndividualRole.xsd
dtRelatedOrganizationRole.xsd
dtRelationshipStatus.xsd
dtRepresentativeRole.xsd
dtSchoolDistrictCode.xsd
dtSSN.xsd
dtStateCode.xsd
dtTransactionCode.xsd
dtTypeOfAcquisition.xsd
dtTypeOfPropertyTransferred.xsd
dtUnitNumber.xsd
dtUpdateCode.xsd
dtUseCode.xsd
dtWellStatus.xsd

All schema files beginning with ag*.xsd represent the attribute groups.

agCapacityStatus.xsd
agMarketValue.xsd

All schema files beginning with a lowercase letter represent the subset of schemas used for the document schemas.

address.xsd
contact.xsd
coreInformation.xsd
correspondenceInformation.xsd
countyInformation.xsd
deedBodyInformation.xsd
documentOutline.xsd
fees.xsd
header.xsd
individual.xsd
legalDescription.xsd
notary.xsd
organization.xsd
personalProperty.xsd

personnel.xsd
property.xsd
recordedDocumentDateTime.xsd
recordedDocumentInformation.xsd
referencedDocumentInformation.xsd
referenceNumberInformation.xsd
regulatory.xsd
returnToInformation.xsd
signature.xsd

All schema files beginning with an uppercase letter represent the document schemas.

AffidavitOfPurchaser.xsd
AssignmentOfMortgage.xsd
CertficateOfRelease.xsd
CRV.xsd
Deed.xsd
Satisfaction.xsd

To view the generated documents of the schemas click on the following documents:

AffidavitOfPurchaserXSD.xsd
AssignmentOfMortgageXSD.xsd
CertficateOfReleaseXSD.xsd
CRVXSD.xsd
DeedXSD.xsd
SatisfactionXSD.xsd

The following files give a graphic view of the schemas without using XMLSPY. Any element that is defined in another schema, has not be expanded in the current file. You will have to click on the appropriate file to see that schema. (For instance, the file coreInformation.png has a Header element with a type of headerType. You would have to go to the header.png file to see the graphic view of the headerType.)

address.png
coreInformation.png
correspondenceInformation.png
countyInformation.png
deedBodyInformation.png
documentOutline.png
endorsingOrganization.png
fees.png
header.png
individual.png

individualCommunication.png
individualContact.png
legalDescription.png
mortgageReferenceDocument.png
notary.png
organization.png
organizationContact.png
personalProperty.png
personnel.png
property.png
recordedDocumentDateTime.png
recordedDocumentInformation.png
referenceDocumentInformation.png
referenceNumberInformation.png
regulatory.png
returnToInformation.png
signature.png

AffidavitOfPurchaser.png
AssignmentOfMortgage.png
CertificateOfRelease.png
CRV.png
Deed.png
Satisfaction.png

JPEG Files:

All JPEG files represent the bitmaps used in the Satisfaction sample document for the signatures.

Carmen.jpg
CountyRecorder.jpg
DeannaBurns.jpg
JHodgson.jpg

To see the Satisfaction Sample document:

Open the SatisfactionForSampleDoc.xml file

To see the Satisfaction Sample document transformed using XMLSPY:
Open XMLSPY.
Open the SatisfactionForSampleDoc.xml file.

Make sure the SatisfactionForSampleDoc.xslt assigned to it is in the indicated directory path.
Execute XSL Transformation by clicking on the option under the XSL menu

3. Data Element List

DataElementList.doc

This was created using DataElementList.xsd

Items A through F describe the process followed to create the standards, provide additional definition to the standards, and/or provide additional guidance for implementing the standards.

4. Other Information Related to the Schemas and Data Elements

A. Electronic Standards Creation Process

The best practice workflows and use cases were drafted first and capture the functional requirements, process flow and decision points for document recording. Actors (participants in the recording process) are also identified and their respective roles in the processing of documents are captured in the use case. County Recorder staff was consulted on accuracy and completeness of the use cases.

XML schema were then developed based on the use cases and sample documents collected during the on-site interviews. Sections of the schema were separated into reusable components that are common among all schema drafted for this effort. Iterations of review with county Recorder staff were again completed to further refine the schema.

A data element list was created concurrent to the development of the XML schema. This list captures and further defines all data elements included in the schema.

Additional comments on the document standards follow:

B. Sample Document

The sample XSL document created during this project serves as an example of how trusted submitters could construct the electronic documents. It is important to note that each trusted submitter will need to develop an XSL document to fit their specific needs that conforms with the schema developed as part of this effort. XSL documents developed by trusted submitters must still conform to Minnesota statute 507.093, which defines document standards.

C. Uniform Conveyancing Blanks

The Minnesota Uniform Conveyancing Blanks were used as the baseline for the XML document standards. With the exception of optional data elements for legal description and PIN, the blanks were mimicked for electronic recording. This approach was adopted to minimize the focus on format and place primary emphasis on the migration to electronic standards.

D. Well Disclosure Certificate

Currently a sketch map must be included on the well disclosure certificate to indicate the location of the well. The sketch is typically hand-drawn. This process is expected to continue. The sketch map will need to be included within the electronic document as an image. Simple scanning technology will be able to accommodate this requirement. Since the hand-drawn map needs to be scanned, and the data on the well certificate is used to determine recordability, but is not recorded, the entire well certificate will be scanned and included with the deed. Additional detail on the format of the image is available within the deed schema.

E. Request and Response

Communication back to the document submitter is an integral component of the electronic recording process. Three types of transmittals are anticipated:

1. Rejection:

A document can be rejected at any point prior to or during the recording process. Some reasons for rejection include, validation rules not met, document integrity compromised, digital signature not valid, and insufficient funds.

2. Submission complete:

Transmission of the electronic document from the submitter to the appropriate county is complete. The document is now in the processing queue.

3. Recording complete:

The document has passed all processing rules and has been recorded. Date/time stamp, document number, and Recorder's signature have been applied to the document and all indexing is complete. Information on taxes and fees paid will also be contained within this confirmation.

Recommended fields to be included in the transmittals are:

Field	Rejection	Submission	Recording
Date & time of transmittal	X	X	X
Processing county	X	X	X
Document tracking number	X	X	X
Reason for rejection	X		
Document number			X
Recorders signature			X
Recording date & time			X

Many options are available to facilitate communication between the county and trusted submitter. For example, MISMO has defined a generic request and response enveloping protocol. Simple Object Access Protocol (SOAP) is another leading option. The appropriate communication method will vary depending on the systems involved and the model implemented. Each implementation of electronic recording will need to assess the best communication mechanism for the given environment.

F. Data and Records Management Architecture

There are several existing principles captured in the Minnesota Data and Records Management Architecture that the real estate standards and recording/transport applications must comply with. *Note – the Data and Records Management Architecture document can be found at* http://www.ot.state.mn.us/architecture/html/DataRec.htm. *Links to other documents mentioned in this section are contained within the Data and Records Management Architecture document.*

1. Cross-platform data encoding and formatting:

This principle sets parameters for standards development. The real estate standards have been developed in XML which is the recommended technology.

2. Character encoding:

This principle sets parameters for character sets to be used. XML by definition places constraints on allowable characters, thus the standards comply with this principle.

3. Images: long-term value:

This principle sets mandatory imaging system standards for permanent records. Any application developed or enhanced to support electronic recording should comply with Information Resource Management (IRM) standard 12.

4. Metadata – data elements & Data element naming:

These principles outline naming conventions for data elements. Since the ISO/IEC documents referred to in the "Metadata – data elements" principle are a work-in-process, the references in the "Data element naming" principle will be used. IRM guidelines 9-1 and 10-1 were used as a guide for naming the data elements within the real estate standards. Any application developed to support electronic recording should also comply with these naming guidelines.

5. Metadata – Recordkeeping:

The Minnesota Recordkeeping Metadata standard is an emerging work. This standard defines 20 data elements (10 mandatory) which are intended to improve records management. The data elements integrate the Dublin Core elements and the Minnesota Geographic metadata guidelines. Implementation of the Recordkeeping Metadata is appropriate for documents that will be passed from the recording process to other entities (e.g., the certificate of real estate value which is passed to the Department of Revenue).

6. Data Coding:

Federal Information Processing Standards (FIPS) Publication 5-2 sets two digit code standards for the 50 states, District of Columbia, and outlying areas. Information Resource Management (IRM) standard 15-1 establishes three digit codes for all Minnesota counties. Applications developed to support electronic recording should comply with these codes.

7. Records management strategies:

The Trustworthy Information Systems Handbook and Electronic Records Management Guidelines provide guidance on application development. Both guides should be utilized when developing an application or transport mechanism to support electronic recording.

Recommended Standards:

Applications developed to support electronic recording must comply with IRM standard 12 for imaging.

Applications developed to support electronic recording must comply with IRM standards 9-1 and 10-1 for data naming conventions.

Applications developed to support electronic recording must comply with FIPS 5-2 and IRM 15-1 for state and county codes.

APPENDIX B - BEST PRACTICE WORKFLOW

ERER Business Analyst Services Project
Best Practice Real Estate Recording Process Flow
Trusted Partner Qualification
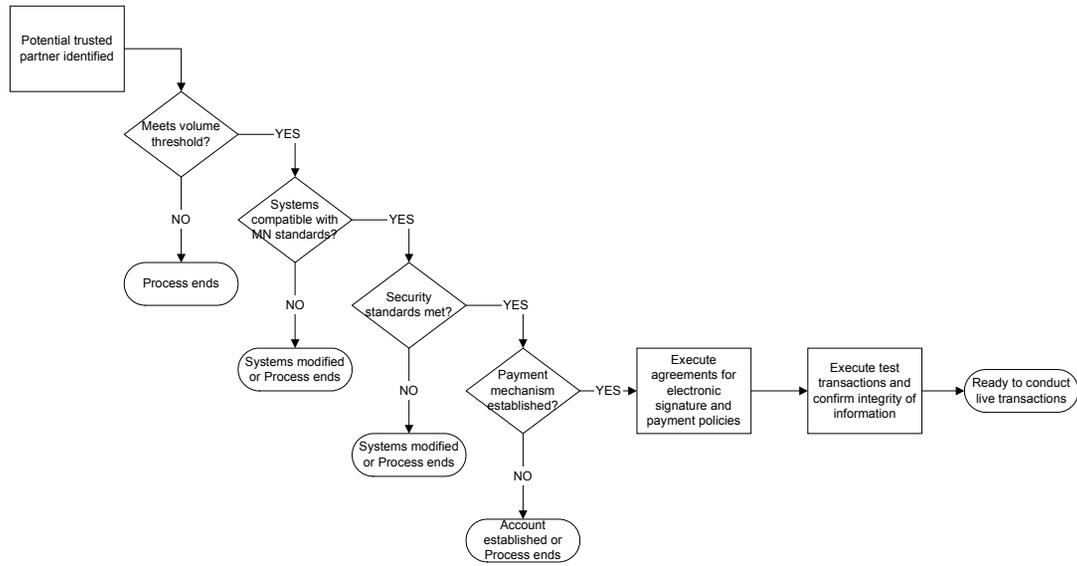
Potential trusted partner identified

Meets volume threshold? — YES

NO

Process ends

Systems compatible with MN standards? — YES

NO

Systems modified or Process ends

Security standards met? — YES

NO

Systems modified or Process ends

Payment mechanism established? — YES

NO

Account established or Process ends

Execute agreements for electronic signature and payment policies

Execute test transactions and confirm integrity of information

Ready to conduct live transactions

ERER Business Analyst Services Project
Best Practice Real Estate Recording Process Flow
Document Submission
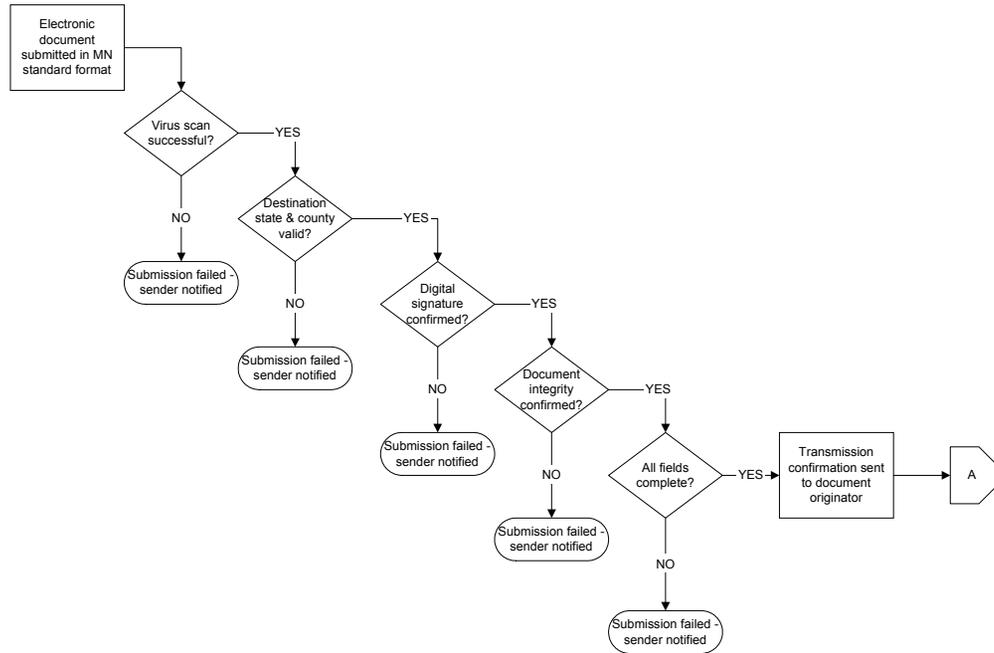
Electronic document submitted in MN standard format

Virus scan successful? — YES

NO

Submission failed - sender notified

Destination state & county valid? — YES

NO

Submission failed - sender notified

Digital signature confirmed? — YES

NO

Submission failed - sender notified

Document integrity confirmed? — YES

NO

Submission failed - sender notified

All fields complete? — YES

NO

Submission failed - sender notified

Transmission confirmation sent to document originator

A

ERER Business Analyst Services Project
Best Practice Real Estate Recording Process Flow
Document Validation

A → Electronic document enters processing queue → Determination of abstract or Torrens → Pass county specific rules? -Auditor rules -taxes current → YES → Deed tax, MRT, recording fees, and other fees calculated → Funds available? → YES → Funds collected → B

Pass county specific rules? → NO → Document rejected - sender notified
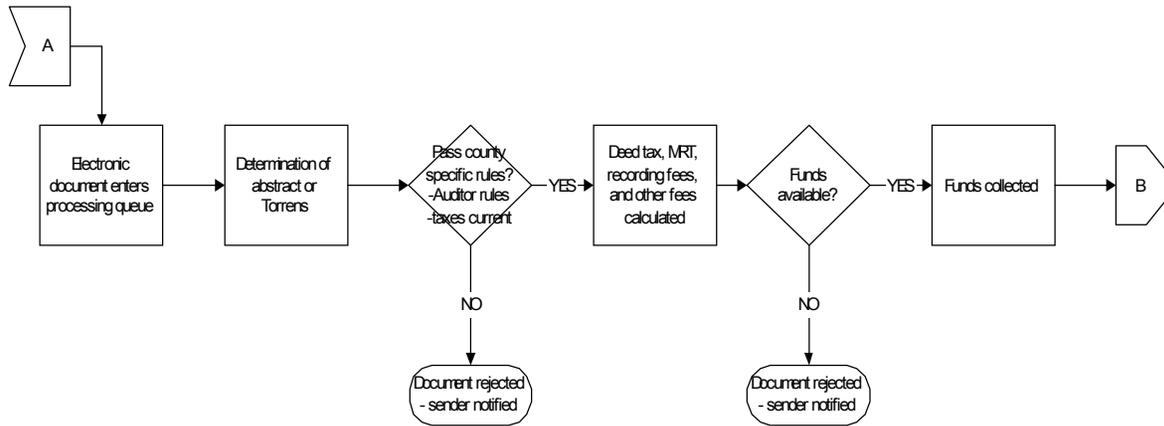
Funds available? → NO → Document rejected - sender notified

ERER Business Analyst Services Project
Best Practice Real Estate Recording Process Flow
Document Recording
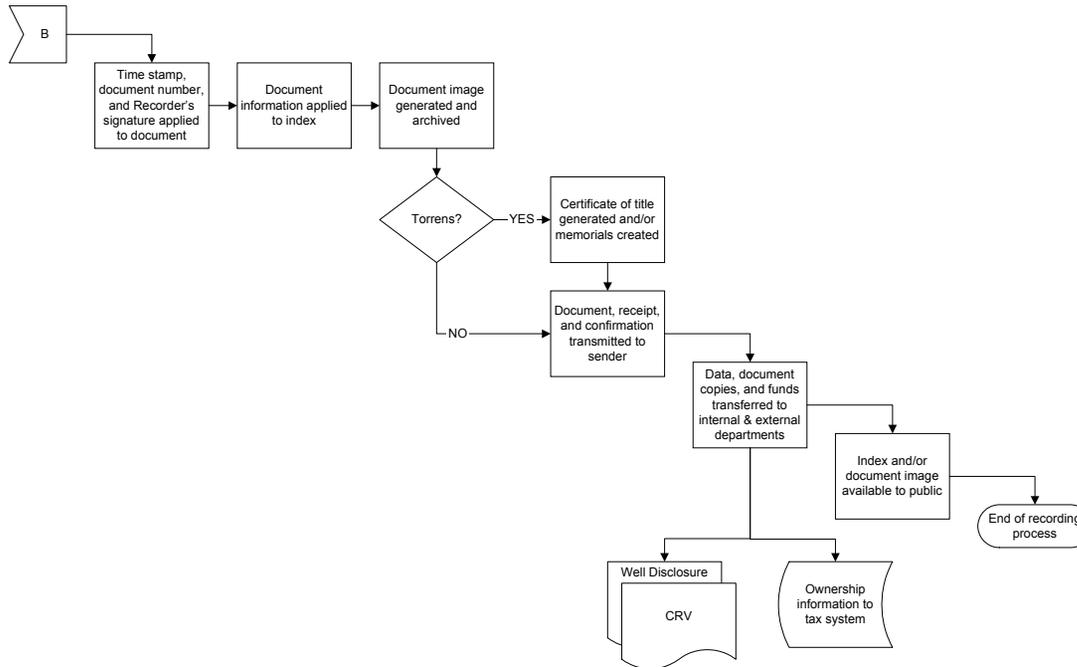
B

Time stamp, document number, and Recorder's signature applied to document → Document information applied to index → Document image generated and archived

Torrens? —YES→ Certificate of title generated and/or memorials created

NO → Document, receipt, and confirmation transmitted to sender

Data, document copies, and funds transferred to internal & external departments

Index and/or document image available to public → End of recording process

Well Disclosure

CRV

Ownership information to tax system

APPENDIX C - SATISFACTION USE CASE

ERERTF Satisfaction Use Case
DRAFT

Version	Date	Editor	Description
	03/05/02	Pam Trombo	Initial Version
	04/24/02	Pam Trombo	Modifications based on review from Schema meeting on 04/22/02
	04/30/02	Pam Trombo	Modifications based on review from Content and Workflow meeting on 04/29/02

Goal:

Mortgage Holder Personnel creates a Satisfaction document for a mortgage and submits the document and the fees to the appropriate county.

Mortgage Holder Official signs the Satisfaction.

Notary witnesses the signatures on the Satisfaction.

County Office is the single point of entry for all documents, which will then be circulated appropriately throughout the Recorder/Registrar of Titles, Auditors and Treasurer's offices according to the specific county's workflow process.

County Recorder signs the recorded Satisfaction document for abstract property.

County Recorder Personnel receives the Satisfaction for abstract property, performs all tasks to: validate the documents, process the fees, record the document, index the appropriate information, make the information available for public viewing and return the document to the submitting party.

Registrar of Titles signs the recorded Satisfaction document for torrens property.

Registrar of Titles Personnel receives the Satisfaction for torrens property, performs all tasks to: process the fees, record the document, index the appropriate information, create a memorial on the Certificate of Title, make the information available for public viewing and return the document to the submitting party.

Scope: This use case encompasses the process of submitting the Satisfaction document to the recorder's office, having it recorded, collecting the appropriate fees and then returning the document to the submitting party.

Definitions:

Mortgagor (borrower): an individual or corporation who mortgages property

Mortgagee (lender): an individual or corporation to whom property is mortgaged

Document number: A unique identification number assigned to a document.

Recorded: A document is assigned a date, time and a document number by the Recorder's office in the appropriate county

Indexed: A means of filing a document using specific data to allow searching capability for easy retrieval in the future

Actors:
- Mortgage Holder Personnel
- Mortgage Holder Official
- Notary
- County Recorder Personnel
- County Recorder
- Registrar of Titles
- Registrar of Titles Personnel
- County Office

Functional Requirements:

1. The County Office will be the single point of entry for all documents
2. The applicable documents are retrieved by the appropriate offices within the county as dictated by the specific county's workflow rules
3. The document meets Minnesota Standards Specifications
4. The recorder's office collects the fees
5. No name changes have transpired since the mortgage was recorded (for Torrens property)
6. The document is presented to the correct county
7. Property on document is contained in one county
8. The submitting party is capable of submitting and receiving the document
9. The county is capable of receiving and returning the document
10. Funds are processed/distributed to other local/state government units as required by jurisdictional requirements
11. Data used for indexing is compatible with current systems

12. Recorder is able to capture an archival quality record of the data/document
13. Identified and authorized submitter has an account in good standing (ie. A sufficient amount of money is available to pay fees for recording)
14. The lender is an individual or more than one individual, a company or a partnership
15. The borrower is an individual or more than one individual, a company or a partnership
16. No other documents are submitted with the Satisfaction document

Trigger:

- The final payment for a mortgage is received by the lender

Assumptions
1. All the necessary information in the document is present and correct
2. The correct fees are paid for recording the document

Successful End Condition:
1. Document has been recorded, indexed and made available for public viewing
2. Document has been returned to the submitting party with the recorded information and receipt of fees processed
3. Mortgage is satisfied

Abstract Main Course Scenario:

Step	Actor	Action
1	Mortgage Holder Personnel	Satisfaction document is prepared for appropriate parties.
2	Mortgage Holder Official	Signs Satisfaction document
3	Notary	Notarizes Satisfaction document (signs and stamps seal on it)
4	Mortgage Holder Personnel	Submits Satisfaction document to County Office
5	County Recorder Personnel	Receives Satisfaction document
6	County Recorder Personnel	Validates information on Satisfaction document is recordable
7	County Recorder Personnel	Validates funds are available for correct fees
8	County Recorder Personnel	Processes correct fees for recording the Satisfaction document

Step	Actor	Action
9	County Recorder Personnel	Receipts fees
10	County Recorder Personnel	Records Satisfaction document (signs the document and assigns date, time and document number)
11	County Recorder	Signs Satisfaction document
12	County Recorder Personnel	Indexes appropriate information from Satisfaction document
13	County Recorder Personnel	Archives Satisfaction document
14	County Recorder Personnel	Returns recorded Satisfaction document with receipt of fees processed to submitting party
15	Mortgage Holder Personnel	Receives recorded Satisfaction document with receipt of fees processed

Torrens Main Course Scenario:

Step	Actor	Action
1	Mortgage Holder Personnel	Satisfaction document is prepared for appropriate parties.
2	Mortgage Holder Official	Signs Satisfaction document
3	Notary	Notarizes Satisfaction document (signs and stamps seal on it)
4	Mortgage Holder Personnel	Submits Satisfaction document to County Office
5	Registrar of Titles Personnel	Receives Satisfaction document
6	Registrar of Titles Personnel	Validates information on Satisfaction document is recordable
7	Registrar of Titles Personnel	Validates funds are available for correct fees
8	Registrar of Titles Personnel	Processes correct fees for recording the Satisfaction document
9	Registrar of Titles Personnel	Receipts fees
10	Registrar of Titles Personnel	Records Satisfaction document (signs the document and assigns date, time and document number)
11	Registrar of Titles	Signs Satisfaction document
11.1	Registrar of Titles Personnel	Creates memorial on Certificate of Title
12	Registrar of Titles Personnel	Indexes appropriate information from Satisfaction document
13	Registrar of Titles	Archives Satisfaction document

14	Registrar of Titles Personnel	Returns recorded Satisfaction document with receipt of fees processed to submitting party
15	Mortgage Holder Personnel	Receives recorded Satisfaction document with receipt of fees processed

Recorder/Registrar of Titles' Office Alternative Scenarios:

Recorder/Registrar of Titles' Office Alternative Scenario 1: Any fees that are not required for the document will have the appropriate step removed from the Recorder or Registrar of Titles' Main Course Scenarios (ie. exempt from recording fees).

Recorder/Registrar of Titles' Office Alternative Scenario 2: Any fees that will be billed at a later date will have the appropriate step removed from the Recorder or Registrar of Titles' Main Course Scenarios (ie. exempt from recording fees).

Exception Scenarios:

Assumptions:

1. The document is returned to submitter with notification of reason(s) for rejection

Failed End Condition:
1. Document is not recorded, indexed or made available for public viewing (ie. It is rejected by the county recorder office personnel)
2. Document has been returned to the submitting party with rejection reasons
3. No fees have been processed
4. Mortgage is not satisfied

Exception Scenario 1: **Document for abstract property is rejected by the recorder's office.**

Step	Actor	Action
8	County Recorder Personnel	Rejects Satisfaction document and identifies reasons for rejection
9	County Recorder Personnel	No Action.
10	County Recorder Personnel	No Action.
11	County Recorder Personnel	No Action.
12	County Recorder Personnel	No Action.

Step	Actor	Action
13	County Recorder Personnel	No Action.
14	County Recorder Personnel	Returns Satisfaction document and rejection reasons to submitting party
15	Mortgage Holder Personnel	Receives Satisfaction document and rejection reasons from Recorder's Office

Exception Scenario 2: **Document for torrens property is rejected by the Registrar of Titles' office.**

Step	Actor	Action
8	Registrar of Titles Personnel	Rejects Satisfaction document and identifies reasons for rejection
9	Registrar of Titles Personnel	No Action.
10	Registrar of Titles Personnel	No Action.
11	Registrar of Titles	No Action.
11.1	Registrar of Titles Personnel	No Action.
12	Registrar of Titles Personnel	No Action.
13	Registrar of Titles	No Action.
14	Registrar of Titles Personnel	Returns Satisfaction document and rejection reasons to submitting party
15	Mortgage Holder Personnel	Receives Satisfaction document and rejection reasons from Registrar of Titles Office

Volume:
- 10% - 30% of documents received at county are Satisfactions
- ranges from 1300 to 100,000 Satisfaction documents per year depending on size of county

Issues Related to Use Case:

Major Issues for the Group:

Issues to be Researched for the Use Case:

APPENDIX D - CLOSING PACKAGE USE CASE

ERERTF Closing Use Case
DRAFT

Version	Date	Editor	Description
	03/19/02	Pam Trombo	Initial Version
	04/24/02	Pam Trombo	Modifications based on review from Schema meeting on 04/22/02
	04/30/02	Pam Trombo	Modifications based on review from Content and Workflow meeting on 04/29/02

Goal:

Mortgage Company personnel prepare the Mortgage and Assignment of Mortgage documents and submit them to the Title Company executing the closing.

Title Company personnel prepare the Certificate of Release and include it in the package consisting of the Warranty Deed, the Mortgage and the Assignment of Mortgage that were received from the appropriate parties, calculates and provides funds for the necessary fees and fills out the Certificate of Real Estate Value (CRV) and Well Disclosure Certificate, if necessary.

Notary witnesses the signatures on the documents.

County Office is the single point of entry for all documents, which will then be circulated appropriately throughout the Recorder/Registrar of Titles, Auditors and Treasurer's offices according to the specific county's workflow process.

County Recorder signs the recorded documents for Abstract Property.

County Recorder Personnel receives the document package for abstract property, performs all tasks to: validate the documents, process the appropriate fees, record the documents, index the appropriate information, make the information available for public viewing, forward specific documents to appropriate parties and return the document package to the submitting party.

Registrar of Titles signs the recorded documents for Torrens Property.

Registrar of Titles Personnel receives the document package for torrens property, performs all tasks to: validate the documents, process the appropriate fees, record the documents, index the appropriate information, make the information available for public viewing, forward specific documents to appropriate parties and return the document package to the submitting party.

County Treasurer verifies applicable taxes (e.g. Mortgage Registration Tax) and processes appropriate fees.

County Auditor Personnel validates appropriate information on the documents, verifies that delinquent taxes are paid, verifies applicable taxes (e.g. State Deed Tax) and handles CRV processing.

County Auditor signs the Warranty Deed and/or Mortgage Documents.

County Assessor Personnel processes the CRV document.

Department of Health receives and processes the Well disclosure Certificate.

Department of Revenue receives and processes the CRV document.

Scope: This use case encompasses the process of submitting the document package containing the Warranty Deed, Mortgage, Assignment of Mortgage and Certificate of Release and any ancillary documents necessary department within the county office, have all documents recorded, collect the appropriate fees and then return the documents in the package to the submitting party.

Definitions:

Document number: A unique identification number assigned to a document.

Recorded: A document is assigned a date, time and a document number.

Indexed: A means of filing a document using specific data to allow searching capability for easy retrieval in the future

Well Disclosure Certificate: A Well Disclosure Certificate generally must accompany all property transfers that convey property that has a well; where the state deed tax exceeds $1.65; and the transfer requires a Certificate of Real Estate Value to be filed. Well statements are not required when the transfer relates to property that does not have a well located on it. If there are no wells on the property, the transfer document must contain a statement attesting to this fact.

Certificate of Real Estate (CRV): Information about the seller, buyer and the property being sold.

Document Package: A means of keeping all the appropriate documents for the same transaction together

Actors:
- Mortgage Company Personnel
- Title Company Personnel
- Notary
- County Auditor Personnel
- County Auditor
- County Treasurer
- County Recorder
- County Recorder Personnel
- Registrar of Titles
- Registrar of Titles Personnel
- County Office

Functional Requirements/Assumptions:
1. The County Office will be the single point of entry for all documents
2. The applicable documents are retrieved by the appropriate offices within the county as dictated by the specific county's workflow rules
3. Property is not a split
4. The document package is presented to the correct county
5. Property on document is contained in one county
6. The document package is presented to the correct county
7. Property on all documents is in one county
8. All documents meet Minnesota standards specifications
9. No name changes have transpired since the seller's mortgage was recorded (for torrens property)
10. All documents are submitted in the same document package
11. All documents in the same document package are for the same property and same transaction
12. The recorder's office collects all recording fees
13. The auditor's office verifies and collects applicable tax(es) and fees
14. The treasurer's office verifies and collects applicable tax(es) and fees
15. The submitting party is capable of submitting and receiving the document
16. The county office is capable of receiving and returning the document
17. The property has not already been deeded to another party (for torrens property)
18. Title search is performed by the title company or abstractor

19. Title Insurance Binder is prepared by the title company and present at the closing, but not in package sent to the County Office
20. Title Company personnel drafts the Warranty Deed and Certificate of Release
21. Mortgage Company personnel drafts the Mortgage and Assignment of Mortgage
22. Funds are processed/distributed to other local/state government units as required by jurisdictional requirements
23. Data used for indexing is compatible with current systems
24. Recorder is able to capture an archival quality record of the data/document
25. Data/documents are transferred to other local, state, or other government units as may be required by jurisdictions
26. Identified and authorized submitter has an account in good standing (ie. A sufficient amount of money is available to pay fees for recording)
27. The lender of the mortgage is an individual or group of individuals, a company or partnership
28. The borrower of the mortgage is an individual or group of individuals, a company or partnership
29. No other ancillary documents are submitted outside of the mentioned documents

Trigger:
- All documents are signed and initialed at closing and prepared in a document package (Warranty Deed, CRV, Well Disclosure Certificate, Mortgage, Assignment of Mortgage and Certificate of Release) to be submitted to the county office

Main Course Scenarios:

Assumptions:
1. All the necessary information in the Warranty Deed document is present and correct
2. All necessary information in the Mortgage document is present and correct
3. All necessary information in the Assignment of Mortgage document is present and correct
4. All necessary information in the Certificate of Release document is present and correct
5. The correct recording fees are submitted
6. The correct state deed tax is submitted
7. The correct mortgage registration tax is submitted
8. All additional fees are submitted and are correct
9. All delinquent taxes are paid
10. Well Disclosure Certificate is required and does accompany the Warranty Deed document.
11. CRV P20 form is required, filled in correctly and accompanies the Warranty Deed document.

12. CRV P20A form is not required and does not accompany the Warranty Deed Document
13. State deed tax exceeds $1.65 ($1.70 in Hennepin County) (ie. consideration is greater than $500.00).

Successful End Condition:

1. Warranty Deed document has been recorded, indexed and made available for public viewing
2. Mortgage document has been recorded, indexed and made available for public viewing
3. Assignment of Mortgage document has been recorded, indexed and made available for public viewing
4. Certificate of Release document has been recorded, indexed and made available for public viewing
5. Public information on the CRV is made available for public viewing (ie. the Social Security Number's are not available for public viewing)
6. Document package has been received by the submitting party
7. CRV information is received at the Department of Revenue
8. Well Certificate is received at the Department of Health
9. All fees required are paid for
10. Tax records for property have been updated with correct information
11. Property is transferred

1.1 Private Sector's Main Course Scenarios:

Private Sector's Abstract Main Course Scenario: Abstract document package is submitted to the County Office

Step	Actor	Action
1	Title Company Personnel	Prepares Warranty Deed for appropriate parties.
2	Title Company Personnel	Prepares CRV for appropriate parties.
3	Title Company Personnel	Prepares Well Disclosure Certificate for appropriate parties.
4	Mortgage Company Personnel	Prepares Mortgage for appropriate parties (see MISMO Use Case)
5	Mortgage Company	Prepares Assignment of Mortgage document for appropriate parties.
6	Mortgage Company Official	Signs Assignment of Mortgage document

7	Notary at Mortgage Company	Notarizes Assignment of Mortgage document (signs and stamps seal on it)
8	Mortgage Company Personnel	Submits Mortgage and Assignment of Mortgage documents to Title Company.
9	Title Company Personnel	Receives Mortgage and Assignment of Mortgage documents.
10	Title Company Personnel	Certificate of Release document is prepared for appropriate parties.
11	Title Company official	Signs Certificate of Release document
12	Notary	Notarizes Certificate of Release document (signs and stamps seal on it)
13	Title Company Personnel	Prepares all documents into a package (Warranty Deed, CRV, Well Disclosure Certificate, Mortgage, Assignment of Mortgage and Certificate of Release)
14	Borrower Representative	Signs Mortgage document.
15	Borrower Representative	Initializes Mortgage document.
16	Notary at closing	Notarizes Mortgage document (signs and stamps seal on it)
17	Seller Representative of property	Signs Warranty Deed
18	Seller Representative of property	Signs Well Disclosure Certificate
19	Buyer Representative of property	Signs CRV.
20	Buyer Representative of property	Signs Well Disclosure Certificate
21	Notary at Closing	Notarizes Warranty Deed document (signs and stamps seal on it)
22	Title Company Personnel	Submits document package to County Office
23	Title Company Personnel	Receives document package with receipt of fees processed from the Recorder's office

Private Sector's Torrens Main Course Scenario: Torrens document package is submitted to the County Office

Step	Actor	Action
1	Title Company Personnel	Prepares Warranty Deed for appropriate parties.
1.1	Title Company Personnel	Prepares Affidavit of Purchaser.

2	Title Company Personnel	Prepares CRV for appropriate parties.
3	Title Company Personnel	Prepares Well Disclosure Certificate for appropriate parties.
4	Mortgage Company Personnel	Prepares Mortgage for appropriate parties (see MISMO Use Case)
5	Mortgage Company	Prepares Assignment of Mortgage document for appropriate parties.
6	Mortgage Company Official	Signs Assignment of Mortgage document
7	Notary at Mortgage Company	Notarizes Assignment of Mortgage document (signs and stamps seal on it)
8	Mortgage Company Personnel	Submits Mortgage and Assignment of Mortgage documents to Title Company.
9	Title Company Personnel	Receives Mortgage and Assignment of Mortgage documents.
10	Title Company Personnel	Certificate of Release document is prepared for appropriate parties.
11	Title Company official	Signs Certificate of Release document
12	Notary	Notarizes Certificate of Release document (signs and stamps seal on it)
13	Title Company Personnel	Prepares all documents into a package (Warranty Deed, CRV, Well Disclosure Certificate, Mortgage, Assignment of Mortgage and Certificate of Release)
14	Borrower Representative	Signs Mortgage document.
15	Borrower Representative	Initializes Mortgage document.
16	Notary at closing	Notarizes Mortgage document (signs and stamps seal on it)
17	Seller Representative of property	Signs Warranty Deed
18	Seller Representative of property	Signs Well Disclosure Certificate
19	Buyer Representative of property	Signs CRV.
20	Buyer Representative of property	Signs Well Disclosure Certificate
20.1	Buyer Representative of property	Signs Affidavit of Purchaser
21	Notary at Closing	Notarizes Warranty Deed document (signs and stamps seal on it)

22	Title Company Personnel	Submits document package to County Office
23	Title Company Personnel	Receives document package with receipt of fees processed from the Registrar of Titles' office

1.2 County Office Main Course Scenarios:

Assumptions:
1. The Recorder/Registrar of Titles' office is the first and last office within the county office to process the documents

Recorder's Office Abstract Main Course Scenario: Document package is for property that is Abstract.

Abstract Document package processed in county office in the following steps:
1) Recorder's office retrieves documents from County Office
2) Recorder's office submits document package to Auditor/Treasurer's office
3) Auditor/Treasurer's office submits document package to Recorder's office
4) Recorder's office submits document package to Title Company

Step	Actor	Action
1	County Recorder Personnel	Retrieves document package from County Office
2	County Recorder Personnel	Validates information is recordable on all documents in document package. • PIN number is correct • Legal description is correct • Not a split (if capable of identifying)
3	County Recorder Personnel	Verifies CRV is required and accompanies document package.
4	County Recorder Personnel	Verifies Well Disclosure Certificate is required and accompanies document package.
5	County Recorder Personnel	Submits document package to Auditor/Treasurer's office
6	County Recorder Personnel	Receives document package from Auditor/Treasurer's office
7	County Recorder Personnel	Records Warranty Deed document (assigns date, time and document number)
8	County Recorder	Signs Warranty Deed document
9	County Recorder Personnel	Records Mortgage document (assigns date, time and document number)
10	County Recorder	Signs Mortgage document

11	County Recorder Personnel	Fills in Mortgage document number on the Assignment of Mortgage document.
12	County Recorder Personnel	Records Assignment of Mortgage document (assigns date, time and document number)
13	County Recorder	Signs Assignment of Mortgage document
14	County Recorder Personnel	Records Certificate of Release document (assigns date, time and document number)
15	County Recorder	Signs Certificate of Release document
16	County Recorder Personnel	Indexes appropriate information from Warranty Deed document
17	County Recorder Personnel	Indexes appropriate information from Mortgage document
18	County Recorder Personnel	Indexes appropriate information from Assignment of Mortgage document
19	County Recorder Personnel	Indexes appropriate information from Certificate of Release document
20	County Recorder Personnel	Archives Warranty Deed document
21	County Recorder Personnel	Archives Mortgage document
22	County Recorder Personnel	Archives Assignment of Mortgage document
23	County Recorder Personnel	Archives Certificate of Release document
24	County Recorder Personnel	Returns recorded document package consisting of Warranty Deed, Mortgage, Assignment of Mortgage and Certificate of Release and receipt of fees processed to the Title Company
25	County Recorder Personnel	Submits Well Disclosure Certificate information to the Department of Health.
26	Department of Health	Receives Well Disclosure Certificate information

Registrar of Titles' Office Torrens Main Course Scenario: Document package is for property that is Torrens.

      Torrens Document package processed in county office in the following steps:
1) Registrar of Titles' office retrieves documents from County Office
2) Registrar of Titles' office submits document package to Auditor/Treasurer's office
3) Auditor/Treasurer's office submits document package to Registrar of Titles' office
4) Registrar of Titles' office submits document package to Title Company

Step	Actor	Action
1	Registrar of Titles Personnel	Receives document package from County Office
2	Registrar of Titles Personnel	Validates information is recordable on all documents in document package
2.1	Registrar of Titles Personnel	Verifies CRV is required and accompanies document package.
3	Registrar of Titles Personnel	Verifies CRV is required and accompanies document package.
4	Registrar of Titles Personnel	Verifies Well Disclosure Certificate is required and accompanies document package.
5	Registrar of Titles Personnel	Submits document package to Auditor/Treasurer's office
6	Registrar of Titles Personnel	Receives document package from Auditor/Treasurer's office
7	Registrar of Titles Personnel	Records Warranty Deed document (assigns date, time and document number)
8	Registrar of Titles	Signs Warranty Deed document
9	Registrar of Titles Personnel	Records Mortgage document (assigns date, time and document number)
10	Registrar of Titles	Signs Mortgage document
11	Registrar of Titles Personnel	Fills in Mortgage document number on the Assignment of Mortgage document.
12	Registrar of Titles Personnel	Records Assignment of Mortgage document (assigns date, time and document number)
13	Registrar of Titles	Signs Assignment of Mortgage document
14	Registrar of Titles Personnel	Records Certificate of Release document (assigns date, time and document number)
15	County Recorder	Signs Certificate of Release document
16	Registrar of Titles Personnel	Indexes appropriate information from Warranty Deed document
17	Registrar of Titles Personnel	Indexes appropriate information from Mortgage document
18	Registrar of Titles Personnel	Indexes appropriate information from Assignment of Mortgage document
19	Registrar of Titles Personnel	Indexes appropriate information from Certificate of Release document
20	Registrar of Titles Personnel	Archives Warranty Deed document
21	Registrar of Titles Personnel	Archives Mortgage document

22	Registrar of Titles Personnel	Archives Assignment of Mortgage document
23	Registrar of Titles Personnel	Archives Certificate of Release document
23.1	Registrar of Titles Personnel	Creates memorial on current Certificate of Title for the Certificate of Release
23.2	Registrar of Titles Personnel	Cancels current Certificate of Title
23.3	Registrar of Titles Personnel	Creates new Certificate of Title
23.4	Registrar of Titles Personnel	Creates memorial on new Certificate of Title for the Assignment of Mortgage
24	Registrar of Titles Personnel	Returns recorded document package consisting of Warranty Deed, Mortgage, Assignment of Mortgage and Certificate of Release and receipt of fees processed to the Title Company
25	Registrar of Titles Personnel	Submits Well Disclosure Certificate information to the Department of Health.
26	Department of Health	Receives Well Disclosure Certificate information

Recorder/Registrar of Titles' Office Alternative Scenarios:

Recorder/Registrar of Titles' Office Alternative Scenario 1: Any document that is not required in the package will have the appropriate step removed from the Recorder/Registrar of Titles' Main Course Scenarios. (e.g. Well Disclosure Certificate, CRV)

Recorder/Registrar of Titles' Office Alternative Scenario 2: Any fee that is not required in the package will have the appropriate step removed from the Recorder/Registrar of Titles' Main Course Scenarios.

Recorder/Registrar of Titles' Office Alternative Scenario 3: Any fee that is billed at a later date will have the appropriate step removed from the Recorder/Registrar of Titles' Main Course Scenarios.

Recorder/Registrar of Titles' Office Alternative Scenario 4: Documents have been processed by the Auditor/Treasurer's office

.

Step	Actor	Action
1	County Recorder Personnel	Receives document package from Auditor/Treasurer's Office
2	County	Validates information is recordable on all documents

	Recorder/Registrar of Titles Personnel	in document package. • PIN number is correct • Legal description is correct
3	County Recorder/Registrar of Titles Personnel	No Action
5	County Recorder/Registrar of Titles Personnel	No Action.
6	County Recorder/Registrar of Titles Personnel	No Action.

1.3 Auditor/Treasurer's Office Main Course Scenarios:

NOTE: This is from the auditor/treasurer's view point at the time of initially receiving the document package for processing.		Office Going to	
		Recorder/Registrar of Titles	County Office
Office Coming From	Recorder/Registrar of Titles	MCS	N/A
	County Office	AS3	N/A

MCS = Main Course Scenario
AS = Alternative Scenario

Auditor/Treasurer's Office Abstract Main Course Scenario:

Document package is processed in the Auditor/Treasurer's office by the following steps:
1) Recorder's office submits document package to Auditor/Treasurer's office
2) Auditor/Treasurer's office submits document package to Recorder's office

Step	Actor	Action
1	County Auditor/Treasurer Personnel	Receives document package from Recorder's office
2	County Auditor/Treasurer Personnel	Validates information on applicable documents in document package • Not a split
3	County Auditor Personnel	Verifies CRV is required and filled in properly.
4	County Auditor	Assigns unique sequential number, PIN's and date to

	Personnel	CRV document
5	County Auditor Personnel	Keeps CRV document.
6	County Auditor Personnel	Verifies delinquent taxes are paid.
7	County Auditor/Treasurer Personnel	Verifies applicable taxes and/or fees are correct.
8	County Auditor/Treasurer Personnel	Receipts applicable taxes and/or fees.
9	County Treasurer	Verifies funds are available for all taxes and fees to be paid.
10	County Treasurer	Processes fees.
11	County Auditor/Treasurer	Signs and documents information on applicable documents
12	County Auditor Personnel	Submits CRV information to the Department of Revenue.
13	Department of Revenue	Receives CRV information
14	County Auditor Personnel	Submits CRV information to the county assessor's office.
15	County Assessor's office	Receives CRV information
16	County Auditor/Treasurer's office	Submits document package to Recorder's office

Auditor/Treasurer's Office Torrens Main Course Scenario:
Document package is processed in the Auditor/Treasurer's office by the following steps:
1) Registrar of Titles office submits document package to Auditor/Treasurer's office
2) Auditor/Treasurer's office submits document package to Registrar of Titles office

Step	Actor	Action
1	County Auditor/Treasurer Personnel	Receives document package from Registrar of Titles office
2	County Auditor/Treasure Personnel	Validates information on applicable documents in document package • Not a split
3	County Auditor	Verifies CRV is required and filled in properly.

	Personnel	
4	County Auditor Personnel	Assigns unique sequential number, PIN and date to CRV document
5	County Auditor Personnel	Keeps CRV document.
6	County Auditor Personnel	Verifies delinquent taxes are paid.
7	County Auditor/Treasurer Personnel	Verifies applicable taxes and/or fees are correct.
8	County Auditor/Treasurer Personnel	Receipts applicable taxes and/or fees.
9	County Treasurer	Verifies funds are available for all taxes and fees to be paid.
10	County Treasurer	Processes fees.
11	County Auditor/Treasurer	Signs and documents information on applicable documents
12	County Auditor Personnel	Submits CRV information to the Department of Revenue.
13	Department of Revenue	Receives CRV information
14	County Auditor Personnel	Submits CRV information to the county assessor's office.
15	County Assessor's office	Receives CRV information
16	County Auditor/Treasurer's office	Submits document package to Registrar of Titles' office

Auditor/Treasurer's Office Alternative Scenarios:

Auditor/Treasurer's Office Alternative Scenario 1: Any document that is not required in the package will have the appropriate step removed from the Auditor/Treasurer's Main Course Scenarios. (eg. Well Disclosure Certificate, CRV)

Auditor/Treasurer's Office Alternative Scenario 2: Any fees that are not required in the package will have the appropriate step removed from the Auditor/Treasurer's Main Course Scenarios.

Auditor/Treasurer's Office Alternative Scenario 32: Any fees that will be billed at a later date will have the appropriate step removed from the Auditor/Treasurer's Main Course Scenarios.

Auditor/Treasurer's Office Alternative Scenario 3:

Document package is processed in the Auditor/Treasurer's office by the following steps:

1) Auditor/Treasurer's office retrieves document package from County Office
2) Auditor/Treasurer's office submits document package to Recorder/Registrar of Titles' office

Step	Actor	Action
1	County Auditor/Treasurer Personnel	Retrieves document package from County office

2. Exception Scenarios:

Assumptions:
1. If any document is not submitted correctly, the entire document package is circulated to all county offices before being returned to the submitter
2. If any document is not submitted correctly, the entire document package is returned to the submitter with notification of reason(s) for rejection

Failed End Condition:
1. No document is recorded, indexed or made available for public viewing
2. Document package and rejection reasons have been returned to the submitting party
3. CRV information is not submitted to the Department of Revenue
4. Well Certificate is not submitted to the Department of Health
5. No fees have been processed
6. Tax records for property have not been updated
7. Property is not transferred

Exception Scenario 1: Document is first processed and rejected by Recorder/Registrar of Titles' office. (See Recorder's Office Main Course and Registrar of Titles' Office Main Course for steps)

Step	Actor	Action
4.1	County Recorder/Registrar of Titles Personnel	Rejects document package and identifies rejection reasons.
5	County Recorder/Registrar of Titles Personnel	Submits document package and rejection reasons to the Auditor/Treasurer's office
6	County Recorder/Registrar of Titles Personnel	Receives document package and rejection reasons from Auditor/Treasurer's office
6.1	County Recorder/Registrar of Titles Personnel	Returns document package and rejection reasons to title company.
6.2	Title Company Personnel	Receives document package and rejection reasons from Recorder/Registrar of Titles' Office

Exception Scenario 3: Document is rejected by Auditor/Treasurer's office. (See Auditor/Treasurer's Office Main Course for steps)

Step	Actor	Action
4	County Auditor Personnel	No Action.
5	County Auditor Personnel	No Action.
8	County Auditor/Treasurer Personnel	No Action.
10	County Treasurer	No Action.
11	County Auditor/Treasurer	No Action.
12	County Auditor Personnel	No Action.
13	Department of Revenue	No Action.
14	County Auditor Personnel	No Action.
15	County Assessor's office	No Action.
16	County Auditor/Treasurer's office	Submits document package and rejection reasons to Registrar of Titles' office

Volume:
- 10% - 30% of documents received at county are Deeds
- ranges from 1100 to 35,000 Deed documents per year depending on size of county
- 5% to 40% of documents received at county are Assignment of Mortgage
- ranges from 360 to 35,000 Assignment of Mortgage documents per year depending on size
- 28% to 70% of documents received at county are Mortgages
- ranges from 1350 to 113,300 Mortgage documents per year depending on size
- 10% - 30% of documents received at county are Satisfactions
- ranges from 1300 to 100,000 Satisfaction documents per year depending on size of county

Issues Related to Use Case:

Major Issues for the Group:

Issues to be Researched for the Use Case:

APPENDIX E – EVALUATION CRITERIA

1) Vendor Profile
    a) Years in business
    b) Years in this market
    c) Installed base
        i) Number of sites
        ii) Representative client list
    d) Financial position
        i) Sales growth
        ii) Market share
        iii) Liquidity
    e) Industry reputation
    f) Strategic partners
2) Customer Support
    a) Number of support personnel per client
    b) Type of support available
        i) Phone
        ii) On-line
        iii) On-site
        iv) Bug fix
    c) Response time standards
    d) Planned enhancements
    e) Release plan
        i) Monthly, quarterly, or annual product updates
        ii) Enhancement selection process
    f) Training options
    g) User Groups
3) Implementation Approach
    a) General approach
    b) Adherence to the Standards

c) Work plan

d) Timeframe

e) County/State resources required during implementation

4) Application Profile

    a) Hardware requirements

        i) Platform

        ii) Processor

        iii) RAM

        iv) Disk capacity

    b) Operating system requirements

        i) Versions supported

    c) Database requirements

        i) Vendors supported

        ii) Versions supported

    d) Other infrastructure requirements

        i) Networking

        ii) Intra/internet

        iii) Security

5) Application Costs

    a) Licensing fee structure

    b) Development costs

    c) Implementation costs

    d) Training costs

    e) Support costs

        i) Maintenance fees

        ii) Release/upgrade fees

        iii) Help Desk fees

APPENDIX F – DEFINITION OF ELECTRONIC RECORDING MODELS

Following are brief definitions of the three models of electronic recording. The definitions are based on concepts presented by Fannie Mae and are emerging as standard vocabulary in the industry.

Model 1: Image replaces paper document – At this level the recording process is enhanced by replacing paper documents with electronic images. The submitter must transmit an electronic image of the document to be recorded to the county office. Once received, the county reviews the information on the image and manually enters indexing information into the recording system. The submitter always retains the original document. However, the image becomes the document of record. Efficiencies are achieved at the county by eliminating scanning and mailing processes.

Model 2: Image with electronic signature and indexing information – At this level the recording process is further enhanced by inclusion of indexing data elements and electronic signatures. The submitter transmits an electronic image that is wrapped with a digital signature and certain data elements that will be used to index the document. Once received, the county reviews the information and uses the data provided as indexing information for the recording system. Additional efficiency is gained at this level by eliminating some data entry.

Model 3: Fully electronic – At this level the entire recording process can be completed without manual intervention. The submitter creates an XML based electronic document that includes both data and presentation information. This document is wrapped with a digital signature and may also include digitized signatures. Once received, the county systems will validate document integrity and proceed with automated indexing. Business rules will be used to validate recordability and an image of the document will be generated which becomes the document of record. Receipt and recording information is returned to the submitter electronically. This level provides the greatest efficiency improvement since no manual intervention is required and processing time is greatly reduced.

APPENDIX G – DELIVERABLES MAPPING

The following grid reconciles the list of 37 considerations contained in the ERERTF work plan dated January 15, 2001 with the deliverables of this project.

Consideration	Interview summary/matrix	Survey Summary/matrix	Out of state summary/matrix	Current state model	Best Practice Model	Use Cases	Schema	Sample XSL Document	Data Element List	Legal Considerations	Cost Benefit Analysis	Standards Summary	Out of Scope
1	x	x											
2											x		
3													x
4	x	x											
5													x
6													x
7				x									
8			x										
9													x
10													x
11												x	
12												x	
13					x	x	x	x	x			x	
14												x	
15												x	
16												x	
17												x	
18												x	
19												x	
20												x	
21												x	
22												x	
23											x		
24													x
25												x	
26												x	
27										x			
28										x			
29										x			
30										x			
31											x		
32											x		
33											x		
34											x		
35											x		
36											x		
37											x		

APPENDIX H – MODEL 1 STANDARDS

It is possible that a County and a Trusted Submitter may decide to Pilot a Model 1 approach. If this is done, it would be beneficial to use standards for Model 1 that could be confirmed in the pilot, and used going forward by other counties who decide to support a Model 1 approach.

We have reviewed the standards used by Maricopa County, AZ and by Orange County, CA. Their standards a very similar, and have been successfully implemented. We have patterned the Model 1 standards on the successful approaches of these two counties.

The following are recommended standards to achieve a Model 1 approach for sending documents electronically between the Trusted Submitter and the State of Minnesota county.

Definition of a Trusted Submitter:

A trusted submitter is an entity that:

- is legally able to transact real estate business in Minnesota,

- has established a contractual agreement with the county that will be accepting the electronic real estate records,

- has agreed to follow the Minnesota Electronic Real Estate Recording Standards as part of the contractual agreement, and

- has performed a test submission with the county to prove that the Standards have been followed.

What is to be transmitted?

A readable TIFF Image is to be transmitted with no less than 200 dpi resolution. The size should be Letter (8.5 X 11 inches) or Legal (8.5 X 14 inches) and scanned in black and white.

Naming Conventions:

Creation of the file:

Each file will contain all the images from one document. Files that need to be processed in the same transaction will have the same order number.

The intitial creation of each file containing all the images for one document should be named in the following format:

DDDDDDDD-NN-P-S-X

DDDDDDDD: the order number that needs to be 8 characters (you will need to add leading zeros if necessary)

NN: number of scanned pages in the file

P: number of documents to be processed together

S: sequencing order for processing this document with respect to all the documents that are to be processed together

X: Place holder for Torrens or Abstract or Both

Examples:

07893423-7-3-3-T- (3rd document of a 3 document transaction, 7 pages, Torrens)

07893423-1-3-2-A- (2nd document of a 3 document transaction, 1 page, Abstract)

07893423-4-3-1-A- (1st document of a 3 document transaction, 4 pages, Abstract)

Resubmission of the file:

If a file has to be resubmitted due to an error, add an extra number to the end of the order number part as follows:

DDDDDDDDE-NN-P-S-X-E

E: the number of times the same file has been resubmitted.

How is transmittal achieved?

The file should be transmitted using FTP (File Transport Protocol) to an FTP site maintained by the county.

To ensure security, the file should be encrypted using a file encryption mechanism such as PGP. The Trusted Submitter will use a public key provided by the county. The file will be decrypted by the county, using its private key. Each Trusted Submitter will deposit the files in its personal folder setup for them by the county that also contains a set of folders named: InProcess, Recorded, Indexed and Rejected. Submitted files are moved to these folders by the county when they reach the appropriate status. The Recorded and Rejected folders will contain text files created by the county identifying the recorded information or rejection reasons respectively. These text files will be named using the file name of the associated submitted file.