SIGNATURE VERIFICATION GUIDE

July 2020

A. INTRODUCTION

"Signature verification" is the process of comparing the signature on a voter's affidavit envelope or ballot affidavit with the voter's signature in the voter registration database. Signature verification plays an important role in our elections because it helps ensure that only those individuals eligible to vote have their vote counted. By serving as the method of identity verification for mailed ballots, it allows Arizona voters the convenience of voting by mail. This Guide will help those reviewing ballot affidavit signatures determine whether the ballot affidavit signature and the voter's signature in the voter registration database were authored by the same person.

This Guide is provided to assist County Recorders' Offices and their staff in conducting signature verification and is intended to be used as a reference in combination with the County Recorder's specific procedures for early ballot processing. The Arizona Secretary of State's Office thanks the Colorado Secretary of State's Office and Yavapai County Recorder's Office for sharing their excellent guides, from which this Guide is adapted.

B. ANALYSIS

When conducting signature verification, it is important to keep in mind that everyone writes differently, and **no one signs their name exactly the same way twice**. A ballot affidavit signature should not be rejected because it does not look *exactly* the same as the signature in the voter's registration record.

The following two-step analysis will allow you to confidently decide whether signatures are consistent with each other:

Step One: Evaluate the signature's broad characteristics.

Broad characteristics include:

1. The type of writing (e.g., cursive vs. print)
2. The speed of writing (e.g., harmonious vs. slow and deliberate)
3. Overall spacing
4. Overall size and proportions
5. Position of the signature (e.g., slanted vs. straight)
6. Spelling and punctuation

If the broad characteristics of the signature on the ballot affidavit are clearly consistent with the broad characteristics of the voter's signature in the voter registration database, you may accept the signature and move on.

If not, proceed to Step Two.

Step Two: Evaluate the signature's local characteristics.

If you find a combination of dissimilarities between the two signatures' broad characteristics, then evaluate local characteristics, which include:

1. Internal spacing
2. The size or proportions of a letter or letter combination
3. Curves, loops, and cross-points
4. The presence or absence of pen lifts
5. Beginning and ending strokes

After evaluating the signatures' local characteristics, you must decide whether to accept the ballot affidavit envelope signature as genuine, or flag it for a second check. Only a **combination** of characteristic differences between signatures should trigger a flag for a second check because no one signs their name the same way twice.

If, after going through the above analysis, you find a combination of differences between the signature on the ballot affidavit and the signature(s) in the voter registration database, consider whether the differences can be reasonably explained.

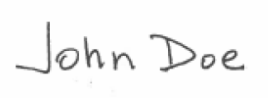
If you can reasonably explain the differences, then you may accept the signature. However, you should not waste time trying to "explain away" the differences that you see. If you find yourself laboring to do so, you should flag the signature for a second check.

Looking at more than one voter registration database signature, if available, may help with your analysis because people develop certain signature habits over time. Identify these habitual marks and determine whether they exist in the ballot affidavit's signature.

C. BROAD CHARACTERISTICS

1. TYPE OF WRITING

Next to spelling, the type of writing is the easiest characteristic to notice a difference in. Does the voter's record have only cursive handwriting, but the ballot affidavit envelope has print? This is an immediate indicator for further research or possibly flagging a signature for a second check.

Genuine Signature	Questioned Signature
	

2. SPEED OF WRITING

A person writing their own signature will perform the act fairly quickly. This is because the person has likely signed their name thousands of times, so the gesture is automatic and harmonious, requiring little thought or concentration.

If someone other than the voter took a long time to copy the voter's signature, the copied signature will not have a free and natural look to it. Instead, you should see slower, more deliberate marks. If the forger attempted to create the signature quickly, then it should have various characteristic differences.

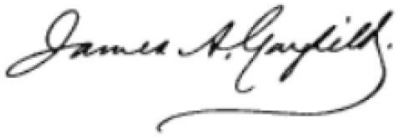
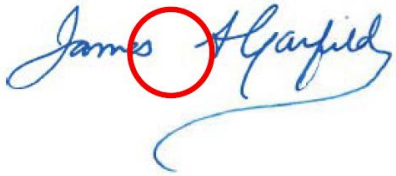
Keep in mind, however, that this situation may go in reverse. If the voter naturally has shaky or poor handwriting that is evident in the voter registration database signature, but the ballot affidavit's signature is suddenly of high quality, that could indicate a forgery.

Look to see whether the ballot affidavit's signature was made at the same speed as the signatures in the voter registration database. Please keep in mind that a reasonable explanation for a shaky signature is the voter's advanced age, decreased muscle strength, or the surface below the envelope.

Genuine Signature	Questioned Signature

3. OVERALL SPACING

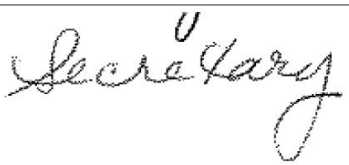
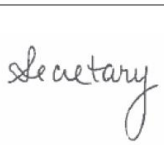
Writing a signature is a fixed and subconscious habit, so the signature's spacing should be reasonably similar. Determine whether the ballot affidavit's signature has odd or unnatural spacing that cannot be reasonably explained.

Genuine Signature	Questioned Signature
	

4. OVERALL SIZE AND PROPORTIONS

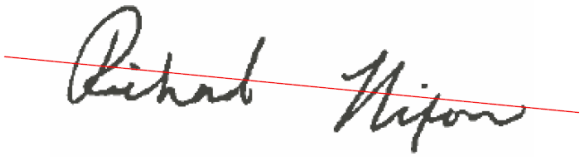
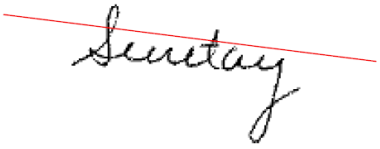
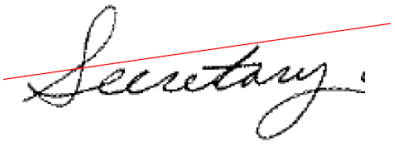
The signatures' size and proportions should also be reasonably similar. At your first impression, identify whether the ballot affidavit's signature is too large or small compared to the signatures in the voter registration database. You may find it difficult to perform this comparison by looking only at one voter registration database signature and may need to conduct further research or review.

The first example below has odd proportions because the letter's height compared to the name's length is very different than the genuine signature. The remaining two examples have unreasonably different sizes.

Genuine Signature	Questioned Signature
	

5. SLANT OF WRITING

A signature's slant may also show evidence of a forgery. The first slant to be aware of is the signature's position relative to the signature line. People tend to hold the pen and paper the same way each time they write, which causes their writing to slant in the same direction each time. You may also find that individual letters in the signature slant in the opposite direction. This type of deviation will usually accompany a difference in the signature's overall spacing. See the third example below. Look to see whether the entire signature slants or leans in a different direction than the signatures in the voter registration database. A writer's slant is one of the most consistent parts of their signature.

Genuine Signature	Questioned Signature
	
	

6. SPELLING

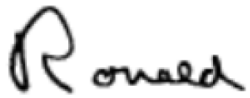
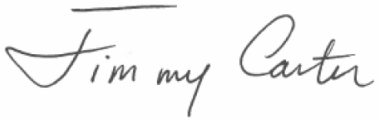
This one is simple—if the name is misspelled, you should not accept the signature. But an elector is permitted to use a common nickname or initials (for instance, a voter may sign as "Bobby" instead of "Robert") so long as the characteristics of the signature remain the same.

Genuine Signature	Questioned Signature

D. LOCAL CHARACTERISTICS

1. INTERNAL SPACING

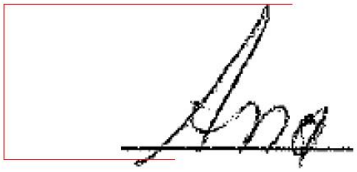
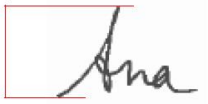
As mentioned before, the spacing and the relationship between successive letters should be reasonably similar. In the examples below, you will notice that the "R" in Ronald is much closer in the questioned signature than in the genuine one, and the questioned "Jimmy" has a great deal of space in between certain letters.

Genuine Signature	Questioned Signature
	
	

2. SIZE OR PROPORTIONS OF A LETTER OR LETTER COMBINATION

Letter sizes and proportions should be reasonably similar. Review whether letters are the same size and whether letter height, when compared to the name's length, leads to suspicious proportions.

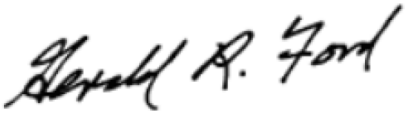
Below, the first questioned signature has unreasonable proportion in "Madison." The remaining two signatures have noticeably different sizes in certain letters.

Genuine Signature	Questioned Signature
	

3. CURVES, LOOPS, AND CROSS-POINTS

Like size, these characteristics may be difficult to identify if you are comparing the ballot affidavit's signature to only one voter registration database signature. Some writers tend to have very loopy signatures while others have sharp, angular writing. Characteristics like loops and curves tend to be consistent across a person's handwriting, but keep in mind that cross-points can be reasonably impacted by simple factors like the type of pen the person used, which may be a reasonable explanation for such differences.

Find whether there are any noticeably different marks like in the examples below.

Genuine Signature	Questioned Signature
	

4. THE PRESENCE OR ABSENCE OF PEN LIFTS

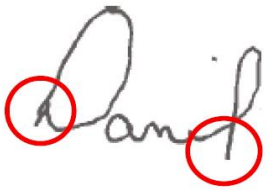
If someone attempted to copy a signature while looking at an example, they may have written in pieces or chunks while referring to the example several times. Generally, when this occurs the forger will leave connection or hesitation marks that will not appear in the voter registration database signatures. The forger may have also left the pen motionless on the page, leaving a hesitation mark, as he or she copies the signature.

Look to see whether there are any strange connection points or hesitation marks like in the examples below.

Genuine Signature	Questioned Signature

5. BEGINNING AND ENDING STROKES

A genuine signature becomes automatic over time. This automatic nature leads to what appears to be "flying starts and finishes," where the signature's start and end points seem to vanish off the paper. Genuine writers tend to begin writing their signature before the pen even hits the page. A forger will generally start and finish with the pen on the paper, leaving larger ink dots or marks.

Genuine Signature	Questioned Signature
	

E. ELECTRONIC SIGNATURES

When reviewing signatures in the voter registration database, it is very likely that you will encounter some signatures that were created and captured electronically. The Arizona Motor Vehicle Division Driver's License offices use an electronic signature pad to record signatures. In addition, in some counties, voters will check-in at a vote location by signing on an electronic signature pad. These signatures are included in the voter's record in the voter registration database and are used as references when verifying their signature on the ballot affidavit. Electronic signatures create some unique circumstances that you should consider when verifying a ballot affidavit signature.

When comparing an electronic signature to a handwritten signature, you should continue to consider the factors listed on the previous pages.

- This means you should begin your analysis by looking at each signature's broad characteristics and if those characteristics are not clearly consistent, you should continue your analysis by examining the local characteristics.
- Keep in mind that the local characteristics of an electronic signature may be difficult to determine. Since the technology for electronic signatures is not as precise as pen and paper, it may be difficult, for example, to spot the presence or absence of pen lifts or beginning and ending strokes as space may be limited. Regardless, you should still consider all the factors described in the previous pages of this Guide when comparing these signatures and make a decision based on the totality of what you find.

If, after going through your analysis, you find a combination of differences between the signature on the ballot affidavit envelope and the signatures in the voter registration database, ask whether the differences can be reasonably explained.

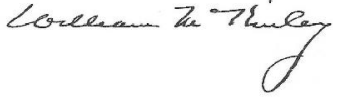
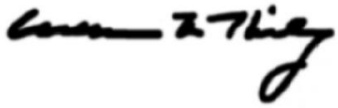
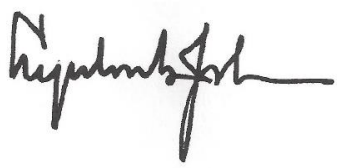
- You should consider that electronic signatures in particular may not be as precise as their handwritten counterparts and may even appear "blurry" or "messy" in comparison. It is possible that this may reasonably explain the difference between a handwritten and an electronic signature.
- However, you should not waste time trying to "explain away" the differences that you see. If you find yourself laboring to do so, you should still flag it for a second check.
- **Remember:** You may always look through the voter's entire signature history to determine if the current ballot affidavit signature was written by the registered voter. If you find that the electronic signature found in the voter's history is difficult to read or match, it is possible there are other signatures on file that may be easier to read and distinguish. Before declining to accept a voter's signature on the ballot affidavit, review these other signatures to determine if the inconsistency is with the ballot affidavit signature or with the electronic signature in the voter registration database.

1. "MESSY" OR "BLURRY" ELECTRONIC SIGNATURES

Because the technology for capturing electronic signatures is not always as precise as a pen and paper signature, an electronic signature may appear "messy" or "blurry" in comparison. However, even a "messy" or "blurry" signature should be compared using the two-step process described above.

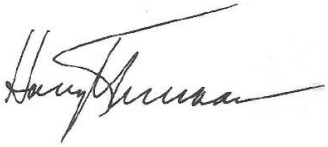
In the first example, the electronic signature found in the voter registration database looks vague and imprecise compared to the handwritten signature found on the ballot. However, the broad characteristics appear to be substantially similar. The type, speed, spacing, size, and position of each signature appear to be the same and any minor disparities can be explained by the fact that one signature was created using an electronic pad and the other was created using pen and paper.

In the second example, many of the broad characteristics are again substantially similar, although the electronic signature is not as precise as the handwritten signature. Regardless, these signatures can still be considered a match because the broad characteristics are substantially similar. If you decide an electronic signature is too "messy" or "blurry" compared to a handwritten signature to fairly compare, you should always look through the voter's signature history to determine if there is a clearer signature on file before flagging the ballot affidavit signature for a second check.

Handwritten Signature	Electronic Signature
	
	

2. ELECTRONIC SIGNATURES THAT HAVE BEEN CUT-OFF

In some instances, a person signing an electronic signature pad may have some of their signature cut-off. This is likely because the voter's pen stroke went outside the area that the electronic signature pad could capture. You should still compare the full electronic signature to the handwritten signature using the two-step process outlined in this Guide. If you cannot verify the signatures using the two-step process, remember there may be more signatures in the voter's signature history that you can use to compare.

Handwritten Signature	Electronic Signature
	

3. EMAILED OR FAXED ELECTRONIC SIGNATURES ON UOCAVA BALLOT AFFIDAVITS

There are some instances when a voter may return a ballot affidavit containing an electronic or digital signature. This most often happens when a UOCAVA voter returns his or her ballot electronically. Normally, voters returning their ballots this way are required to print their ballot affidavit, sign the affidavit, and then scan and e-mail or fax the signed paper. However, some voters have begun attaching a signature to the affidavit electronically.

An electronic signature on a returned ballot affidavit should not be disqualified solely because it is electronic. You should continue to review the signature as you would any other, completing the two-step process of comparison if necessary.

4. ELECTRONIC SIGNATURES USING TYPED FONT

Some voters have attempted to use a typed font as their electronic signature - the first signature below is an example of this. This typed font may also include an IP address "stamp" as in the second example below. While these signatures are becoming more common in commercial contracts, a signature using either of these methods should not be accepted when on a ballot affidavit. If the ballot affidavit signature looks entirely different from the signature found in the voter registration database, then you should flag it for a second check.

Electronic Signature #1	Electronic Signature #2
George Washington	John T. Landwehr Jr. Digitally signed by John T. Landwehr Jr. DN: c=US, o=HID Global, ou=Subscribers, ou=Adobe Systems, cn=John T. Landwehr Jr., 0.9.2342.19200300.100.1.1=10000 0000000218 Date: 2012.03.19 13:58:32 -04'00'

5. ELECTRONIC SIGNATURES THAT APPEAR TO BE CUT AND PASTE

It is now possible for voters to cut and paste a handwritten signature that has been scanned electronically onto a ballot affidavit that they then return electronically. These signatures may have the same issues as any other electronic signature; they may appear "messy" or "blurry," may not be as precise as a handwritten signature or may be cut-off. Regardless, these signatures should be compared to the voter's signature found in the voter registration database as you would any other signature. If you cannot verify the voter using the two-step process, then the signature should be flagged for a second check.

F. ASSISTED VOTERS

All Arizona ballot affidavit envelopes contain a line for the voter to sign and a line for the voter assistant, if any, to sign. A voter assistant signature is only required if the voter made a mark instead of signing the affidavit. Despite this, many voters have voter assistants sign their ballot affidavit unaware that this is not required. On the following pages are some examples of the situations you might face with ballots where the voter was assisted.

1. BALLOTS WITH A MARK AND A WITNESS SIGNATURE

The only ballots that must be signed by a voter assistant are those on which the voter has made a mark instead of signing or cannot sign for themselves. A mark is an "X" or other sign or marking made in lieu of a signature. A mark is most commonly represented with an "X" as in the example below. If a ballot contains a mark and a voter assistant signature, the voter's mark need not be compared to the voter's signature in the voter registration database, but the County Recorder should have specific procedures in place to confirm that the voter required assistance voting their ballot.

Mark Example

2. BALLOT AFFIDAVITS WITH A VOTER SIGNATURE AND A VOTER ASSISTANCE SIGNATURE

Ballot affidavit envelopes that contain both a voter signature and a voter assistant signature should have the voter's signature verified (you can ignore the voter assistant signature). You should follow the normal two-step process outlined in this Guide to determine if the voter's signature matches the signature found in the voter registration database. If you find that the voter's signature does not match, the signature may be treated as a mark, triggering application of the County Recorder's specific procedures for confirming that the voter required assistance voting their ballot.

3. BALLOT AFFIDAVITS WITH AN UNCLEAR PEN STROKE AND A VOTER ASSISTANCE SIGNATURE

It may sometimes be difficult to determine if a pen stroke on a voter signature line is a "mark" or a signature. If the ballot does not contain a voter assistant signature, then this pen stroke must be put through normal signature verification.

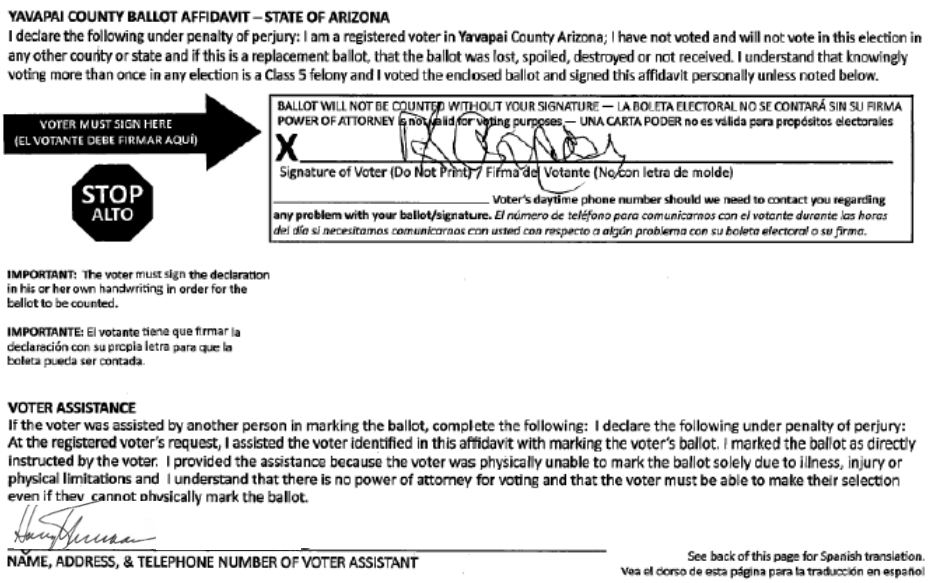
However, if a ballot does contain a voter assistance signature then you must first determine whether the pen stroke on the voter signature line is a "mark" or a signature.

- If you determine that the pen stroke is a "mark," then the voter's mark need not be compared to the voter's signature in the voter registration database, but the County Recorder may have specific procedures in place to confirm that the voter required assistance voting their ballot.
- If you determine that the pen stroke is a signature, then you should put the signature through normal signature verification process.

Remember, a mark is an "X" or other sign or marking made in lieu of a signature. If a pen stroke on a ballot affidavit appears to be an attempt at a signature, that attempt need not be compared to the voter's signature in the voter registration database, but the County Recorder may have specific procedures in place to confirm that the voter required assistance voting their ballot.

The example below appears to be a pen stroke that is meant as a signature. Remember, it is always possible that a voter's signature has deteriorated over years. It is useful to look through the voter's signature history when reviewing the pen stroke to see if the stroke is consistent with a pattern of signature deterioration from the voter. If so, the signature should be accepted. If not, treat the signature as a mark and follow applicable procedures.

Unclear Pen Stroke with Witness Example



YAVAPAI COUNTY BALLOT AFFIDAVIT – STATE OF ARIZONA
I declare the following under penalty of perjury: I am a registered voter in Yavapai County Arizona; I have not voted and will not vote in this election in any other county or state and if this is a replacement ballot, that the ballot was lost, spoiled, destroyed or not received. I understand that knowingly voting more than once in any election is a Class 5 felony and I voted the enclosed ballot and signed this affidavit personally unless noted below.

VOTER MUST SIGN HERE
(EL VOTANTE DEBE FIRMAR AQUÍ)

STOP
ALTO

BALLOT WILL NOT BE COUNTED WITHOUT YOUR SIGNATURE — LA BOLETA ELECTORAL NO SE CONTARÁ SIN SU FIRMA
POWER OF ATTORNEY is not valid for voting purposes — UNA CARTA PODER no es válida para propósitos electorales
X
Signature of Voter (Do Not Print) / Firma de Votante (No con letra de molde)
Voter's daytime phone number should we need to contact you regarding any problem with your ballot/signature. *El número de teléfono para comunicarnos con el votante durante las horas del día si necesitamos comunicarnos con usted con respecto a algún problema con su boleta electoral o su firma.*

IMPORTANT: The voter must sign the declaration in his or her own handwriting in order for the ballot to be counted.

IMPORTANTE: El votante tiene que firmar la declaración con su propia letra para que la boleta pueda ser contada.

VOTER ASSISTANCE
If the voter was assisted by another person in marking the ballot, complete the following: I declare the following under penalty of perjury: At the registered voter's request, I assisted the voter identified in this affidavit with marking the voter's ballot. I marked the ballot as directly instructed by the voter. I provided the assistance because the voter was physically unable to mark the ballot solely due to illness, injury or physical limitations and I understand that there is no power of attorney for voting and that the voter must be able to make their selection even if they cannot physically mark the ballot.

NAME, ADDRESS, & TELEPHONE NUMBER OF VOTER ASSISTANT

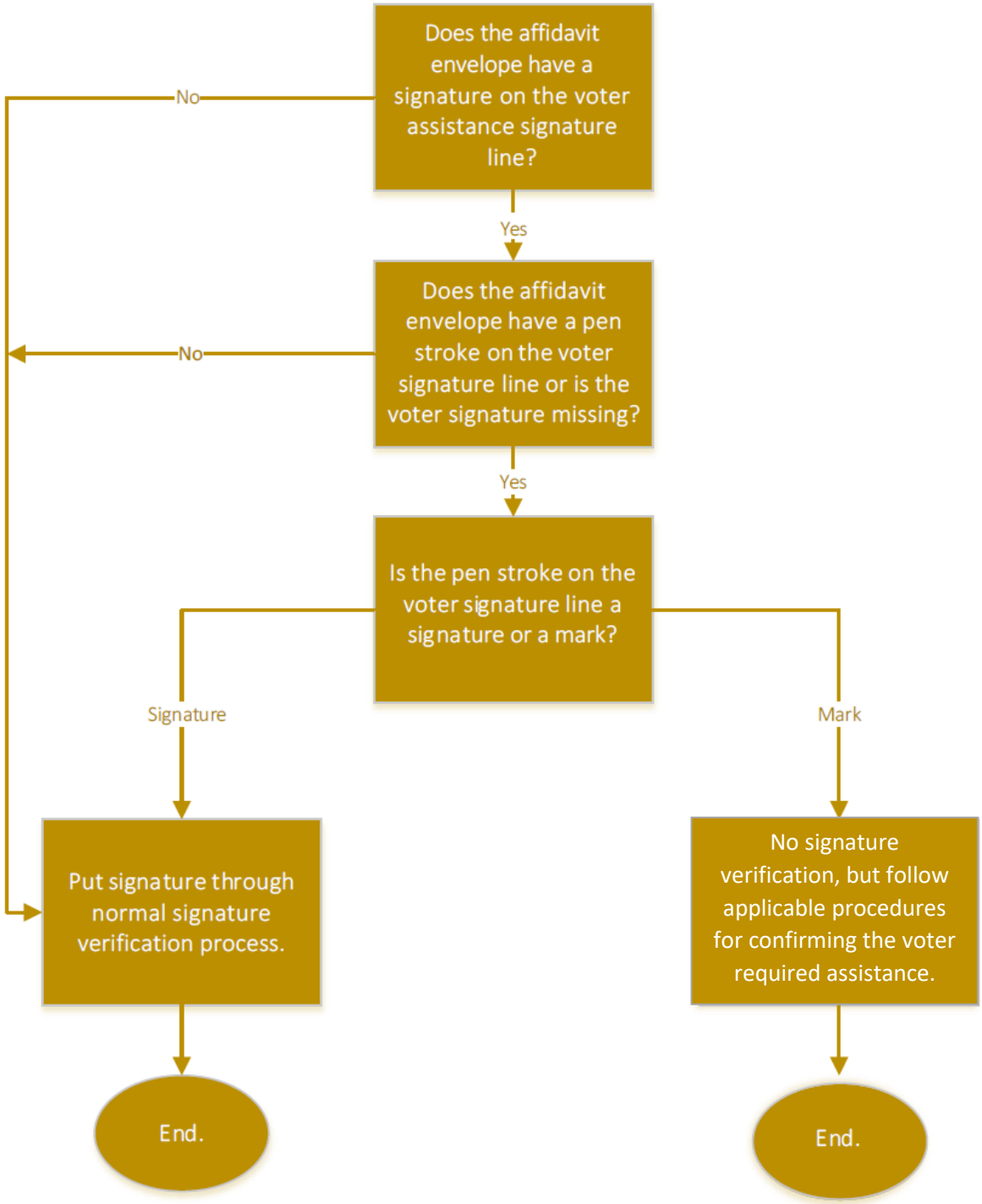
See back of this page for Spanish translation.
Vea el dorso de esta página para la traducción en español

4. BALLOT AFFIDAVITS WITH NO VOTER MARKING AND A VOTER ASSISTANT SIGNATURE

Some ballots may be returned without a signature for the voter but contains a signature for the voter assistant. In this circumstance, County Recorder staff should follow their office procedures for confirming that the voter required assistance voting their ballot.

5. FLOWCHART FOR VOTER ASSISTA NT BALLOT AFFIDAVITS

Use the following flowchart to help you determine what to do with a ballot affidavit that has a voter assistance signature.



G. PRACTICE EXERCISES

1. DISGUISE YOUR HANDWRITING

Copy the italicized paragraph below in your own natural handwriting in the top section. Then, in the bottom section, write the same phrase again but try to disguise your handwriting so that it looks like someone else authored it.

- Do you still see similarities between your two writings?
- Pass this sheet to another board worker or colleague to see what they find. Another person may find that certain characteristics will remain consistent throughout your writing even when you attempt to mask it.

Undeniably the Constitution of the United States protects the right of all qualified citizens to vote, in state as well as in federal elections. . . . And history has seen a continuing expansion of the scope of the right of suffrage in this country. The right to vote freely for the candidate of one's choice is of the essence of a democratic society, and any restrictions on that right strike at the heart of representative government.

2. CAN YOU FIND THE MATCHES?

The 30 words below have 15 authors. Find each of the two handwritings that were authored by the same person. This exercise will make you look at local characteristics in order to find a match. The matching pairs are on the last page.

ANSWERS

1-8
2-17
3-9
4-6
5-23
6-4
7-15
8-1
9-3
10-21
11-26
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