Signature Verification Assessment
Seven Fatal Flaws that Compromise our Elections

Preliminary Report

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PREPARED BY

WE THE PEOPLE AZ ALLIANCE

IN PARTNERSHIP WITH

ARIZONA FOR AMERICA FIRST

AND IN AFFILIATION WITH

THE AMERICA PROJECT


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Signature Verification

We have identified 7 major faults in the signature verification process.

Fault 1: Chain of Custody Gaps

When ballots are mailed through USPS, they are collected in bins and picked up by a Maricopa County Tabulation and Election Center (MCTEC) employee. No chain of custody is initiated at pick-up. This should be done by two or more employees of different parties to ensure accountability. The ballots are not counted by an employee at USPS, there are no seals or zip ties placed on the ballot bins and there is no bipartisan oversight. This leaves the ballots vulnerable with no safeguards to prevent ballots from being removed and discarded or prevent ballots from being added to the pick-up from an unknown origin. A chain of custody log does not start **until** the ballots are delivered to Runbeck and the "received" number is documented by the MCTEC employee and a Runbeck employee. There is no way to determine if ballots are being inserted or omitted from the system during transport.

MAIL IN BALLOT CYCLE FAULT ONE
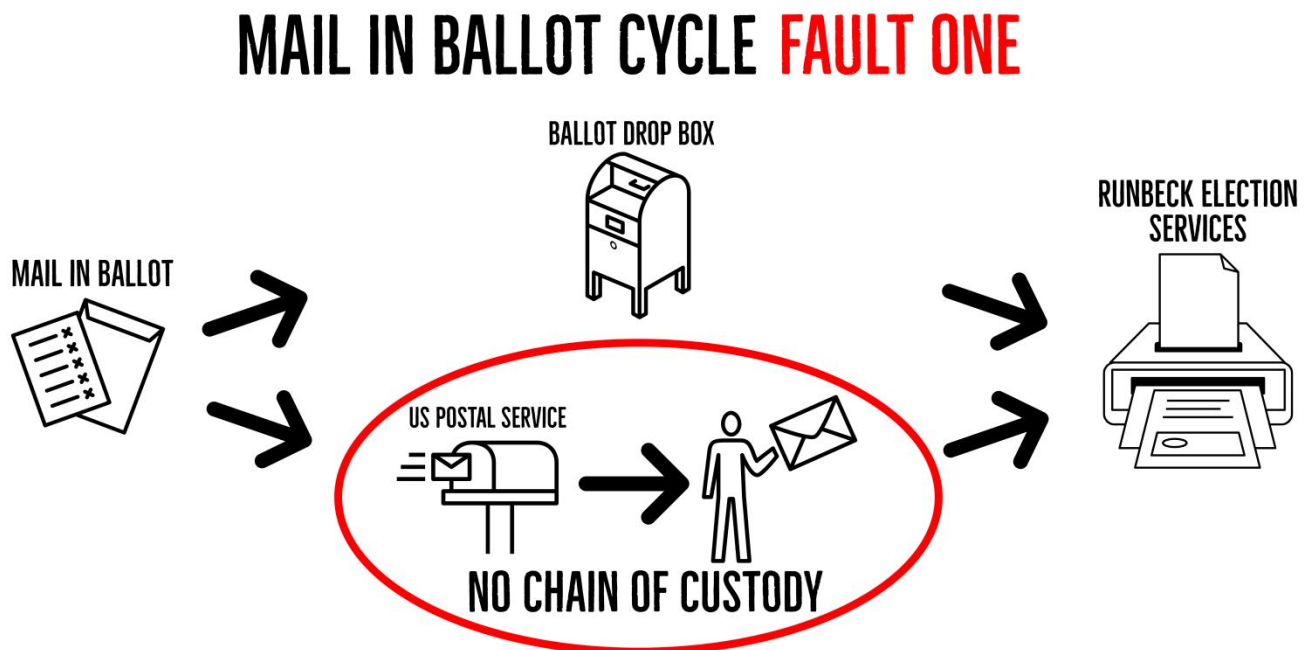
Fault 2: Verification of Low-Resolution Images

The ballot envelopes are scanned at Runbeck and then stored for further instructions. Employees at MCTEC never actually evaluate the ballot envelope. The resolution of the resulting scanned image is reduced to binary (grayscale removed) 200 dpi. In the banking industry, 100 dpi is the minimum common resolution for storing check images. However, the original check is used for verification. On the opposite end of the spectrum, some use grayscale and 1262 dpi, or 8-bit color. Binary 200 dpi is nearly the minimum possible resolution that can be used for signature verification. This is the definition of a "low resolution" image.

Maricopa County claims that they use lower resolution images to enable efficient transfer of the data from Runbeck to MCTEC, but their solutions are more appropriate to 1990's limitations. For example, your phone will reduce your 5MB pictures to 10% or 500KB to text them more efficiency, while our County has decided it is necessary to reduce the image used to validate your vote down to 12KB, that's still 1/40th of standard commercial data transfer. The county claims the system is designed to maximize efficiency, but in reality, it reduces accuracy unnecessarily. The technology exists to be efficient without minimizing accuracy to the extent of the system currently being used.
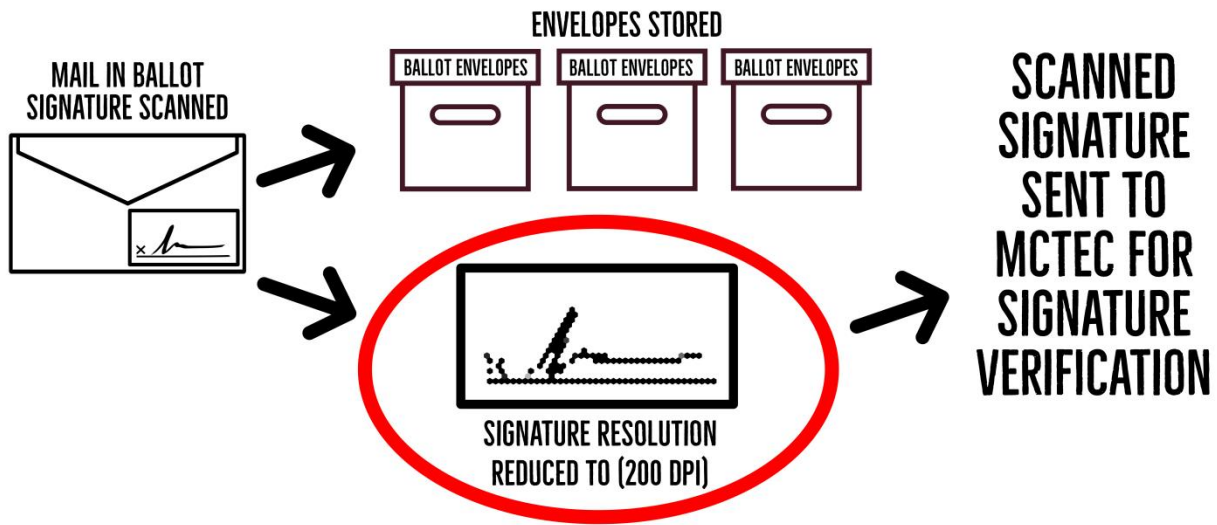
While the accommodations are made for efficiency far beyond what is necessary with current data transfer technologies, so is the accuracy unnecessarily reduced.
 - See report by National Institute of Standards and Technology Expert Assessment
https://www.nist.gov/document/janet-fenner-masonscanned-images-nist-finalpdf
While NIST states that 200dpi can be acceptable, they also state that there are limitations and when available, the original should ALWAYS be used. We have the original ballot envelopes available and we have to wonder why we have decided to settle for a less reliable technology.

MAIL IN BALLOT CYCLE FAULT TWO

ENVELOPES STORED

MAIL IN BALLOT
SIGNATURE SCANNED

BALLOT ENVELOPES | BALLOT ENVELOPES | BALLOT ENVELOPES

SIGNATURE RESOLUTION
REDUCED TO (200 DPI)

SCANNED
SIGNATURE
SENT TO
MCTEC FOR
SIGNATURE
VERIFICATION

## Fault 3: Bad Matches Become Signature Standard

Previously accepted ballot envelope signatures are now used as the reference image for validating ballot signatures. This primary, signature verification employees were provided historical records and could view two or three historical signature images. However, in the 2020 election, a single most recent image was used. This can easily become a runaway problem. If an envelope is forged and accepted, that forgery becomes the most recent image. If time constraints require only one image be used in another future election, a ballot signature will now be compared to a previous ballot signature instead of the voters registration affidavit and a forgery may now be used as comparative signature for future elections. The policy for the 2022 primary was to compare the ballot envelope signatures to multiple reference images provided and even if only one signature matched, the ballot was to be approved. On occasions, the signature did not match the original voter registration signature, but only matched the 2020 ballot envelope signature. A forgery now becomes part of a voter file permanently. *Example of how a forgery is now the new reference image.*

Original Signature   2020 Ballot Envelope   2022 Ballot Envelope

Fault 4: Low Quality MVD Digitized Signatures

In recent years, the Motor Vehicle Department (MVD) has become the main source of voter registrations. The MVD uses digitized pads to record signatures. We are familiar with how difficult it is to sign a representation of your true wet signature on an angled surface without support for your arm. Even on a high-resolution screen, this produces a poor representation. However, the resolution on our MVD screens is well below 200 dpi minimum standard for verification. During this Primary Election, they took these fat-lined pixelated signatures and reduced them down to a size that emulated 200 dpi. This resulted in a tiny signature surrounded by a field of white. The signature verification workers were not given the ability to zoom in. Even if they could, the original record of the signature is a below-standard record of a poor representation of the person's true signature.

MAIL IN BALLOT CYCLE FAULT THREE & FOUR

SIGNATURE VERIFICATION

SCANNED SIGNATURE   MVD SIGNATURE

EXAMPLE SIGNATURES
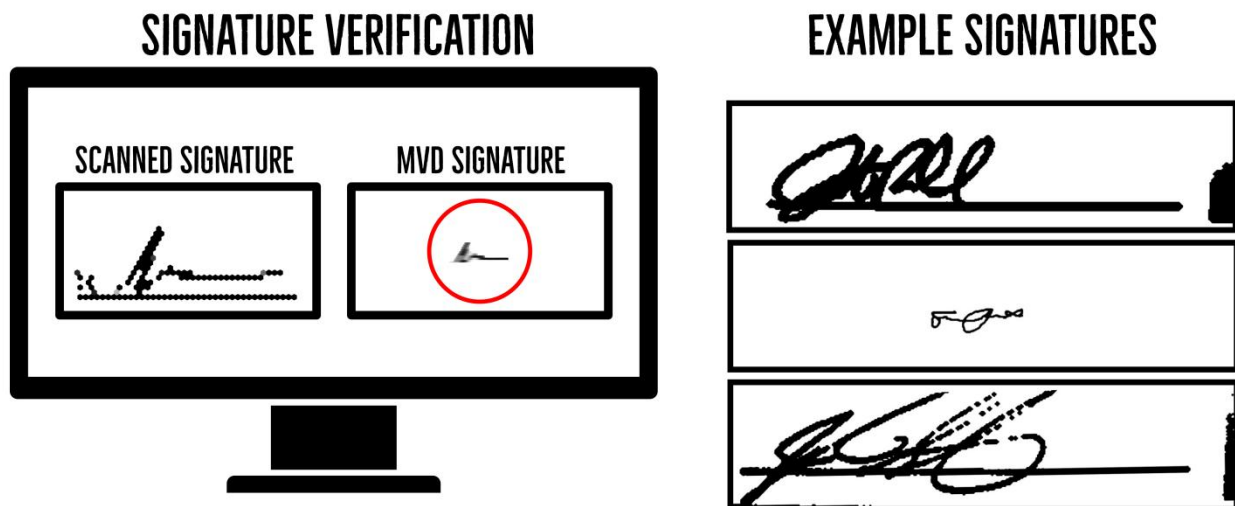
Fault 5: Employment Standards Exclude Best Candidates

The County does not ensure equal party participation in the signature verification role, but the managers are aware of the party affiliation of each individual. The first level of verification may be observed by members of the political parties. If ballot envelope signatures are approved at this level, they are batched at Runbeck and sent to MCTEC

for opening. The originals are never seen by anyone working in the signature verification team.

The signature verification workers are individuals who apply for these $15/hr jobs; or they are from temporary employment agencies; working as temporary, full-time employees of the County. They are provided a 4 hour training on signatures and then work over 40 hours per week for 6 or 8 weeks straight. This rules out several categories of reliable workers from participating. If the length of commitment and daily hours were reduced, a greater number of vigilant and concerned citizens would have the opportunity to take part in this process. This would increase the number of quality workers, raise the expectations and increase accuracy and productivity.

MAIL IN BALLOT CYCLE FAULT FIVE
SIGNATURE VERIFICATION WORKERS
USING TEMP EMPLOYEES & NO PARTY REQUIREMENTS. 4 HOURS OF SIGNATURE VERIFICATION TRAINING. 6-10 HOURS A DAY AT MINIMUM WAGE FOR 6 - 8 WEEKS OUT OF NORMAL LIFE.

CONCERNED CITIZEN   OVERWORKED & UNDER PAID   DISINTERESTED & DISCONNECTED

"What can be improved is the identification verification process. Right now, if you're an early voter, you confirm your identification by signing the envelope enclosing the ballot. In Maricopa County, the signature is then reviewed by a human who is trained in signature verification.

"I don't like this. Not only is it slow, but humans are both explicitly and subconsciously biased. For example, I could decide that I was going to demand more exact signatures from people with Latino sounding last names. Also, humans are lazy, sleepy, etc. It's a very boring job, and

there is no way somebody remains focused during all of the signature verification. The Recorder's Office has some review and control mechanisms, but I would like to see this process computerized, such that it's an impartial computer that never gets tired that decides if your signature matches."

Stephen Richer, November 11, 2019
Maricopa County Recorder, January 2021 to Present

Fault 6: No Observers in Vital Verification Areas

If an envelope signature is initially challenged, or "exceptioned", it is elevated for manager verification. Managers are either long-term County employees or experienced first-level temporary employees. Runbeck batches these envelopes separately; these are sent to MCTEC and then provided to the managers to view the physical envelope. There is no provision for party observers to oversee this level of verification and this is where the critical decisions about questionable ballots are made. Oversight is the most critical at this point and should be mandatory. Ballot curing at this level is adjudication and should not rest in the hands of a single overworked employee.

Envelopes are "cured" by contacting the voter using the phone number or email on the registration form, or more immediately by using the phone number provided by the signer on the ballot envelope. The person answering that call must provide Personal Identifying Information (PII), such as birth date, last four of their SSN, DL number, etc., to validate their identity. This system is designed to place convenience over security. The forger can provide their own phone number on the envelope for verification. In the case where a forger is stealing the vote of a relative, providing PII is easy. In the case of organized fraud, an organization that can acquire copies of signatures to attempt to forge, can also acquire PII for false identity verification; all it takes is one or more complicit individuals in the Recorders Office. Signatures identified as forgeries should not be eligible for curing.

During the Arizona Senate Audit, Dr. Shiva was contracted to find issues with the envelope images, but he was not contracted to perform automated signature verification.

It is vital that signature verification on the 2020 ballot envelopes be performed to protect the integrity of all future elections.

MAIL IN BALLOT CYCLE FAULT SIX & SEVEN
SIGNATURE VERIFICATION WORKERS

WHEN BAD SIGNATURES GET THROUGH IT BECOMES A FRAUDULENT VOTE. WHEN GOOD SIGNATURES DON'T GET APPROVED A VOTER BECOMES DISENFRANCHISED

BAD SIGNATURES GET PASSED THROUGH

ACCEPTED

FAKE SIG

GOOD SIGNATURES GET DISENFRANCHISED

REJECTED

Real Sig

Fault 7: Policies Overwhelm System, Enable Fraud and Disenfranchise

Our analysis of the signature verification department shows that process flaws and staffing policies have overwhelmed the system. This increases the probability of forgeries being accepted. When the system is flooded, there is less time to cure a legitimate ballot, resulting in a lost vote. The following are examples of voter disenfranchisement.

We received multiple reports from Maricopa County voters that they did not receive their early mail-in ballot. We verified that these voters had a party affiliation listed on the voter rolls and were listed as Active Early Voter List (AEVL). Upon questioning specific voter records with employees in Maricopa Elections Department, it was confirmed that their affiliation was listed as "other" within the ballot mailing system. According to sources in MCTEC, this was found at a very high rate and was not small numbers of isolated cases. It did not appear that one party was affected at a greater rate than the other.

We do not know at this time if this was simply a catastrophic system failure, if this was due to negligence or an intentional effort to disenfranchise voters. We will provide detailed specific voter information and additional sources to law enforcement for review.

Further investigation will provide us with additional details on potential numbers of disenfranchised voters and those numbers will be provided as they become available.

In the 2022 primary, mail-in ballot affidavits had a reported rejection rate of 15 to 20%.

Voter Report:

In another example, a voter went to a polling center and was issued a ballot incorrect for his precinct. He returned the ballot to the poll worker and the only solution provided to him, forced him to vote a provisional ballot.

The voter's wife reported her concerns to BeBallotReady.com and she received the initial response via email at 5:50pm on election day; this was just 70 minutes prior to polls closing. The voter's wife did not see the email until 1:15am, several hours after the polls closed.

See Below Email Exchange with county regarding the above voter.

Good evening, ▮▮▮▮▮▮▮. We are trying to contact you or your husband to instruct him how to proceed on casting his ballot. We have no phone number for you and the phone number that is part of his voter registration file is apparently, not a valid number. The number we have for ▮▮▮▮▮▮▮▮▮▮. Despite BeBallotReady.Vote showing ▮▮▮▮▮▮▮ cast a ballot, we have no record of his casting a ballot. BeBallotReady.Vote changes status when you check-in not when you cast your ballot.

▮▮▮▮▮▮▮ needs to go to the nearest voting location, request a ballot and cast his ballot at the location. Either of you can call me at my cell number: 480 290-9189,

Ilene

Respectfully,

ILENE HABER

Director of Communications and Constituent Services

OFFICE OF MARICOPA COUNTY RECORDER

111 S. 3RD Ave, Ste. 103, Phoenix, AZ 85003

(602) 506-2543 Email: voterinfo@risc.maricopa.gov

On Aug 3, 2022, at 10:10 AM, Ilene Haber - RISCX <ihaber@risc.maricopa.gov> wrote:

Good morning, ▮▮▮▮▮▮▮. First, I apologize for the misspelling of your name. Also, we don't have a phone number for you and there is no phone number as part of your voter registration file. In reference to his ballot, I am still working on it to verify if it tabulated or not. Having him go to the vote center was an insurance we would have a good ballot. However, I am still working on it and will update you with more information as the systems update. Once I have more information, I will be able to detail what happened.

Thank you.

Ilene

Sent: Wednesday, August 3, 2022 1:15 AM
To: Ilene Haber - RISCX <ihaber@risc.maricopa.gov>
Subject: Re: Trying to reach you or your husband.

Well dang it! I was in a meeting & didn't get this until now.

Yes, his phone number changed. Mine didn't though. You could have called me. 😞

He is going to be super upset. I think I won't tell him. He'll never vote again.

Can you please explain why his ballot didn't count.

From: ▊▊▊▊▊▊
Sent: Thursday, August 4, 2022 7:40 AM
To: Ilene Haber - RISCX <ihaber@risc.maricopa.gov>
Subject: Re: Trying to reach you or your husband.

Good morning,

Wanted you to have another piece of the puzzle to figure out what happened.

▊▊▊ said he updated his phone number when he signed in to vote.

Is that real-time updating the rolls? As a voter, I would think that update would be accessed/used in some way if there was a problem with his ballot/vote.

From: Ilene Haber - RISCX <ihaber@risc.maricopa.gov>
Date: August 4, 2022 at 9:28:52 AM MST
▊▊▊▊▊▊▊▊
Subject: RE: Trying to reach you or your husband.

Good morning, ▊▊▊▊▊▊▊. I wanted to give you a status check. I was at the tabulation center last night, and I believe they will complete the bulk of standard ballots today. Meaning, non-provisional ballots. Once they begin processing the provisional (the numbers you gave me) I can start tracking yours and ▊▊▊▊▊▊▊ ballots. On the issue of ▊▊▊▊▊▊ phone number. The site books (the electronic voter check-in screen) at the voting locations are not attached to the internet. Consequently, we need to wait for an update/refresh to modify the registration database. That does happen frequently during the day. I am going to check the phone number on his file this morning.

I am getting my eye on it and will update you on status as soon as I am told the tabulation center has moved to verify provisional ballots. Thank you for your patience.

Ilene

Respectfully,

ILENE HABER

Director of Communications and Constituent Services

CONCLUSION

False registrations in the voter rolls are the currency for most types of election fraud. While the voter rolls require immediate and ongoing attention, voter rolls are dynamic, and perfection is unattainable. As long as there are false registrations, signature verification will be the last line of defense for true and valid election outcomes.

Unfortunately, our current signature verification process recklessly incorporates features intended to place convenience, efficiency and speed over accuracy and security. It incorporates other features, that if their intent is not expressly to enable fraud, then their intent is inexplicable. If the people of Maricopa County and the state of Arizona are to benefit from the true outcome of their elections, then they must demand that we overhaul our fatally flawed system.

If we the people are ever to reclaim our elections, we must all get involved. We must talk openly with our neighbors, become a poll workers and poll watchers, call on our legislators to act, require that law enforcement pursues justice, and we must fulfill our roles as the fourth branch of government.

"Truth will ultimately prevail where there is pain to bring it to light."
George Washington

*"The life of the nation is secure only while the nation
is honest, truthful, and virtuous."* –Fredrick Douglass