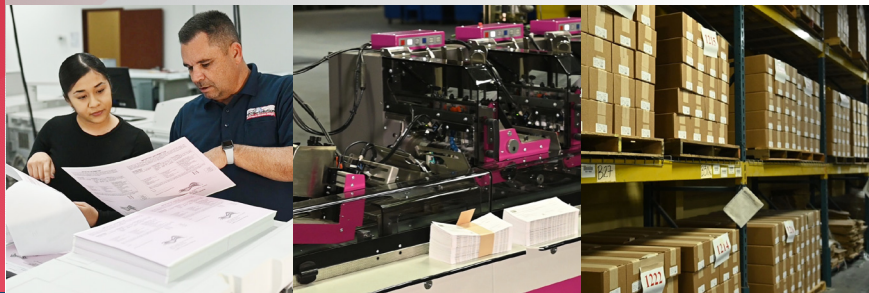


PROPOSAL FOR

BALLOT FRAUD COUNTERMEASURES FOR COCHISE COUNTY



COCHISE, ARIZONA

BALLOT FRAUD
COUNTERMEASURES

APRIL 25, 2023

RFP #23-14-REC-01



TECHNICAL PROPOSAL

Pursuant to your request for ballot security countermeasures, our company is in a unique position to be the only provider that has in-depth experience both in high-end security and election printing, providing millions of secure government documents annually.

We have two companies, one providing specific products and services within the security print and anti-counterfeiting environment (ISP) and the other within the election print environment (ProVote). These companies, under the same ownership, operate over 200,000 square feet of manufacturing space with certified election print equipment, personnel, and warehouse space to do everything in-house from start to finish.

International Security Products, Inc.

1760 Commerce Way
Paso Robles, CA 93446
www.verifyfirst.com



ProVoteSolutions

90 W. Poplar Avenue
Porterville, CA 93257
www.provotesolutions.com



Having years of experience in election ballot printing and vote-by-mail we are cautious about the extreme time frames and variables required within a typical election cycle and the subsequent features being requested. We are aware that there are often only weeks or days from the time the final ballot size, count, and design are finalized to the time it needs to be printed.

According to the request within Attachment 2, we have offered two options for Cochise to consider. The first option will mostly exceed the list of requested security features. The second option will fulfill most requested features but was created leveraging our years experience in security and ballot production.

We want to emphasize that, assuming the feature(s) pass systems certification, there should be consideration of whether these features are capable of being applied within a typical election time-frame. The requested features will require no less than 2 additional passes through equipment typical of ballot production. This extra print and converting time should be considered when choosing features to secure a paper ballot.

Our second option is already designed to work with existing ballot substrates and will function and tabulate as usual. We have performed preliminary testing on existing ballot substrates and systems.

TECHNICAL PROPOSAL

The following is an acknowledgment of our understanding of what is to be offered in our proposal according to the RFP 24-14-REC-01.

Unique, controlled-supply watermarked clearing bank specification 1 security paper.

- *While this specification was generally created for a European market thinner than current ballot substrates, we can supply this variation of paper (CBS1) with numerous watermarks to choose from, including our own privately owned watermark. Similar to your request for holography origination being owned by the vendor, we own our security paper only with our privately designed dandy roller for the watermark. The features we offer are as follows:*
 - *Private or generic true fourdrinier watermark*
 - *UV Dead/Dull*
 - *Invisible fibers with optionally visible fibers*
 - *Full chemical protection*
 - *Toner adhesion properties*

Secure holographic foil that is a minimum of ten square millimeters and a maximum of twenty square millimeters with a proprietary original image in visible and multiple-color invisible ultraviolet inks.

The visible overprint must be translucent so that the hologram image strikes through the printed image when viewed at different angles and must be cured so that any tampering of the image causes visible damage to the hologram. The holographic foil design and origination artwork must be exclusively owned and controlled by the security printer.

- *In the same fashion as our private watermarked CBS1 security paper, we also have a private holographic secure foil. Our application method uses a hot stamping method where the foil is fused with the paper making it impossible to remove without destroying the area. Our foil is also conducive to print and document feeding as it does not sit above the paper and is heat resistant, so post-print methods do not affect the area. This holography is generated using the most recent lasers and technology to achieve optimum color shift and microscopic forensic features.*

Branded overprint of any hologram that personalizes the hologram with the customer logo.

- *To make the hologram custom to Cochise, we originate a steel die specific to Cochise, engraved using various methods that offer overprint imagery and tactility (feel) plus additional type to light verification. This overprint is impressed into foil and paper.*

TECHNICAL PROPOSAL

Custom complex security background designs with banknote-level security.

- *The proposal includes a security base print using complex or guilloche-designed backgrounds. We can print this in a solid color but recommend keeping this as part of the invisible ink to prevent issues with ballot print.*

Secure variable digital infill.

- *Our ballot production is done digitally and at that point, variable print infill options are available. Repeated secure serialization is typical in this scenario. This would be done at the time of printing a ballot.*

Thermochromic, tri-thermochromic, photochromic or optically variable inks.

- *Our proposal includes a spot color of reversible (goes clear then back to original color) thermochromic. Colors and activation temperatures are flexible and included in cost. As an example, due to higher temperatures in Arizona, a higher activating threshold can be used.*

Stealth numbering in ultraviolet, infrared or taggant inks.

- *We exceed this by using a specialized system that applies two separate secure numbers inline at the same pass. We do this to eliminate the amount of "touches" during a serialization process.*
 - *First number is an invisible UV serial number that is heat-resistant to the post-print process of laser printing.*
 - *The second number is matched to this invisible number but is a highly reflective foil or holographic number applied over a dark indicia pattern. The result is a number that is visible when tipped to light but, when scanned or copied, becomes obscured and impossible to replicate.*

Two-color rainbow print invisible ultraviolet numismatic designs with fine line security relief design that follows the primary images' design exactly and with a minimum line weight of 0.0424 millimeters.

- *Proposal is inclusive of a multi-color prismatic guilloche background design.*

Unique forensic fraud detection technology that is built into security inks.

- *Ink(s) will have a IR ceramic taggant impervious to chemicals and hi-temperatures that remain even after document destruction.*

TECHNICAL PROPOSAL

Invisible ultraviolet microtext with an ultraviolet image minimum height of 0.3 millimeters and maximum height of 0.5 millimeters.

- *We can incorporate micro-text lines as individual lines or even weave them throughout the guilloche background lines.*
- *Micro-text will be custom to Cochise and can incorporate algorithms, intentional errors, or other inclusions to be known by the County officials.*

Raster imaging printed on seventy-five percent of the document face in a minimum two-color invisible ultraviolet ink with a minimum line weight of 0.0242 millimeters and a maximum line weight of 0.084 millimeters.

- *Proposal is inclusive of a multi-color prismatic guilloche background design although we don't recommend flooding the background with this much coverage but rather wallpapered seals as an option. We have found that the invisible ink could affect the black timing marks and OCR sections of a ballot. Design to be discussed upon award.*

Three-color invisible ultraviolet guilloche with an anti-copy feature that is a custom geometric design specific to the document and with a high level of secure fine line detail consisting of multiple line weight with a minimum line weight of 0.242 millimeters.

- *Proposal is inclusive of a multi-color prismatic guilloche background design. The prismatic blending of blue and yellow/green invisible UV will create an intermediary 3rd color*

Visible colored overt ink with embedded covert, near infrared machine-readable taggant that is capable of detection through proprietary infrared wavelength light source excitation and related infrared wavelength emission characteristics that confirm authenticity through a complex temporal measurement when read by a hand-held, rechargeable battery-operated proprietary detector.

- *This will fall into the same group as a unique forensic fraud detection technology built into the ink. It can be authenticated with a hand-held, rechargeable proprietary detector.*

TECHNICAL PROPOSAL

This artwork generation is only used as an example. Actual Dimensions and Artwork to be determined.



TECHNICAL PROPOSAL

THIS GRAPHIC SHOWS A FINE LINE BACKGROUND WHICH IS COMPRISED OF INVISIBLE UV INK PRINTED IN A MULTI-COLOR PRISMATIC BLEND - GRAPHICS TO BE DETERMINED AFTER AWARD

12345678

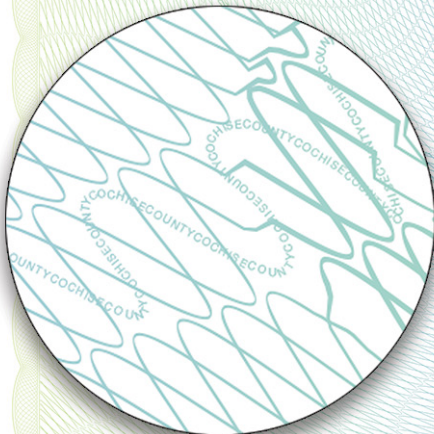


TANDEM ANTI-COPY SERIALIZATION PROCESS

- FIRST SERIAL ON LEFT IS IN INVISIBLE UV
- SECOND SERIAL IN MIDDLE IS A NON-COPYABLE HOLOGRAPHIC FOIL HEAT STAMPED OVER AN INDICIA - CANNOT BE COPIED BUT IS VIEWED BY TIPPING TO LIGHT

ENGRAVED PRIVATE HOLOGRAM WITH FOLLOWING FEATURES

- IMAGE FLIP OF "SAFE" AND "KEY" WHEN TILTED LEFT TO RIGHT
- DIFFRACTIVE BLACK IMAGE OF "LOCK"
- A "LENS" EFFECT WITHIN THE KEYHOLE OF "LOCK"
- LEGIBLE TEXT THAT IS ~0.075MM HEIGHT INSIDE "LOCK"
- COCHISE COUNTY IMAGERY IS ENGRAVED INTO STAMPING DIE SHOWING AT OBLIQUE ANGLES AND OFFERING SOME TACTILITY.



EXPLODED VIEW SHOWING:

- GUILLOCHE LINE THICKNESS MODULATION
- RELIEF LINE BENDS TO CREATE IMAGES
- WOVEN MICRO-TEXT

THERMOCHROMATIC SEAL

- AVAILABLE IN PRIMARY COLORS
- AVAILABLE IN DIFFERENT TEMPS
- CLEARS WITH WARMTH THEN REAPPEARS



RECOMMENDED OPTION

The following slides show an existing technology we previously chose for ballots several years ago. Using our experience in security and election printing, we set out to check the following boxes.

1. Secure the chain of custody of raw ballot material.
2. Develop a feature that is not capable of being printed via inkjet or toner based digital devices (desktop counterfeiting).
3. Customized to the County and Election.
4. Able to be applied to existing certified ballot paper by all system providers (ESS, Dominion, Hart, Clear Ballot, etc.)
5. Being as the feature is not able to be printed via digital means, it needs to be printed as a second step to the existing ballot production. There is a 2-3 week period between when everything is finalized to start ballot printing to when the ballots have to mail. The feature should not be so complicated that it jeopardizes legal election dates.
6. A feature that can be made available to other authorized election printers.
7. Has layers of security not available to the general market and can be authenticated through various tools.



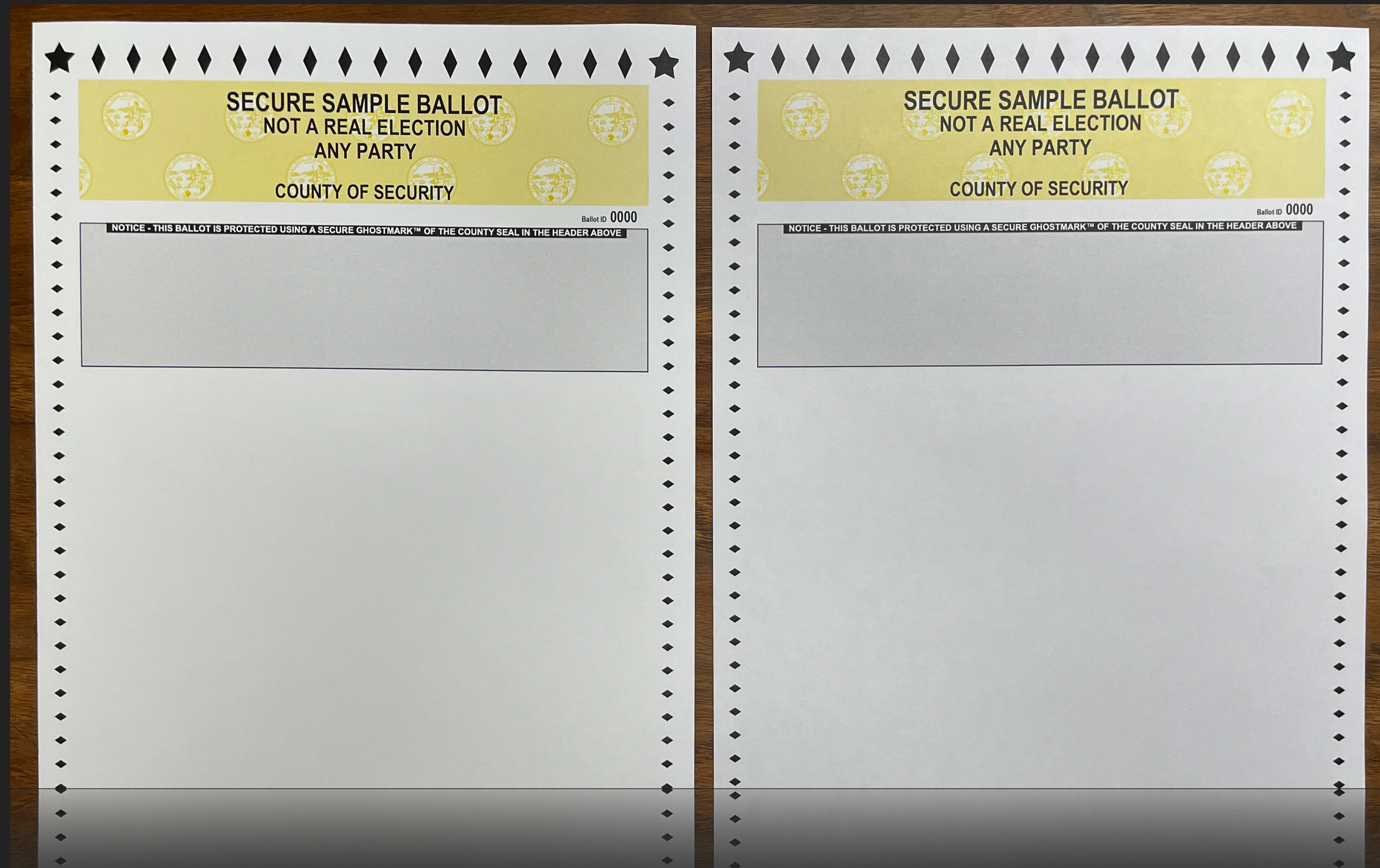
VOTER TRUST AND ELECTION INTEGRITY

SECURE  BALLOTS

PRIMARY AREAS IN REVIEW OF SECURING PAPER BASED BALLOTS

- ▶ To provide counties with a highly secure covert/overt option which will enhance ballot security and improve voter confidence in our election process.
- ▶ To offer counties an option for a secure feature using existing infrastructure that is capable of using customer images on a case-by-case basis.
- ▶ To offer the option of a paper-based ballot that will enhance chain of custody and secure supply chain protection with minimal budgetary impact.
- ▶ To offer a feature agnostic to currently certified substrates across multiple mills, decreasing possible supply chain issues and increasing redundancy options.

HOW SECURE IS THE CHAIN OF CUSTODY OF RAW MATERIAL?



ONE OF THESE IS PRINTED ON PAPER THAT CAN BE BOUGHT ONLINE

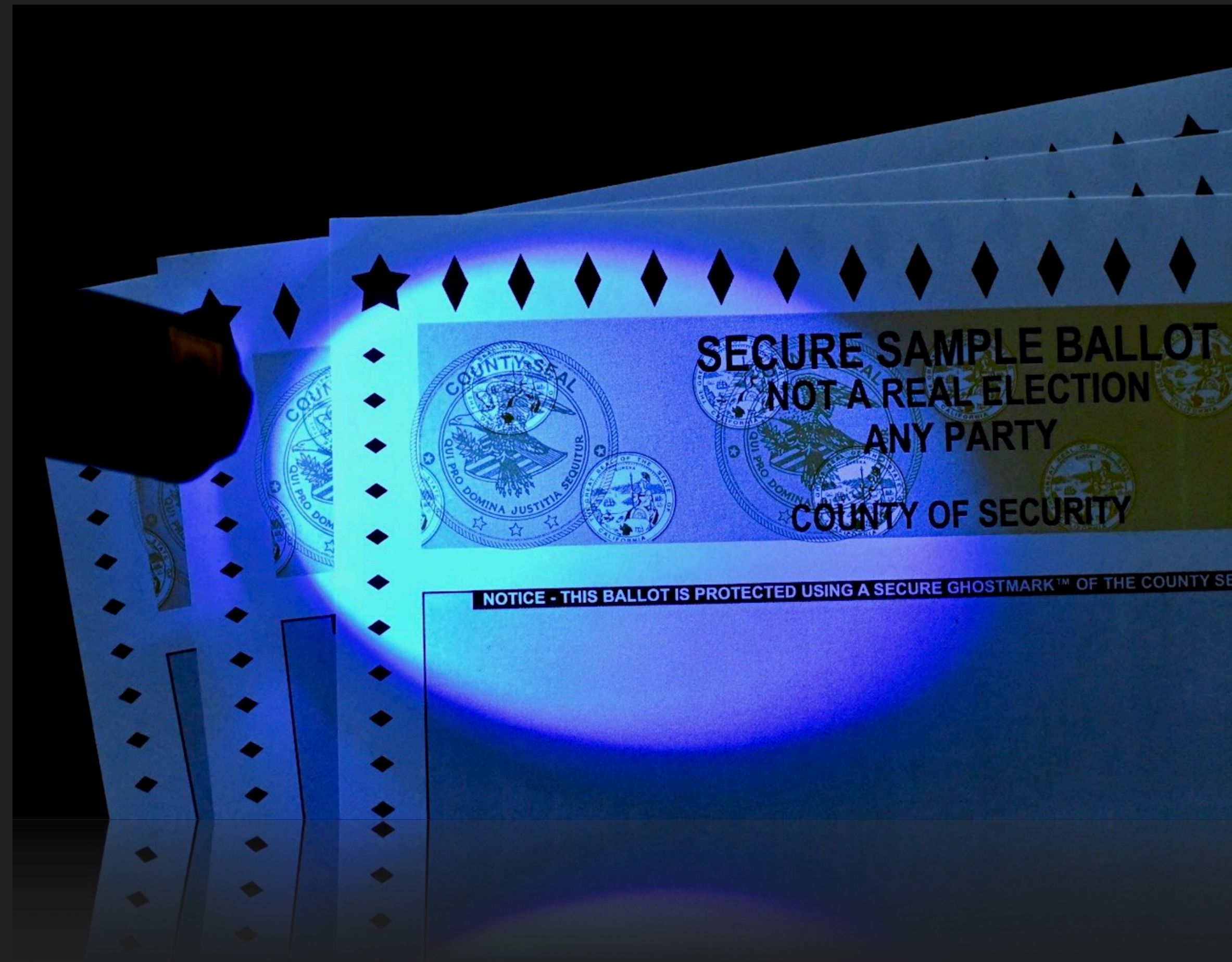
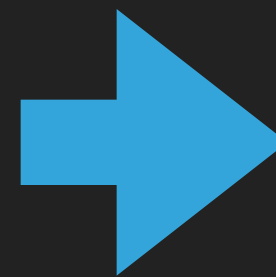
FIRST COVERT LAYER OF ENHANCED UV FLOURESCENCE


- ▶ The first COVERT layer has an inclusion of an ultra-violet (UV) pigment excitable around 365nm using a standard black light.
- ▶ Standard ballot paper has bleaching agents that cause it to excite blue using the UV light so an opposing color of UV pigment causes the seal to shine brightly when exposed to the UV light.
- ▶ Using high resolution printing capabilities this ink is capable of holding micro-text which can be customized to the County or election and verified with UV light and magnification loupe of at least 8x power.

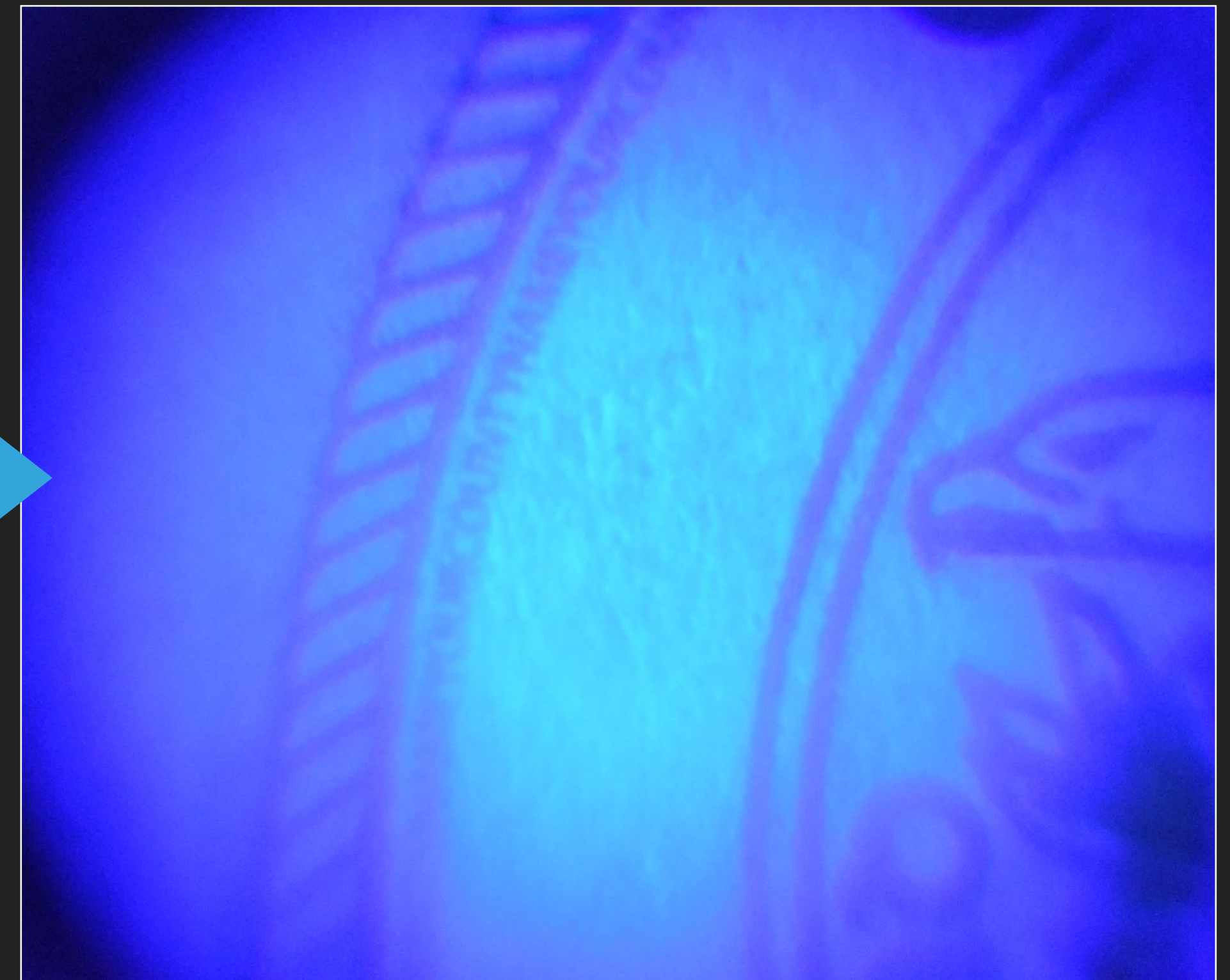
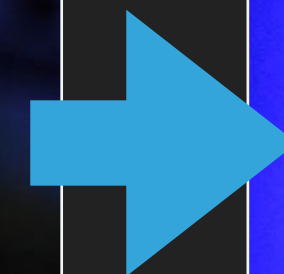
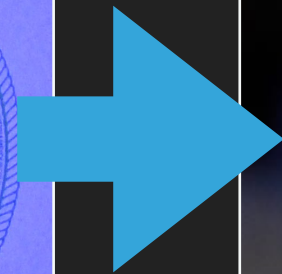
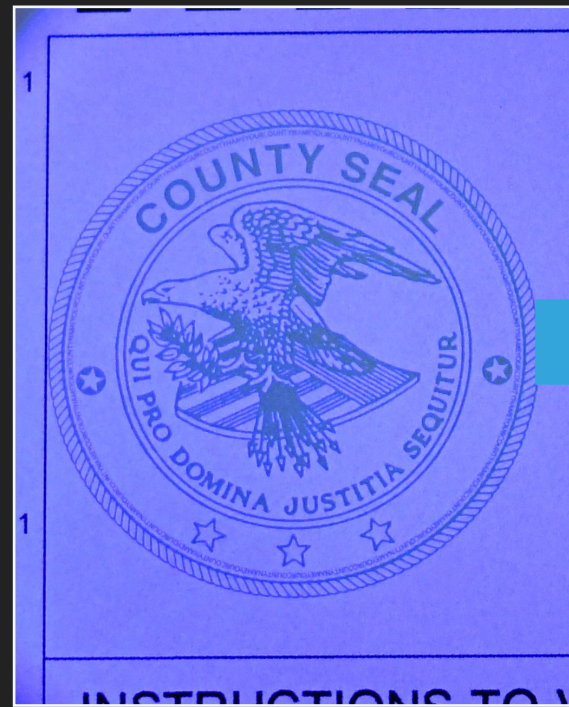
FIRST COVERT LAYER



PICTURES SHOW UV EXCITEMENT



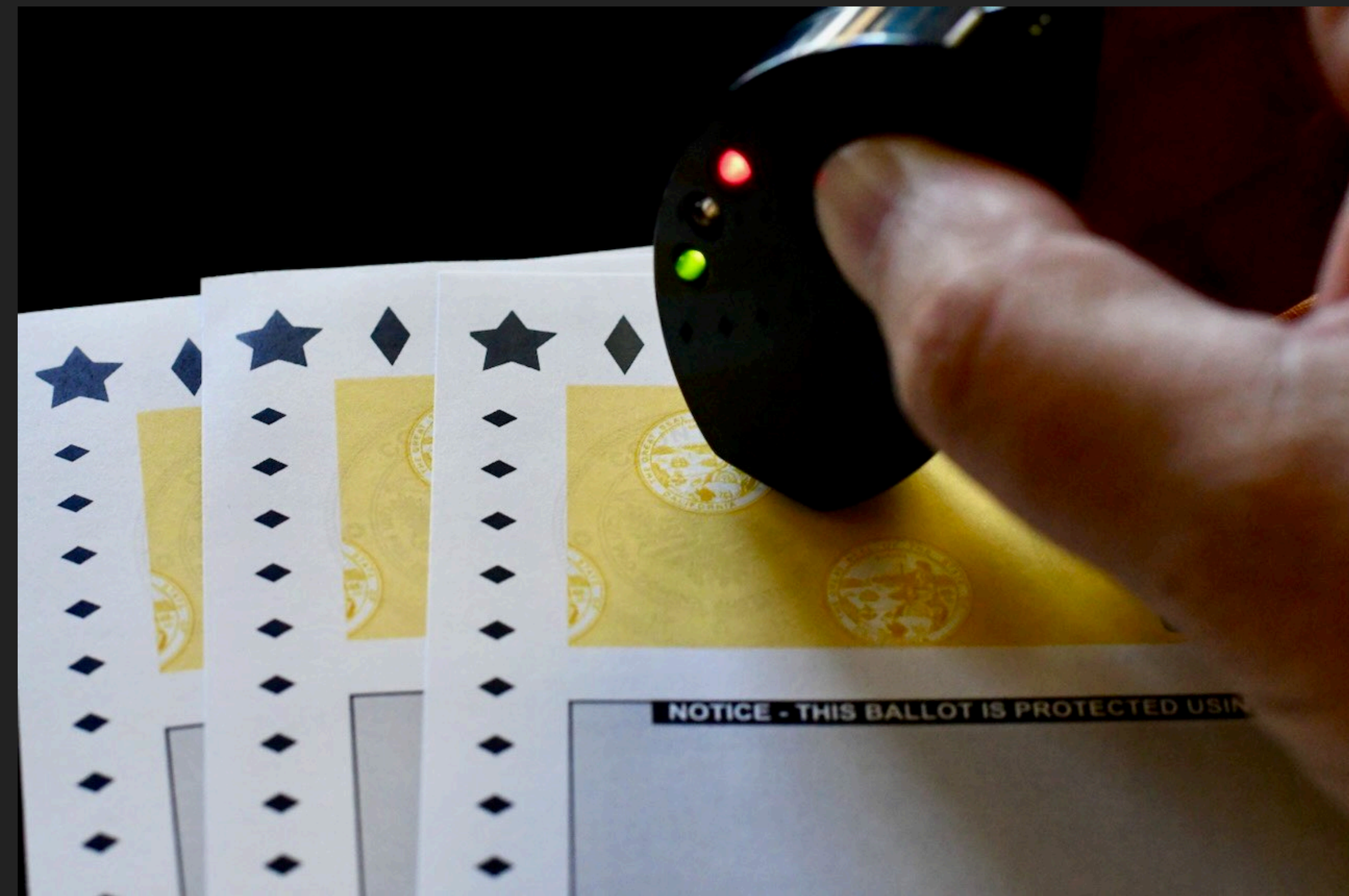
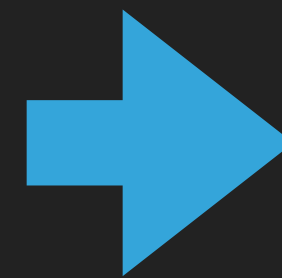
FIRST COVERT LAYER  PICTURES SHOW UV MICRO-TEXT



SECOND COVERT LAYER ENHANCED LAYER OF INFRARED (IR) UNIQUENESS

- ▶ The second covert layer within the GhostMark™ image is a narrow machine readable IR pigment.
- ▶ This pigment is recognizable by audible readers and some lasers in the near or upper IR range above 800nm.
- ▶ While the previous UV layer increases the image security, UV pigments are readily available in the public sector making them somewhat less secure.
- ▶ This IR material is inorganic and impervious to heat over 2,000 degrees meaning it can be detected from ashes after destruction.
- ▶ Solutions were previously covered under U.S. patents 5,344,192 - 5,826,916 - 5,695,220 G.B. patent 2,276,588B, Canadian patent 2,159,636 and pending application 63/357,958

SECOND COVERT LAYER  PICTURES SHOW IR "GO - NO GO" READER



ADDITIONAL COMMENTS TO AID IN SECURING PAPER BALLOTS



- ▶ Slight pigment can be added to the feature to turn it from a covert to an overt watermark
- ▶ To further enhance security, purposeful “errors” can be included within the watermark, which are only known to the State or County election officials.
- ▶ The feature is not limited by print complexity. Guilloche and fine details can be incorporated.
- ▶ To enhance the chain of custody and supply chain security, a serialization process to help track the secure stock might be considered. This is an optional layer that dramatically aids in the security of the ballot stock once it leaves the printer's facility. Because of the privacy issue and the perception that any serialization can be traced back to the voter, the serialization is done in a secure modulus serial in non-scan ink which would also protect voter exposure of tabulated images showing the serial along with filled out .



VOTER TRUST AND ELECTION INTEGRITY

SECURE  BALLOTS