

# TECHNICAL PROPOSAL

## Request for Proposal (RFP): 23-14-REC-01

PREPARED FOR:

### COCHISE COUNTY PROCUREMENT DEPARTMENT ON BEHALF OF THE COCHISE COUNTY RECORDER'S OFFICE

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## Executive Summary

At Authentix, we understand the consequences of fraudulent activity. Illegal documents meant to deceive have a devastating impact on the brand and integrity of any organization, whether in commerce, healthcare, or government. Electoral fraud meant to inaugurate candidates into office—especially those whose agendas are not aligned with the needs of the citizens for whom they represent—can be detrimental. Furthermore, technologies (e.g., digital imaging software, scanners, color-printing devices, and the Internet) have paved the way for criminals to easily create an array of fraudulent documents.

For more than 40 years, Authentix has served governments, educational institutions, healthcare organizations, and corporations around the world as a leading manufacturer of high security documents. We offer **responsive security solutions** at **competitive prices**. This helps our customers safeguard revenue, protect employment, and **ensure citizen votes are accurately counted**.

First and foremost, we are security designers. Our team of **highly-skilled designers** produce complex artwork personalized to complement each customer's brand values. Using advanced banknote design software—coupled with **patented anti-counterfeiting techniques**—we create aesthetic designs that incorporate **multiple layers of covert and overt security features** to create fully-functional and secure documents. Our partnership approach with each customer involves **guiding and advising at every stage of the design process** to create **customized artwork** that meets every need.

Then, finalized artwork gets transferred to our bespoke, configured security printing press for production. Our **unique, one-pass production technique**, designed through extensive research and development efforts through the years, requires only one skilled printer in one swift process. Our efficient way of manufacturing with state-of-the art machinery allows us the **flexibility to deliver both short and long production runs** while **saving customers time and money**.

Led by an experienced management team overseeing a strong, loyal workforce, Authentix has developed an exceptional brand reputation by consistently **delivering** quality products which cannot be counterfeited—**on time and within budget**.

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**What this means for Cochise County: The Recorder's Office can rely on our skilled, dedicated team to produce and delivery highly secure customized ballots protected by multiple overt and covert features. And with our headquarters located in Texas, Cochise County officials can expect to receive timely shipments and attentive, regional support.**

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# Offering for Cochise County

As one of the world’s top secure document providers, we offer unique and cost-effective manufacturing processes, as well as patented high-security graphical techniques. Our skilled in-house team blends excellence in design with world-class security features.

Authentix’s proposed ballots offer protection against counterfeit and alteration fraud; they are high-quality documents that are easy to reliably authenticate. The table below and the pages that follow outline our proposed solution for Cochise County.

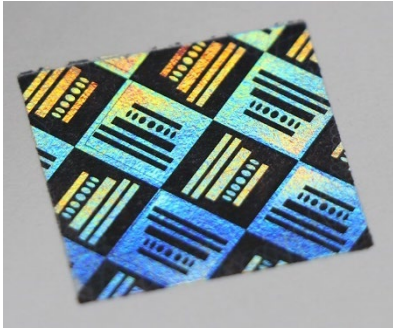
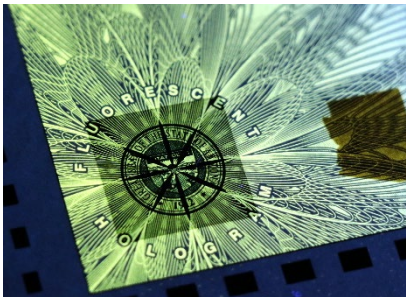

CONTRACT SPECIFICATIONS		
Paper and Print Requirement	Our Response	Compliant
1. Security measures include but are not limited to: <ul style="list-style-type: none"> <li>• Microprinting</li> <li>• Bar Codes</li> <li>• Hash marks</li> <li>• Watermarks</li> <li>• Invisible fibers</li> <li>• Taggants</li> <li>• UV Dead</li> </ul>	The <b>Ballot Paper Security Features</b> section below provides an overview each of the security features proposed for Cochise County. The subsequent <b>Visible Properties</b> and <b>Invisible Properties</b> sections describe them in further detail and illustrate where each would be embedded within the proposed ballot paper.	

## CONTRACT SPECIFICATIONS





Paper and Print Requirement	Our Response	Compliant
2. Unique, controlled supply watermarked clearing bank specification 1 security paper.	<p>All paper used by Authentix for creating high-security documents are produced in line with ISO 9001 and ISO 14001 accreditation. For Cochise County ballots, we propose <b>95gm security paper</b> that is exclusively owned, accessed, and controlled by Authentix. This heavy-weighted, watermarked UV-dull paper enables the extensive use of security inks and graphics.</p>  <p>See <b><u>Visible Properties</u></b> section for additional details.</p>	



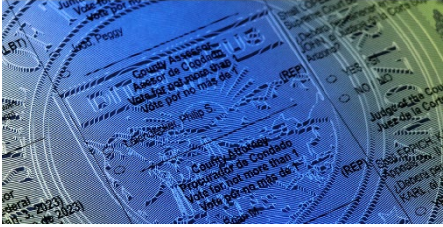

## CONTRACT SPECIFICATIONS

Paper and Print Requirement	Our Response	Compliant
<p>3. 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.</p> <p>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 in such a way 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.</p>	<p>We offer a <b>custom security hologram</b> that can be used in multidirectional format for various types of application. The holographic foil—available only to Authentix—contains an optical 2D graphic image that reflects light as it is re-oriented. The materials enable specialty inks and graphics to be printed on top of the hologram using security techniques to deter counterfeiters.</p> <div style="text-align: center;">  </div> <p>See <b><u>Visible Properties</u></b> section for details.</p> <p>Additionally, we also offer patented technology in the form of a <b>fluorescent security hologram</b>. This grants us exclusive rights to overprint a unique invisible diagram onto the hologram that is only detectable under UV light. Additional information may be found in the <b><u>Invisible Properties</u></b> section.</p> <div style="text-align: center;">  </div>	

## CONTRACT SPECIFICATIONS




Paper and Print Requirement	Our Response	Compliant
<p>4. Branded overprint of any hologram that personalizes the hologram with customer logo.</p>	<p>Our design team has created a mock-up of a <b>translucent hologram overprint</b> specifically for the Cochise County ballots.</p> <div style="text-align: center;">  </div> <p>Additional details about this feature may be found in the <b>Visible Properties</b> section, below.</p>	
<p>5. Custom complex security background designs with banknote-level security.</p>	<p>We offer a few different security features that satisfy this requirement. This includes a patented protected <b>custom micro-numismatic design</b> (shown below) that requires banknote software graphics and a high level of design knowledge only found in the most elite security printing operations. This protects the “infill” from fraudulent alterations. Once damaged, this print is impossible to accurately reinstate.</p> <div style="text-align: center;">  </div> <p>Other relevant security features offered include a <b>rainbow-print UV numismatic design</b>, a <b>special raster image</b>, and a <b>fluorescent security hologram</b>. See the <b>Invisible Properties</b> section below for details.</p>	

## CONTRACT SPECIFICATIONS






Paper and Print Requirement	Our Response	Compliant
6. Secure variable digital infill.	<p>Three (3) security features detailed in this technical proposal document also satisfy this requirement: (a.) our <b>custom micro-numismatic design</b>; (b) a <b>special raster</b> image; and (c.) a <b>rainbow-print UV numismatic</b> design (shown below).</p>  <p>All features are further described below in the <b><u>Invisible Properties</u></b> section.</p>	








**CONTRACT SPECIFICATIONS**

Paper and Print Requirement	Our Response	Compliant
<p>7. Thermochromic, tri-thermochromic, photochromic or optically variable inks.</p>	<p>Our vast portfolio also includes <b>photochromic ink</b> that changes color when illuminated with either UV and/or natural light;</p>  <p><b>thermochromic ink</b> that changes color when exposed to temperatures above a certain range;</p>  <p>And <b>optically variable inks (OVI)</b> with custom colors—only available through Authentix.</p>  <p>See the <u><b>Ballot Paper Security Features</b></u> section for details.</p>	<p>✓</p>

## CONTRACT SPECIFICATIONS





Paper and Print Requirement	Our Response	Compliant
<p>8. Stealth numbering in ultraviolet, infrared or taggant inks.</p>	<div style="display: flex; justify-content: space-around;">   </div> <p>Our patented-protected <b>Stealth technology</b> can be used to protect vulnerable data with an ink that covers up and makes the information unreadable to the naked eye. The hidden text can only be viewed via an IR reader.</p> <p>The Stealth Print is featured in the <b><u>Ballot Paper Recommended Additional Features</u></b> section.</p>	
<p>9. Two-color rainbow print invisible ultraviolet numismatic designs with fine line security relief design that follows the primary images' s design exactly and with a minimum line weight of 0.0424 millimeters.</p>	<p>Our proposed ballot paper includes a two-color rainbow print invisible <b>ultraviolet numismatic design</b>.</p> <div style="text-align: center;">  </div> <p>Additional details may be found in the <b><u>Invisible Properties</u></b> section, below.</p>	

## CONTRACT SPECIFICATIONS




Paper and Print Requirement	Our Response	Compliant
<p>10. Unique forensic fraud detection technology that is built into security inks.</p>	<p>Our solution includes a <b>forensic marker</b> with dual purpose technology. One aspect is a proprietary near infrared inorganic taggant that can be read only with a proprietary handheld detector. The second layer of this technology includes a molecular level forensic marker that can only be detected via a Gas Chromatography Mass Spectrometer (GC/MS) analyzer; it is proprietary and not commercially available.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>If required, our chemists at the Addison, Texas headquarters may perform forensic analysis via our proprietary GC/MS analyzer equipment for unequivocal, court-defensible results.</p>	
<p>11. Invisible ultraviolet microtext with an ultraviolet image minimum height of 0.3 millimeters and maximum height of 0.5 millimeters.</p>	<p><b>Ultraviolet microtext</b> with the words “Arizona State” have been incorporated into the proposed security paper.</p> <div style="text-align: center;">  </div> <p>Additional information about this feature may be found in the <b><u>Invisible Properties</u></b> section.</p>	



## CONTRACT SPECIFICATIONS

Paper and Print Requirement	Our Response	Compliant
<p>12. 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.</p>	<p>Our proposed ballot paper design includes a <b>UV raster image</b> which is impossible to reverse-engineer.</p>  <p>The <b>Invisible Properties</b> section includes an enlarged version that better shows the image covering seventy-five percent of the document.</p>	
<p>13. 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.</p>	<p>Many of the secure documents we design and produce for customers include unique high-resolution computer-generated <b>UV guilloche patterns</b> that are extremely difficult to accurately copy, scan, or reproduce. This feature is also included in the proposed ballot paper design.</p>  <p>Additional information may be found in the <b>Invisible Properties</b> section, below.</p>	

## CONTRACT SPECIFICATIONS

Paper and Print Requirement	Our Response	Compliant
<p>14. 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.</p>	<p>As shown below, our solution includes a <b>visible, overt image embedded</b> with a <b>near infrared, machine-readable taggant</b>. This taggant only can be detected by Authentix's <b>proprietary HVX 1500 detector</b>—a hand-held, battery-operated, and rechargeable device.</p>  <p>See the <b>Invisible Properties</b> section for additional information about our proprietary taggant and HVX technology.</p>	
<p>15. Ballot size paper shall be at least two of the four sizes listed:</p> <ul style="list-style-type: none"> <li>• 8.5x11</li> <li>• 8.5x14</li> <li>• 8.5x17</li> <li>• 8.5x19</li> </ul>	<p>We are able to provide the following ballot paper sizes:</p> <ul style="list-style-type: none"> <li>▪ 8.5" x 11"</li> <li>▪ 8.5" x 14"</li> <li>▪ 8.5" x 17"</li> </ul>	

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**Please note: The security feature designs shown below, as well as their placement on the ballot paper, are mock-ups only. Our team will customize all security features and overall ballot paper design according to Cochise County officials' needs and preferences.**

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# Ballot Paper Security Features

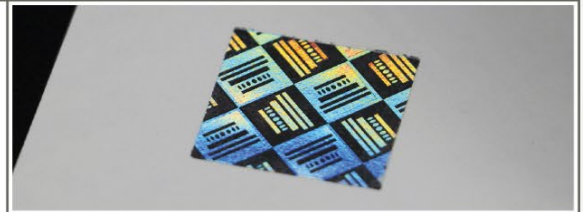
**Watermark Paper** Unique, controlled-supply watermarked clearing bank specification 1 security paper.

*Covers requirements No. 1 & 2*



**Security Hologram** 19.5mm Secure holographic foil 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 in such a way that any tampering of the image causes visible damage to the hologram. The holographic foil design and origination artwork is exclusively owned and controlled by the security printer.

*Covers requirement No. 3*



**Security Hologram Overprint** Branded overprint of any hologram that personalizes the hologram with customer logo.

*Covers requirements No. 3 & 4*



**Rainbow Print** Two-color rainbow print invisible ultraviolet numismatic designs with fine line security relief design that follows the customers logo exactly to create a raised effect with a minimum line weight of 0.0424 millimetres.

*Covers requirements No. 5, 6 & 9*



**Micronumismatics** A unique security design technique requiring banknote software graphics and a high level of security graphic design knowledge. Invisible ultraviolet microtext with an ultraviolet image minimum height of 0.3 millimetres and maximum height of 0.5 millimetres. Helps to protect the "infill" from fraudulent alterations, once damaged, impossible to accurately reinstate. A major feature to deter/prevent professional counterfeit.

*Covers requirements No. 5, 6, & 11*



**Special Raster** Raster images are sophisticated security graphics created with bank note software which are impossible to reverse engineer. This custom raster covers seventy five percent of the document face in a minimum two-color invisible ultraviolet ink with a minimum line weight of 0.0242 millimetres and a maximum line weight of 0.084 millimetres.

*Covers requirements No. 5, 6, 9 & 12*



**Fluorescent Security Hologram** 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 weights with a minimum line weight of 0.0242 millimetres. This feature is extremely difficult to scan/copy or replicate and is a major anti-counterfeit feature to deter/prevent hologram copying.

*Covers requirements No. 5 & 13*



**HVX Machine Readable Feature** 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.

*Covers requirement No. 14*



**SQR Code** Each Ballot Paper will include a unique variable SQR Code. To ensure the integrity of the QR codes, our secure printing facilities are equipped with quality control systems which inspect all security features of the QR codes before shipping the ballot papers. Codes are not re-used or duplicated.

*Covers requirement No. 1*





# Ballot Paper Recommended Additional Security Features

**Photo Chromic Ink** Photo chromic inks change colour when they are illuminated with either ultra violet light or natural daylight. They are colourless in their natural state and when exposed they produce their visible colour.

*Covers requirement No. 7*



**Thermochromic Ink** Cannot be reproduced by colour copying or laser printing. Instant document authentication.

*Covers requirement No. 7*



**OVI Ink** Only available through Authentix with custom color available. Reversible image colour changes depending on the viewing angle. Rapid colour shift verification.

*Covers requirement No. 7*



**Stealth Print** Banknote ink which is not commercially available. The IR ink will drop out when viewed using an electronic device to reveal covert information. This security system is used to protect the integrity of each individual visible number on a document.

*Covers requirement No. 8*



**Multicolour Stealth UV** The extensive use of a number of superior security graphic techniques, printed in "register" in a number of invisible ultraviolet security inks. A major feature to deter/prevent professional counterfeit. Fully custom designs and colors tailored to the customers style and needs.

*Covers requirements No. 5, 6, 9, 11, 12 & 13*

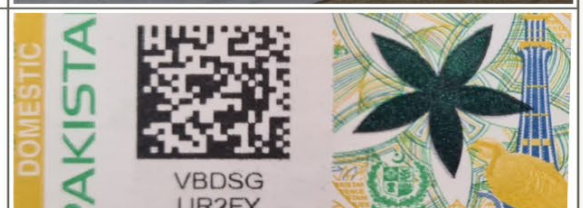


**Copy Void** Custom text appears when photocopied

*Additional security feature*



**Track & Trace** the UIM encrypted bar code serves as a digital/IT security feature. When read by an inspector or general public mobile phone apps, the encrypted data string is sent to the MIS for de-encryption. This keeps the encryption key securely stored in the central database and not in the app where it could be accessed by hackers. Once the bar code is unlocked, a human readable code is sent to mobile app allowing the user to match it to the human readable code printed on the UIM and perform one of the authentication checks. *Additional security feature*



**Ultraviolet Invisible Fibres** UV Fibres are added to the security paper and provide flecks of UV colour when viewed under the right lamp. The paper may contain one or more threads/fibres and usually can be seen with the naked eye too.

*Covers requirement No. 1*



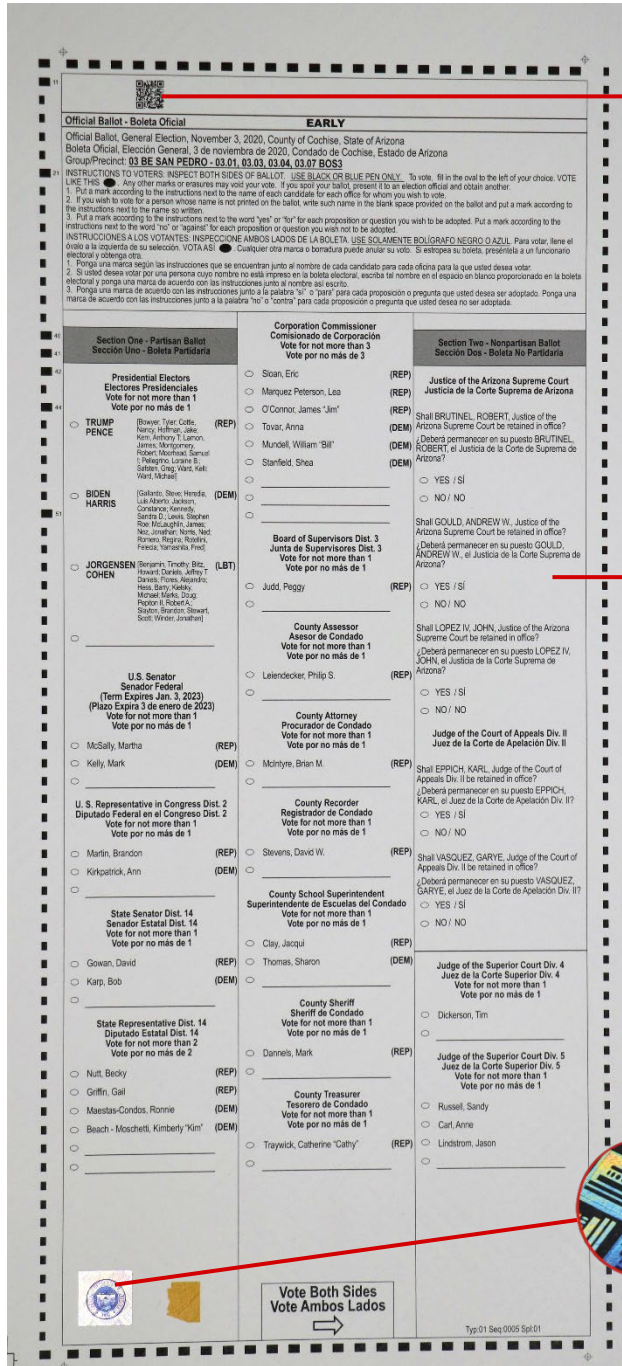
**THESE ARE THE MAJOR SECURITY FEATURES WHICH SHOULD BE CONSIDERED MANDATORY IN THE NEXT GENERATION OF SECURITY DOCUMENTS**

These features in the experience of Authentix, have given and will continue to give Security Documents the most advanced security protection against counterfeit.



## Visible Properties

The graphic below illustrates our ballot papers with visible security elements which do not require specialization and allow consumers to verify visually that the product is not counterfeit or contraband. These security elements are distinguishable from counterfeits to the maximum extent possible.



### Security QR Code

- \*Unique variable security QR code
- \*No codes are re-used or duplicated



### 95 Gsm Security Paper

- \*Authentix has exclusive ownership, access, and control
- \*Heavy, all over, tone design is difficult to replicate but easy to validate
- \*Paper is UV dull to facilitate the extensive use of security inks / graphics
- \*Heavy weight paper is ideal for important documents



### Custom Security Hologram

- \*Authentix has exclusive ownership, access, and control
- \*A visible deterrent to counterfeiting



### Translucent Hologram Overprint

- \*The hologram "strikes through" the printed logo when viewed at different angles
- \*The translucent security logo is "cured" and firmly affixed to the hologram. Tampering incurs hologram damage.
- \*A translucent security print hologram cannot be accurately replicated by other "opaque" printing processes such as cut-out holograms, digital, laser, or ink jet printing
- \*Process enables cost-effective branding and enhances the security of the hologram

## Alternative Designs

Notably, Authentix can adjust the design according to Cochise County’s preferences. For example, the graphic below shows an alternative ballot paper design, with placement of key security features in the top right corner.

**Official Ballot - Boleta Oficial** **EARLY**

Official Ballot, General Election, November 3, 2020, County of Cochise, State of Arizona  
Boleta Oficial, Elección General, 3 de noviembre de 2020, Condado de Cochise, Estado de Arizona  
Group/Precinct: **03 BE SAN PEDRO - 03.01, 03.03, 03.04, 03.07 BOS3**

**INSTRUCTIONS TO VOTERS: INSPECT BOTH SIDES OF BALLOT. USE BLACK OR BLUE PEN ONLY.** To vote, fill in the oval to the left of your choice. VOTE LIKE THIS ●. Any other marks or erasures may void your vote. If you spoil your ballot, present it to an election official and obtain another.

- Put a mark according to the instructions next to the name of each candidate for each office for whom you wish to vote.
- If you wish to vote for a person whose name is not printed on the ballot, write such name in the blank space provided on the ballot and put a mark according to the instructions next to the name so written.
- Put a mark according to the instructions next to the word "yes" or "for" for each proposition or question you wish to be adopted. Put a mark according to the instructions next to the word "no" or "against" for each proposition or question you wish not to be adopted.

**INSTRUCCIONES A LOS VOTANTES: INSPECCIONE AMBOS LADOS DE LA BOLETA. USE SOLAMENTE BOLÍGRAFO NEGRO O AZUL.** Para votar, llene el óvalo a la izquierda de su selección. VOTA ASÍ ●. Cualquier otra marca o borradura puede anular su voto. Si estropea su boleta, preséntela a un funcionario electoral y obtenga otra.

- Ponga una marca según las instrucciones que se encuentran junto al nombre de cada candidato para cada oficina para la que usted desea votar.
- Si usted desea votar por una persona cuyo nombre no está impreso en la boleta electoral, escriba tal nombre en el espacio en blanco proporcionado en la boleta electoral y ponga una marca de acuerdo con las instrucciones junto al nombre así escrito.
- Ponga una marca de acuerdo con las instrucciones junto a la palabra "sí" o "para" para cada proposición o pregunta que usted desea ser adoptado. Ponga una marca de acuerdo con las instrucciones junto a la palabra "no" o "contra" para cada proposición o pregunta que usted desea no ser adoptada.

Section One - Partisan Ballot Sección Uno - Boleta Partidaria	Corporation Commissioner Comisionado de Corporación Vote for not more than 3 Vote por no más de 3	Section Two - Nonpartisan Ballot Sección Dos - Boleta No Partidaria
<p><b>Presidential Electors</b> <b>Electores Presidenciales</b> <b>Vote for not more than 1</b> <b>Vote por no más de 1</b></p> <p><input type="radio"/> <b>TRUMP</b> [Bowyer, Tyler; Cottle, Nancy; Hoffman, Jake; Kern, Anthony T; Lamson, James; Montgomery, Robert; Moorhead, Samuel I; Pellegrino, Loraine B; Safsten, Greg; Ward, Kelli; Ward, Michael] (REP)</p> <p><input type="radio"/> <b>BIDEN HARRIS</b> [Gallardo, Steve; Heredia, Luis Alberto; Jackson,] (DEM)</p>	<p><input type="radio"/> Sloan, Eric (REP)</p> <p><input type="radio"/> Marquez Peterson, Lea (REP)</p> <p><input type="radio"/> O'Connor, James "Jim" (REP)</p> <p><input type="radio"/> Tovar, Anna (DEM)</p> <p><input type="radio"/> Mundell, William "Bill" (DEM)</p> <p><input type="radio"/> Stanfield, Shea (DEM)</p> <p><input type="radio"/> _____ (DEM)</p> <p><input type="radio"/> _____ (DEM)</p>	<p><b>Justice of the Arizona Supreme Court</b> <b>Justicia de la Corte Suprema de Arizona</b></p> <p>Shall BRUTINEL, ROBERT, Justice of the Arizona Supreme Court be retained in office? ¿Deberá permanecer en su puesto BRUTINEL, ROBERT, el Justicia de la Corte de Suprema de Arizona?</p> <p><input type="radio"/> YES / SÍ</p> <p><input type="radio"/> NO / NO</p>

## Bar Code



Per requirement #1 set forth in Attachment 2 – Contract Specifications, we will provide an **encodable secure QR (sQR) code** with a static mono-code (i.e., single code) to be printed on each ballot. The sQR codes will allow Cochise County officials to **quickly—and securely—authenticate the validity of the ballots**. Also, if desired, voters may scan these same codes to receive about assigned polling locations, voting hours, and general instructions.

Each QR code can be scanned with any Android or iOS Smartphone—**without the need to download an app**—for quick authentication. Scanning the code will redirect officials to a custom URL web address that recognizes the sQR code printed on the ballot as authentic.



## The sQR Difference

Standard QR codes and sQR codes appear to be the same; however, looks can be deceiving. The sQR codes contain a covert, encrypted “signature” that offers an extra layer of security. The table below provides a high-level comparison between these two (2) types of codes.

	 Standard QR Code	 sQR Code
Ability to be scanned with a Smartphone	✓	✓
Ability to be used without a designated app (App-less)	✗	✓
Ability to be scanned with an authentication app (provided by Authentix)	✓	✓
Impossible to reprint the code from scratch by using the custom URL that would recognize it as authentic	✗	✓

To ensure the integrity of the sQR codes, our secure printing facilities will follow quality control protocols to inspect all security features before printing and shipping the coded ballot papers.

## Additional Options to Consider\*

If preferred, each sQR code may be assigned a **unique ID number**, as well as any additional data specified by the Cochise County Elections Department officials. The unique ID codes and any additional information displayed with each scan will be customized to Cochise County officials’ needs and preferences.

Also, if desired, the ballots may be enhanced to allow voters to ensure their votes have been received and counted. For example, voters may be instructed to capture a photo of the unique QR code and scan to create a **secret PIN number** for tracking the status of their ballot.

The aforementioned security features are only a couple included in our vast digital authentication technology portfolio that are synced with our robust **DigiTrax™ platform**. For example, this **secure, customizable portal** can track and trace the status of mail-in ballots in real-time, as well as provide insights on where ballots are being sent in within Cochise County.

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\* Please note that these options are not included with our proposed solution offering and will incur extra costs. If interested, our team will discuss viable options for Cochise County officials to consider for future phases.

Various options and use cases exist for digitally authenticating the ballots via the QR codes. A few high-level examples of use cases for Cochise County officials to consider include (but are not limited to) the following:



- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▪ Scan the sQR code to verify its validity</li> <li>* Tracking of the counting and storage process</li> <li>* Assess outgoing and incoming ballots to make sure unsorted ballots don't get counted</li> </ul> | <ul style="list-style-type: none"> <li>▪ Scan the same code to receive voting-related information</li> <li>* Retrieve confirmation that ballot has been received and included in the official tally</li> <li>* Retrieve actual ballot image</li> </ul> |
|--|--|
- \* Denotes use cases that will require additional features not included in our proposed solution (e.g., serialized sQR codes, PIN numbers, etc.)

### Invisible Properties

The graphic below and pages that follow detail our proposed design under UV light. Note that our proposed design contains seven (7) distinct invisible security design elements.

The ballot papers feature a **design printed with UV ink** that is not visible to the naked eye. Illuminating the design with a **UV torch** will cause a complex, multi-color fluorescent image to appear. The torch can also be used to quickly scan the ballot paper to confirm authenticity.

We will provide Cochise County with UV torches, as well as **magnifying loupes** for viewing microtext. Information about the **HVX 1500 taggant reader** may be found below.



Magnifying Loupe



UV Torch



HVX Taggant Reader (described below)

**Figure 1. Devices for authenticating invisible properties.** Cochise County officials will be equipped with devices necessary for authenticating the various covert security features.



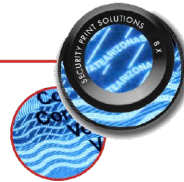
**Custom Special Raster**

- \*Raster images are sophisticated security graphics which are impossible to reverse engineer.
- \*The Security Designer takes a high resolution image. The resulting, personalised security screens generate interference patterns when copied.
- \*Printed in UV inks.



**Micronumismatics**

- \*A unique security design technique requiring banknote software graphics and a high level of knowledge.
- \*Helps to protect the "infill" from fraudulent alterations.
- \*Once damaged, impossible to accurately reinstate.
- \*A major feature to deter/prevent professional counterfeit.



**Microtext**

- \*Extra fine, difficult to accurately copy, scan or reproduce.
- \*Printed in UV inks.



**Custom Numismatic Design**

- \*Visible deterrent to alteration
- \*Extremely difficult to reinstate/counterfeit
- \*Created with high level banknote graphic software
- \*Arizona state seal branded in the document background.



**Multicolor Stealth**

- \*The extensive use of a number of security graphic techniques.
- \*Printed in "register" in a number of invisible U.V. security inks.
- \*A major feature to deter/prevent professional counterfeit.



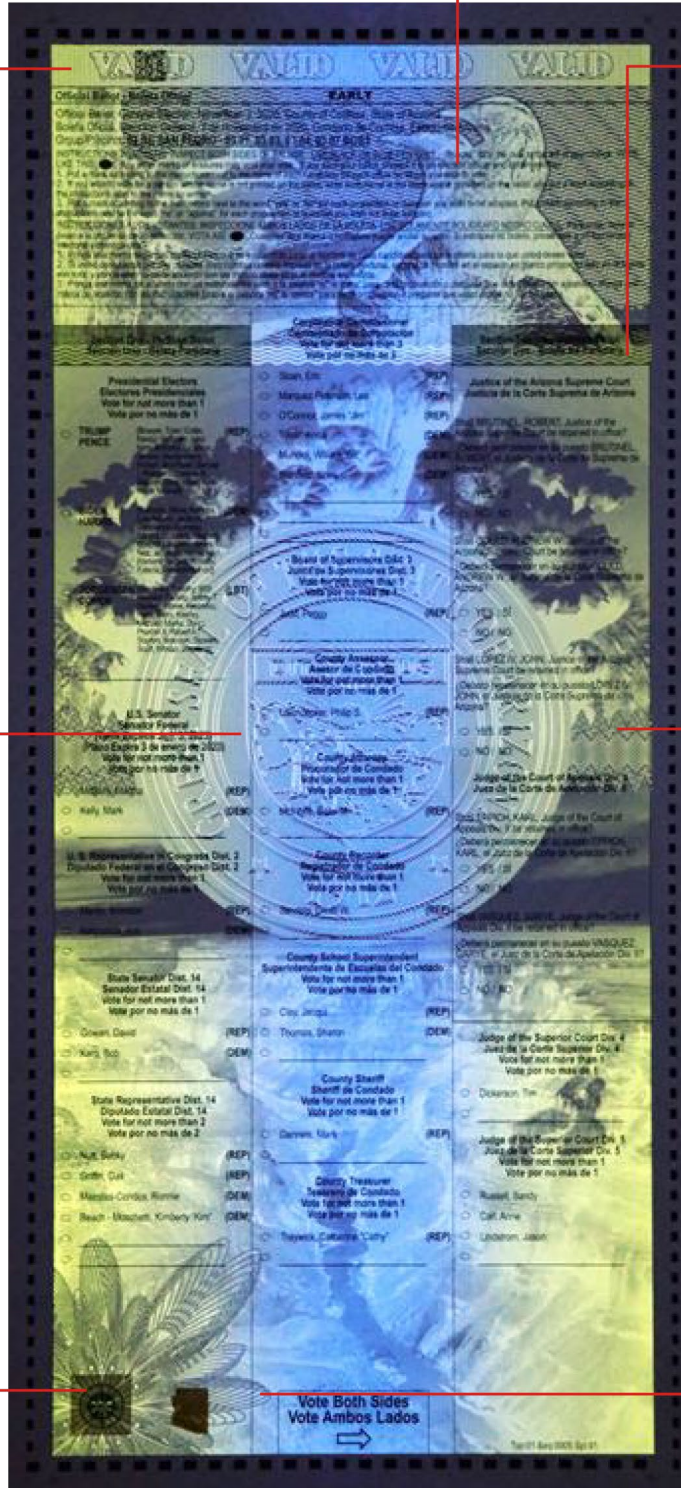
**Fluorescent Security Hologram**

- \*A unique combination of security graphics printed in register with a number of invisible U.V. security inks.
- \*Extremely difficult to scan/copy or replicate.
- \*A major anti-counterfeit feature to deter/prevent Hologram copying.

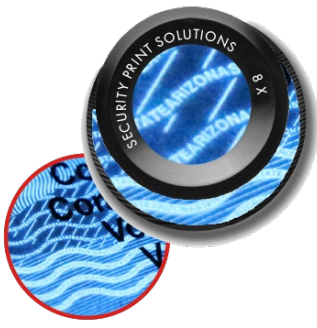


**Custom Guilloche Tool**

- \*Anti-copy feature exploiting fine line security graphics.
- \*Difficult to accurately copy, scan or reproduce.
- \*Customised guilloche patterns have been created specifically for this document.

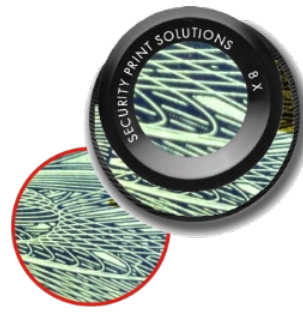






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## HVX 1500 Electronic Taggant Reader

The presence of HVX taggant, a covert security feature, can only be confirmed via the proprietary HVX 1500 handheld electronic taggant reader. Simply point the device at the overt image containing the taggant (i.e., outline of the state of Arizona) and press the large orange button. The inspector will immediately (in less than one (1) second) receive a clear confirmation of the ballot's authenticity: a **green** light indicates a successful reading of an authentic ballot, and a **red** light indicates a counterfeit document. This device can be waved over multiple ballot documents to provide rapid authentication.



**Figure 2. HVX 1500 Taggant Reader.** Authentix' proprietary machine-readable taggant can only be detected via an HVX 1500 handheld device.

All related materials and devices have been developed by Authentix and are part of our secure and proprietary supply chain of security materials and secure tax stamps. Neither the electronic taggant reader, nor the taggant itself, has ever been counterfeited.

# Our Technical Capabilities

## Design Capabilities

All design work is carried out by our in-house design team—ensuring superior security and quality. Our team consists of five highly skilled, creative designers with **more than 100 years of combined experience**. This team uses state-of-the-art banknote and design software to create designs tailored to each customer’s unique requirements.

We fully understand the complexities of security design and the technical considerations, as we have extensive knowledge in security printing. This ensures that designs are aesthetically pleasing, as well as functional throughout their life cycle.

Authentix works in partnership with our customers to understand and collect specific requirements that guide the design process. The team is skilled at incorporating multiple layers of covert, semi-overt, and overt features to create fully-functional security documents that incorporate beauty, style, and bespoke high-security features. We create all documents via security software, specialized security inks, and substrates—providing multiple layers of security to combat counterfeit and deter illicit trade.



**Figure 3. Design Inspiration for Your Solution.** Authentix took inspiration from the natural beauty of Arizona to provide a secure, cohesive design.



## Production Process

The design team works closely with the production crew to confirm that the detailed designs can be repeatably produced. Our experienced team of printers have developed great skill in proprietary printing techniques and security solutions for governments, industry, and commerce throughout the world. Furthermore, our extensive research and development program enables us to develop unique and cost-effective manufacturing processes, using **patented high security graphical techniques**. These developments allow us to deliver high-quality documents that are easy to reliably authenticate, thus offering our customers maximum protection against counterfeit and alteration fraud. We pride ourselves on providing our customers with high security documents that meet or exceed all requirements.

Our **unique manufacturing process** allows us to print, apply holograms, OVI ink, number, and die cut security documents in one production pass, which ensures these items meet their quality requirements. The process begins when the web fed press is presented with a reel of paper. An integrated rotary hologram applicator applies hologram (stripes or patches), then prints up to eight lithographic visible/invisible inks, prints one screen/flexo ink, and prints a unique numbering configuration; the product can then be finished into either reels or sheets.

**The following page includes a photo showcasing our 'One Pass Production' printing press.**

### Resources to Deliver

Our unique process and state-of-the-art equipment allow us to efficiently deliver high-quality service to Cochise County. Throughout the process, we will be engaged partners and trusted advisors. Our committed team will ensure you receive a personal level of service.



The whole process from start to finish is efficient with one operator, one set up, and one production run—creating a single product ready for dispatch. We have seven (7) production lines in this configuration, with a combined production capacity of over 220 million A4 documents a year. Our production facility has produced **over 5 billion tax stamps, 12 million certificates, and 110 million government documents in the last 12 months.**

### Flexibility in Print Operations

Cochise County will benefit from our 40 years of security printing experience. Throughout the length of the contract, our team will adapt and improve any secure document as needed—including revising visible and invisible designs, as well as changing any security features.



We have three (3) high-speed cold fusion laser printers that are used for the personalization of secure documents; one of these printers is integrated into one of our printing presses. We have recently invested in new cutting and banding machines to work alongside 3-reel slitting machines for document finishing. This continual investment in state-of-the-art printing machines allows us to deliver the highest quality and most secure solutions for Cochise County ballot papers.

Countries and major customers rely upon Authentix's skills, access to patents, knowledge, and training to help them create employment in their domestic markets.

## Quality and Standards

Our printing facilities are equipped with quality control systems, which inspect all security features and 100% of the visible codes before any product leaves the facility. The facility operates under an Integrated Management System comprising of the following ISO standards:

- **ISO 14298:2021 (Management of security printing processes)** - Our Intergraf accreditation provides our customers with the guarantee that all our manufacturing processes are administered in a secure environment, facilitated by a series of management controls designed to manage risk throughout the production processes and within the wider supply chain.
- **ISO 9001:2015 (Quality Management)** - ISO 9001 provides the foundations upon which our team designs, manufactures, and delivers products. Our Quality Management System facilitates the detection of nonconforming products and provides the framework for the continual improvement of production processes, ensuring the consistent conformity of high-quality products.
- **ISO 27001:2013 (Information Security Management System)** - ISO/IEC 27001 details a framework that allows our company to implement a Security Information Management System, which ensures that confidential and personal data and material is secure throughout the entirety of our operations.
- **ISO 45001:2018 (Occupational Health & Safety Management)** - We work to ensure a safe and healthy work environment for all interested parties and comply with all legislative and regulatory requirements.
- **ISO 14001:2015 (Environmental Management)** - We abide by all current environmental legislation and maintain commitments to achieving environmental targets. We conduct business and processes in an environmentally responsible manner.



## Material and Product Security

We operate a high security access control system within the production facility in line with ISO 14298 2013 - Intergraf. This is a fully auditable and traceable system for the movement of all people and goods throughout the factory. The system allows us to manage, restrict, or monitor the movement of all employees, contractors, and visitors throughout our sites. All high security raw materials are kept in secure storage, where access is highly restricted. Only authorized personnel are allowed to collect required materials prior to production, following specific work instructions received from a manager.

Our extensive software program used daily throughout the facility generates a full audit trail of all secure raw materials used for production, tracking movement in and out of secure areas in real-time. All material within the production facility (including those in secure storage areas and being used in production) are checked and counted at the end of each calendar month. This count is processed by departmental managers and overseen by the finance director. All accreditations are routinely monitored, reviewed, and assessed by our compliance manager.



**Figure 4. Secure storage area.** Our high-security storage area is restricted to authorized personnel and monitored via an access control system and CCTV security system.

Digital CCTV is installed across facilities with **37 cameras providing surveillance internally and 15 cameras providing external surveillance.** Strategically-positioned CCTV cameras capture footage throughout the factory premises—including multiple production areas, high security storage, warehouse, loading bay, entrances and exits, car park, etc.

The facilities are protected by a **security alarm** that is activated by motion detectors installed throughout the entire premises and synced with a 24-hour central monitoring system. Any attempts to disturb the warehouse roller doors will trigger the alarm and notify the central monitoring system for immediate action.



## Sub-Contractor Listing

Authentix will **self-perform the entire scope of work for Task 1 and 2 with its own employees, supplies, materials, and equipment**. We will not employ any subcontractors. As a world leader in secure document programs, Authentix has the knowledge, resources, and technology to successfully deliver Task 1 and Task 2 (and any follow up projects).

Our staff of more than 400 full-time employees includes:

- Individuals with 30+ years of experience in the secure document industry;
- More than 15 PhDs in chemistry and engineering;
- More than ten (10) chemical analysts, many with advanced degrees;
- Staff member on the Board of Directors of the International Tax Stamp Association (ITSA);
- Seven (7) distinct operating laboratories covering all critical aspects of the Research and Development (R&D) initiatives; and
- Hundreds of employees in program management, operations, production, and field services serving fast-moving consumer goods industries worldwide.

## Experience

Government authorities and commercial companies around the world utilize Authentix's authentication and track-and-trace technologies for securing documents and recovering excise revenue from the sale of legitimate, dutiable consumer goods. We produced more than **five (5) billion tax stamps, twelve (12) million certificates, and 110 million government documents in the last 12 months**.

For detailed experience information, refer to the **Past Performance Listing document** included in our submission.

## About Authentix

As the authority in authentication solutions, Authentix thrives in supply chain complexity. We provide advanced authentication solutions for governments, central banks and commercial companies, ensuring local economies grow, banknote security remains intact, and commercial products have robust market opportunities. Our partnership approach and proven sector expertise inspires proactive innovation, helping customers mitigate risks to promote revenue growth and gain competitive advantage.



### CORPORATE HEADQUARTERS

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