



STATE OF WISCONSIN

Legislative Audit Bureau

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December 6, 2021

Senator Robert Cowles and
Representative Samantha Kerkman, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator Cowles and Representative Kerkman:

In October 2021, we completed our audit of elections administration (report 21-19), which the Joint Legislative Audit Committee had requested. Our report indicated that we had attempted to complete certain analyses in 30 municipalities throughout the state but that the City of Madison clerk did not allow us to physically handle election records.

On August 11, 2021, while our audit was ongoing, we contacted the City of Madison clerk's office to request access to the same types of election records that we were in the process of accessing in the other 29 municipalities. On August 18, 2021, we were informed by the City of Madison clerk's office that we would not be permitted to physically handle the election records. That same day, we provided the clerk's office with suggestions that would have allowed us to physically handle the election records and provided the clerk's office with assurances that we would not remove or alter the records. On August 24, 2021, the City of Madison clerk wrote to deny us physical access to the election records. As a result, report 21-19 includes the results of analyses for 29 of the 30 municipalities we selected for review.

After our report's release, the Senate issued a subpoena to require the City of Madison clerk to provide us with physical access to the election records. In response to this subpoena, the City of Madison clerk agreed to allow us to physically handle the election records one at a time. On November 18, 2021, we conducted analyses of absentee ballot certificates and pre-election tests of electronic voting equipment at the City of Madison. We had previously conducted these analyses for the other 29 municipalities we selected for review.

We have updated certain analyses from report 21-19 to include the results of our analyses of election records from the City of Madison, including:

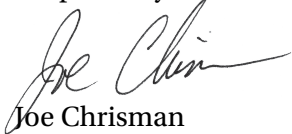
- the analyses on pages 42 to 43 that pertain to absentee ballot certificates; and
- the analyses on pages 71 to 73 that pertain to the results of statutorily required tests that municipal clerks conducted on electronic voting equipment before the November 2020 General Election.

We have also updated Appendix 4 and Appendix 6 from report 21-19. These appendices, which are enclosed, now include the results of our analyses of election records from the City of Madison.

Senator Robert Cowles, and
Representative Samantha Kerkman, Co-chairpersons
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I hope you find this information helpful.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Joe Chrisman". The signature is written in a cursive style with a long, sweeping underline.

Joe Chrisman
State Auditor

JC/DS/ss

Enclosures

Absentee Ballot Certificates

To determine the extent to which the certificates of absentee ballots cast for the November 2020 General Election contained statutorily required information, we selected certificates in 30 municipalities, including:

- the 10 municipalities where the most absentee ballots were cast;
- the 10 municipalities where absentee ballots made up the largest proportions of the total ballots cast; and
- 10 municipalities we chose at random from counties other than those in which the other 20 municipalities were located.

The certificates we reviewed included spaces for individuals to sign their names, and for witnesses to write their addresses and signatures. The certificate that the Wisconsin Elections Commission (WEC) made available to municipalities statewide to use in the November 2020 General Election did not include spaces for witnesses to print their names, as required by statutes.

We physically reviewed 15,261 certificates in the 30 municipalities, where a total of 593,307 absentee ballots were cast in the November 2020 General Election. We reviewed a random sample of certificates from 21 municipalities, all or almost all certificates from 8 municipalities, and a large number of certificates from 1 municipality. Because of the size of our random sample of certificates that we reviewed in the 21 municipalities, we can reasonably expect that the results of our review for a given municipality are representative of all certificates in that municipality during the November 2020 General Election. However, because we did not examine certificates other than in the 30 municipalities, we cannot reasonably expect that the results of our review are representative of certificates in municipalities statewide. Appendix 4 lists the 30 municipalities and selected results of our review of certificates.

Our review of the 15,261 certificates found that:

- 1,022 certificates (6.7 percent) in 28 municipalities had partial witness addresses because they did not have one or more components of a witness address, such as a street name, municipality, state, and zip code, including 799 certificates (5.2 percent) that did not have a zip code and 364 certificates (2.4 percent) that did not have a state;
- 15 certificates (0.1 percent) in 10 municipalities did not have a witness address in its entirety;
- 8 certificates (0.1 percent) in 7 municipalities did not have a witness signature; and
- 3 certificates (less than 0.1 percent) in 2 municipalities did not have a voter's signature.

Our review of the 15,261 certificates found evidence that municipal clerks had corrected witness addresses on 69 certificates (0.5 percent). This evidence included clerk initials or pen marks in the ink colors that clerks had indicated were used to make corrections.

On Election Day, poll workers remove the returned ballots from certificates, which are retained separately from the ballots. As a result, almost all certificates we reviewed no longer contained ballots. However, we found 17 certificates in 3 of the 30 municipalities contained absentee ballots.

Clerks in these three municipalities indicated that the corresponding ballots were likely not counted on Election Day because of oversights. Most of these 17 certificates were not in the 15,261 certificates in our sample. Statutes require municipal clerks to write their initials on certificates in certain situations, including when individuals request absentee ballots in person at clerk offices. These initials indicate that clerks verified the identification provided by these individuals when they requested absentee ballots. Statutes indicate that a ballot must not be counted if the accompanying certificate is not initialed by a clerk, when such initials are required. In contrast, statutes do not require clerks to write their initials on certificates accompanying absentee ballots requested online by individuals. Such individuals are statutorily required to provide clerks with a copy of their photo identification. During our review of the 15,261 certificates, we found that less than 1.0 percent of all certificates we reviewed in four municipalities contained clerk initials. Clerks at these municipalities indicated that they did not initial certificates for multiple reasons, including because the individuals who requested the ballots were registered and eligible to receive them; the clerks printed the names and addresses of the individuals on the certificates to signify the individuals were eligible to receive the ballots; and the clerks initialed the ballots rather than the certificates. We question whether the clerks in these four municipalities consistently complied with the statutory requirement for them to initial certificates in certain situations.

Pre-Election Tests

No more than 10 days before an election, statutes require a municipal clerk to publicly test each piece of electronic voting equipment that will count ballots on Election Day. Doing so helps to ensure that the equipment counts ballots accurately. During a test, a clerk must process a group of ballots marked to record a predetermined number of votes for each candidate. To determine whether the equipment properly rejects votes, a test must include more votes than allowed for each contest on the ballot, which is termed an over-vote. If the equipment errs in counting the votes, a clerk must determine the cause and correct the error. Statutes require each piece of equipment to make an errorless count before it can be used in an election.

We determined whether a sample of municipal clerks completed the statutorily required tests of electronic voting equipment before the November 2020 General Election and whether a sample of the tests indicated that the equipment counted the predetermined votes accurately. To do so, we requested the results of all pre-election tests that clerks in 30 municipalities throughout Wisconsin conducted and the ballots used in these tests. Appendix 6 summarizes the results of our analysis for each of the 30 municipalities, which included:

- the 10 municipalities where the most absentee ballots were cast;
- the 10 municipalities where absentee ballots made up the largest proportions of the total ballots cast; and
- 10 municipalities we chose at random from counties other than those in which the other 20 municipalities were located.

Statutes allow election-related materials to be destroyed after specified periods of time have elapsed after an election. For example, ballots, applications for absentee ballots, registration forms, or other records and papers requisite to voting in any federal election, other than registration cards, can be destroyed after 22 months. If statutes do not specify how long a particular type of election-related material must be retained, statutes indicate that the material may be destroyed after 90 days. WEC's staff indicated that statutes do not specify how long the pre-election test results must be retained, and clerks did not agree on how long they must be retained. Some clerks indicated that the results must be retained for 22 months, while other clerks indicated that the results must be retained for 90 days.

Clerks provided us with all statutorily required pre-election test results in 17 of 30 municipalities, some test results in 9 municipalities, and no test results in 4 municipalities. Clerks in the nine municipalities provided us with either no results of some tests or incomplete documentation of tests that were conducted. Some of these clerks were unable to find complete test results or no longer retained the test results.

Among the 270 pre-election test results that we examined, we found that municipal clerks:

- conducted 183 tests (67.8 percent) within the statutorily prescribed 10 days before the November 2020 General Election; and
- conducted 87 tests (32.2 percent) more than 10 days before the General Election. These 87 tests were conducted between 11 and 22 days before the General Election.

We reviewed in greater detail 72 of the 270 pre-election test results and determined whether the electronic voting equipment had accurately counted the votes for presidential candidates. To do so, we hand-counted the number of votes for each candidate, as indicated on the predetermined paper ballots used in the tests, and compared the results to the number of votes the equipment had counted during the tests. We found that:

- 71 of the 72 test results indicated that the equipment had accurately counted the votes for presidential candidates; and
- 1 test result included insufficient documentation, which prevented us from determining whether the equipment had accurately counted the votes for presidential candidates.

Our review of the 72 pre-election test results also found that three pre-election tests conducted in three municipalities excluded the statutorily required over-votes on the predetermined ballots. One clerk indicated unfamiliarity with testing over-votes on newly purchased electronic voting equipment, a second clerk indicated that the test mistakenly excluded the over-votes, and a third clerk indicated that over-votes were never included in the tests.

Appendix 4

Review of a Sample of Absentee Ballot Certificates in the November 2020 General Election

This appendix provides an overview of the 15,261 certificates we reviewed in 30 municipalities. We determined the extent to which these certificates had partial witness addresses. For purposes of our analysis, we determined a partial witness address to exclude one or more of the following: street name and number, municipality, state, and zip code. We also determined the extent to which these certificates did not have entire witness addresses, witness signatures, or voter signatures. The following tables present the results of our review.

Descriptions of key terms follow.

Total Certificates is the total number of certificates associated with absentee ballots cast in the November 2020 General Election in a given municipality, according to WisVote data.

Certificates We Reviewed includes the number of certificates we reviewed in a given municipality, the number of certificates that we found to have an issue (e.g., certificates with partial witness addresses), and the percentage of certificates that we found to have an issue (e.g., certificates with partial witness addresses).

Estimated Total Number of Certificates that had a given issue (e.g., certificates with partial witness addresses) presents our low estimate and high estimate of the number of all certificates in a given municipality that had a given issue. Based on statistical approximation, we are 95.0 percent confident that the total number of certificates with a given issue in a municipality is between these low and high estimates. If the certificates we reviewed did not indicate that a given issue occurred in a given municipality, we do not provide estimates for that municipality.

Because we reviewed all or almost all certificates in 8 of the 30 municipalities, we instead provide the actual total number of certificates in a given municipality that had a given issue.

In the City of Sun Prairie, we reviewed a large sample of certificates that we did not select randomly, so we cannot use statistical approximation to estimate the total number of certificates that had a given issue.

Certificates with Partial Witness Addresses¹

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates with Partial Witness Addresses ² | | Actual Total Number of Certificates with Partial Witness Addresses |
|---|--------------------|--------------------------|---------------------------------------|---|--|---------------|--|
| | | Number | Number with Partial Witness Addresses | Percentage with Partial Witness Addresses | Low Estimate | High Estimate | |
| Appleton, City of | 24,196 | 551 | 15 | 2.72% | 401 | 1,075 | |
| Bayside, Village of | 2,689 | 521 | 46 | 8.83% | 180 | 312 | |
| Brookfield, City of | 20,923 | 760 | 287 | 37.76% | 7,195 | 8,634 | |
| Eau Claire, City of | 22,348 | 469 | 15 | 3.20% | 436 | 1,165 | |
| Franklin, Town of (Jackson County) | 30 | 30 | 1 | 3.33% | | | 1 |
| Glendale, City of | 7,010 | 499 | 1 | 0.20% | 3 | 79 | |
| Green Bay, City of | 32,051 | 485 | 39 | 8.04% | 1,904 | 3,463 | |
| Greenfield, Town of (La Crosse County) | 744 | 744 | 66 | 8.87% | | | 66 |
| Highland, Village of | 186 | 186 | 8 | 4.30% | | | 8 |
| Janesville, City of | 22,515 | 631 | 27 | 4.28% | 666 | 1,386 | |
| Kekoskee, Village of | 162 | 162 | 62 | 38.27% | | | 62 |
| Kenosha, City of | 30,434 | 520 | 3 | 0.58% | 60 | 512 | |
| Ledgeview, Town of (Brown County) | 4,297 | 533 | 13 | 2.44% | 62 | 178 | |
| Little Suamico, Town of (Oconto County) | 1,772 | 886 | 67 | 7.56% | 107 | 169 | |
| Loyal, Town of (Clark County) | 62 | 62 | 11 | 17.74% | | | 11 |
| Madison, City of | 123,279 | 551 | 0 | 0.0% | | | |
| McFarland, Village of | 4,902 | 541 | 0 | 0.0% | | | |
| Middleton, City of | 11,202 | 507 | 6 | 1.18% | 61 | 287 | |
| Milwaukee, City of | 169,208 | 597 | 1 | 0.17% | 51 | 1,596 | |
| Oshkosh, Town of (Winnebago County) | 901 | 899 | 68 | 7.56% | | | 68 |
| Racine, City of | 20,739 | 506 | 7 | 1.38% | 140 | 587 | |

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates with Partial Witness Addresses ² | | Actual Total Number of Certificates with Partial Witness Addresses |
|-----------------------------------|--------------------|--------------------------|---------------------------------------|---|--|---------------|--|
| | | Number | Number with Partial Witness Addresses | Percentage with Partial Witness Addresses | Low Estimate | High Estimate | |
| Rib Lake, Village of | 139 | 139 | 2 | 1.44% | | | 2 |
| Shorewood, Village of | 7,947 | 521 | 141 | 27.06% | 1,862 | 2,467 | |
| Shorewood Hills, Village of | 1,439 | 722 | 14 | 1.94% | 17 | 47 | |
| Sullivan, Village of | 146 | 146 | 3 | 2.05% | | | 3 |
| Sun Prairie, City of ³ | 16,758 | 1,000 | 24 | 2.40% | | | |
| Verona, City of | 7,095 | 504 | 13 | 2.58% | 108 | 310 | |
| Waukesha, City of | 26,355 | 563 | 33 | 5.86% | 1,108 | 2,140 | |
| Wauwatosa, City of | 25,508 | 524 | 27 | 5.15% | 910 | 1,886 | |
| Whitefish Bay, Village of | 8,270 | 502 | 22 | 4.38% | 241 | 542 | |
| Totals | 593,307 | 15,261 | 1,022 | 6.70% | | | |

¹ Certificates did not have one or more address components, including street name and number, municipality, state, and zip code.

² Based on statistical approximation, we are 95.0 percent confident that the total number of certificates with partial witness addresses is between the low and high estimates.

³ Statistical approximation cannot be used to estimate the total number of certificates because we did not randomly select certificates for review.

Certificates without an Entire Witness Address

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates without an Entire Witness Address ¹ | | Actual Total Number of Certificates without an Entire Witness Address |
|---|--------------------|--------------------------|--|--|---|---------------|---|
| | | Number | Number without an Entire Witness Address | Percentage without an Entire Witness Address | Low Estimate | High Estimate | |
| Appleton, City of | 24,196 | 551 | 0 | 0.0% | | | |
| Bayside, Village of | 2,689 | 521 | 2 | 0.38% | 3 | 38 | |
| Brookfield, City of | 20,923 | 760 | 0 | 0.0% | | | |
| Eau Claire, City of | 22,348 | 469 | 0 | 0.0% | | | |
| Franklin, Town of (Jackson County) | 30 | 30 | 0 | 0.0% | | | 0 |
| Glendale, City of | 7,010 | 499 | 0 | 0.0% | | | |
| Green Bay, City of | 32,051 | 485 | 2 | 0.41% | 37 | 478 | |
| Greenfield, Town of (La Crosse County) | 744 | 744 | 0 | 0.0% | | | 0 |
| Highland, Village of | 186 | 186 | 0 | 0.0% | | | 0 |
| Janesville, City of | 22,515 | 631 | 0 | 0.0% | | | |
| Kekoskee, Village of | 162 | 162 | 0 | 0.0% | | | 0 |
| Kenosha, City of | 30,434 | 520 | 0 | 0.0% | | | |
| Ledgeview, Town of (Brown County) | 4,297 | 533 | 1 | 0.19% | 2 | 46 | |
| Little Suamico, Town of (Oconto County) | 1,772 | 886 | 1 | 0.11% | 1 | 12 | |
| Loyal, Town of (Clark County) | 62 | 62 | 4 | 6.45% | | | 4 |
| Madison, City of | 123,279 | 551 | 0 | 0.0% | | | |
| McFarland, Village of | 4,902 | 541 | 0 | 0.0% | | | |
| Middleton, City of | 11,202 | 507 | 0 | 0.0% | | | |
| Milwaukee, City of | 169,208 | 597 | 0 | 0.0% | | | |
| Oshkosh, Town of (Winnebago County) | 901 | 899 | 0 | 0.0% | | | 0 |
| Racine, City of | 20,739 | 506 | 1 | 0.20% | 8 | 231 | |

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates without an Entire Witness Address ¹ | | Actual Total Number of Certificates without an Entire Witness Address |
|-----------------------------------|--------------------|--------------------------|--|--|---|---------------|---|
| | | Number | Number without an Entire Witness Address | Percentage without an Entire Witness Address | Low Estimate | High Estimate | |
| Rib Lake, Village of | 139 | 139 | 1 | 0.72% | | | 1 |
| Shorewood, Village of | 7,947 | 521 | 0 | 0.0% | | | |
| Shorewood Hills, Village of | 1,439 | 722 | 0 | 0.0% | | | |
| Sullivan, Village of | 146 | 146 | 1 | 0.68% | | | 1 |
| Sun Prairie, City of ² | 16,758 | 1,000 | 0 | 0.0% | | | |
| Verona, City of | 7,095 | 504 | 1 | 0.20% | 3 | 80 | |
| Waukesha, City of | 26,355 | 563 | 0 | 0.0% | | | |
| Wauwatosa, City of | 25,508 | 524 | 0 | 0.0% | | | |
| Whitefish Bay, Village of | 8,270 | 502 | 1 | 0.20% | 3 | 93 | |
| Totals | 593,307 | 15,261 | 15 | 0.10% | | | |

¹ Based on statistical approximation, we are 95.0 percent confident that the total number of certificates without an entire witness address is between the low and high estimates.

² Statistical approximation cannot be used to estimate the total number of certificates because we did not randomly select certificates for review.

Certificates without a Witness Signature

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates without a Witness Signature ¹ | | Actual Total Number of Certificates without a Witness Signature |
|---|--------------------|--------------------------|---|--|---|---------------|---|
| | | Number | Number without a Witness Signature ² | Percentage without a Witness Signature | Low Estimate | High Estimate | |
| Appleton, City of | 24,196 | 551 | 0 | 0.0% | | | |
| Bayside, Village of | 2,689 | 521 | 0 | 0.0% | | | |
| Brookfield, City of | 20,923 | 760 | 0 | 0.0% | | | |
| Eau Claire, City of | 22,348 | 469 | 1 | 0.21% | 9 | 268 | |
| Franklin, Town of (Jackson County) | 30 | 30 | 0 | 0.0% | | | 0 |
| Glendale, City of | 7,010 | 499 | 1 | 0.20% | 3 | 79 | |
| Green Bay, City of | 32,051 | 485 | 0 | 0.0% | | | |
| Greenfield, Town of (La Crosse County) | 744 | 744 | 0 | 0.0% | | | 0 |
| Highland, Village of | 186 | 186 | 0 | 0.0% | | | 0 |
| Janesville, City of | 22,515 | 631 | 2 | 0.32% | 20 | 259 | |
| Kekoskee, Village of | 162 | 162 | 0 | 0.0% | | | 0 |
| Kenosha, City of | 30,434 | 520 | 1 | 0.19% | 11 | 329 | |
| Ledgeview, Town of (Brown County) | 4,297 | 533 | 0 | 0.0% | | | |
| Little Suamico, Town of (Oconto County) | 1,772 | 886 | 0 | 0.0% | | | |
| Loyal, Town of (Clark County) | 62 | 62 | 0 | 0.0% | | | 0 |
| Madison, City of | 123,279 | 551 | 0 | 0.0% | | | |
| McFarland, Village of | 4,902 | 541 | 0 | 0.0% | | | |
| Middleton, City of | 11,202 | 507 | 0 | 0.0% | | | |
| Milwaukee, City of | 169,208 | 597 | 0 | 0.0% | | | |
| Oshkosh, Town of (Winnebago County) | 901 | 899 | 0 | 0.0% | | | 0 |
| Racine, City of | 20,739 | 506 | 0 | 0.0% | | | |

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates without a Witness Signature ¹ | | Actual Total Number of Certificates without a Witness Signature |
|-----------------------------------|--------------------|--------------------------|---|--|---|---------------|---|
| | | Number | Number without a Witness Signature ² | Percentage without a Witness Signature | Low Estimate | High Estimate | |
| Rib Lake, Village of | 139 | 139 | 1 | 0.72% | | | 1 |
| Shorewood, Village of | 7,947 | 521 | 0 | 0.0% | | | |
| Shorewood Hills, Village of | 1,439 | 722 | 0 | 0.0% | | | |
| Sullivan, Village of | 146 | 146 | 1 | 0.68% | | | 1 |
| Sun Prairie, City of ³ | 16,758 | 1,000 | 0 | 0.0% | | | |
| Verona, City of | 7,095 | 504 | 0 | 0.0% | | | |
| Waukesha, City of | 26,355 | 563 | 0 | 0.0% | | | |
| Wauwatosa, City of | 25,508 | 524 | 0 | 0.0% | | | |
| Whitefish Bay, Village of | 8,270 | 502 | 1 | 0.20% | 3 | 93 | |
| Totals | 593,307 | 15,261 | 8 | 0.05% | | | |

¹ Based on statistical approximation, we are 95.0 percent confident that the total number of certificates without a witness signature is between the low and high estimates.

² Individuals who returned five of the eight certificates without a witness signature voted in-person absentee, which typically involves clerk staff writing the witness signature.

³ Statistical approximation cannot be used to estimate the total number of certificates because we did not randomly select certificates for review.

Certificates without a Voter Signature

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates without a Voter Signature ¹ | | Actual Total Number of Certificates without a Voter Signature |
|---|--------------------|--------------------------|----------------------------------|--------------------------------------|---|---------------|---|
| | | Number | Number without a Voter Signature | Percentage without a Voter Signature | Low Estimate | High Estimate | |
| Appleton, City of | 24,196 | 551 | 0 | 0.0% | | | |
| Bayside, Village of | 2,689 | 521 | 0 | 0.0% | | | |
| Brookfield, City of | 20,923 | 760 | 0 | 0.0% | | | |
| Eau Claire, City of | 22,348 | 469 | 1 | 0.21% | 9 | 268 | |
| Franklin, Town of (Jackson County) | 30 | 30 | 0 | 0.0% | | | 0 |
| Glendale, City of | 7,010 | 499 | 0 | 0.0% | | | |
| Green Bay, City of | 32,051 | 485 | 0 | 0.0% | | | |
| Greenfield, Town of (La Crosse County) | 744 | 744 | 0 | 0.0% | | | 0 |
| Highland, Village of | 186 | 186 | 0 | 0.0% | | | 0 |
| Janesville, City of | 22,515 | 631 | 2 | 0.32% | 20 | 259 | |
| Kekoskee, Village of | 162 | 162 | 0 | 0.0% | | | 0 |
| Kenosha, City of | 30,434 | 520 | 0 | 0.0% | | | |
| Ledgeview, Town of (Brown County) | 4,297 | 533 | 0 | 0.0% | | | |
| Little Suamico, Town of (Oconto County) | 1,772 | 886 | 0 | 0.0% | | | |
| Loyal, Town of (Clark County) | 62 | 62 | 0 | 0.0% | | | 0 |
| Madison, City of | 123,279 | 551 | 0 | 0.0% | | | |
| McFarland, Village of | 4,902 | 541 | 0 | 0.0% | | | |
| Middleton, City of | 11,202 | 507 | 0 | 0.0% | | | |
| Milwaukee, City of | 169,208 | 597 | 0 | 0.0% | | | |
| Oshkosh, Town of (Winnebago County) | 901 | 899 | 0 | 0.0% | | | 0 |
| Racine, City of | 20,739 | 506 | 0 | 0.0% | | | |

| Municipality | Total Certificates | Certificates We Reviewed | | | Estimated Total Number of Certificates without a Voter Signature ¹ | | Actual Total Number of Certificates without a Voter Signature |
|-----------------------------------|--------------------|--------------------------|----------------------------------|--------------------------------------|---|---------------|---|
| | | Number | Number without a Voter Signature | Percentage without a Voter Signature | Low Estimate | High Estimate | |
| Rib Lake, Village of | 139 | 139 | 0 | 0.0% | | | 0 |
| Shorewood, Village of | 7,947 | 521 | 0 | 0.0% | | | |
| Shorewood Hills, Village of | 1,439 | 722 | 0 | 0.0% | | | |
| Sullivan, Village of | 146 | 146 | 0 | 0.0% | | | 0 |
| Sun Prairie, City of ² | 16,758 | 1,000 | 0 | 0.0% | | | |
| Verona, City of | 7,095 | 504 | 0 | 0.0% | | | |
| Waukesha, City of | 26,355 | 563 | 0 | 0.0% | | | |
| Wauwatosa, City of | 25,508 | 524 | 0 | 0.0% | | | |
| Whitefish Bay, Village of | 8,270 | 502 | 0 | 0.0% | | | |
| Totals | 593,307 | 15,261 | 3 | 0.02% | | | |

¹ Based on statistical approximation, we are 95.0 percent confident that the total number of certificates without a voter signature is between the low and high estimates.

² Statistical approximation cannot be used to estimate the total number of certificates because we did not randomly select certificates for review.

Appendix 6

Review of a Sample of Electronic Voting Equipment Test Results Tests Conducted by Municipal Clerks before the November 2020 General Election

Municipal clerks conducted statutorily required tests of electronic voting equipment before the November 2020 General Election. This appendix provides an overview of the pre-election test results we requested from 30 municipalities.

Descriptions of key terms follow.

Pre-Election Tests Conducted by Clerks within 10 Days before the General Election indicates the number of test results that we examined in each municipality, as well as the number and percentage of test results that we found municipal clerks had conducted within 10 days before the General Election, as statutorily required. We examined a total of 270 test results for this analysis. In some municipalities, we examined all test results. In others, we examined a sample of test results.

Pre-Election Tests That Accurately Counted Votes indicates the number of test results that we examined in each municipality, as well as the number and percentage of test results that we found had accurately counted votes for the presidential contest. We examined a total of 72 test results for this analysis.

The following tables present the results of our review.

Pre-Election Tests Conducted by Clerks within 10 Days before the General Election

| Municipality | Number of Tests We Reviewed | Number of Reviewed Tests Conducted within 10 Days Before the Election | Percentage of Reviewed Tests Conducted within 10 Days Before the Election |
|---|-----------------------------|---|---|
| Appleton, City of ¹ | – | – | – |
| Bayside, Village of | 1 | 0 | 0.0% |
| Brookfield, City of | 34 | 34 | 100.0% |
| Eau Claire, City of | 23 | 1 | 4.3% |
| Franklin, Town of (Jackson County) | 1 | 1 | 100.0% |
| Glendale, City of | 1 | 0 | 0.0% |
| Green Bay, City of | 44 | 8 | 18.2% |
| Greenfield, Town of (La Crosse County) | 1 | 1 | 100.0% |
| Highland, Village of | 1 | 1 | 100.0% |
| Janesville, City of | 5 | 5 | 100.0% |
| Kekoskee, Village of | 1 | 0 | 0.0% |
| Kenosha, City of | 23 | 1 | 4.3% |
| Ledgeview, Town of (Brown County) | 2 | 2 | 100.0% |
| Little Suamico, Town of (Oconto County) | 2 | 2 | 100.0% |
| Loyal, Town of (Clark County) | 1 | 1 | 100.0% |
| Madison, City of | 95 | 95 | 100.0% |
| McFarland, Village of | 6 | 6 | 100.0% |
| Middleton, City of ¹ | – | – | – |
| Milwaukee, City of | 1 | 0 | 0.0% |
| Oshkosh, Town of (Winnebago County) | 2 | 2 | 100.0% |
| Racine, City of ¹ | – | – | – |
| Rib Lake, Village of | 1 | 1 | 100.0% |
| Shorewood, Village of | 1 | 0 | 0.0% |
| Shorewood Hills, Village of | 1 | 1 | 100.0% |
| Sullivan, Village of | 1 | 1 | 100.0% |
| Sun Prairie, City of | 16 | 16 | 100.0% |
| Verona, City of | 4 | 4 | 100.0% |
| Waukesha, City of ¹ | – | – | – |
| Wauwatosa, City of | 1 | 0 | 0.0% |
| Whitefish Bay, Village of | 1 | 0 | 0.0% |
| Totals | 270 | 183 | |

¹ This municipality did not provide us with any pre-election test results.

Pre-Election Tests That Accurately Counted Votes

| Municipality | Number of Tests We Reviewed | Number of Reviewed Tests That Accurately Counted Votes | Percentage of Reviewed Tests That Accurately Counted Votes |
|---|--------------------------------|---|---|
| Appleton, City of ¹ | – | – | – |
| Bayside, Village of | 1 | 1 | 100.0% |
| Brookfield, City of | 8 | 8 | 100.0% |
| Eau Claire, City of | 12 | 12 | 100.0% |
| Franklin, Town of (Jackson County) | 1 | 1 | 100.0% |
| Glendale, City of | 1 | 1 | 100.0% |
| Green Bay, City of ² | 8 | 7 | 87.5% |
| Greenfield, Town of (La Crosse County) | 1 | 1 | 100.0% |
| Highland, Village of | 1 | 1 | 100.0% |
| Janesville, City of | 5 | 5 | 100.0% |
| Kekoskee, Village of | 1 | 1 | 100.0% |
| Kenosha, City of | 1 | 1 | 100.0% |
| Ledgeview, Town of (Brown County) | 2 | 2 | 100.0% |
| Little Suamico, Town of (Oconto County) | 2 | 2 | 100.0% |
| Loyal, Town of ³ (Clark County) | – | – | – |
| Madison, City of | 12 | 12 | 100.0% |
| McFarland, Village of | 2 | 2 | 100.0% |
| Middleton, City of ¹ | – | – | – |
| Milwaukee, City of | 1 | 1 | 100.0% |
| Oshkosh, Town of (Winnebago County) | 2 | 2 | 100.0% |
| Racine, City of ¹ | – | – | – |
| Rib Lake, Village of | 1 | 1 | 100.0% |
| Shorewood, Village of | 1 | 1 | 100.0% |
| Shorewood Hills, Village of | 1 | 1 | 100.0% |
| Sullivan, Village of | 1 | 1 | 100.0% |
| Sun Prairie, City of | 2 | 2 | 100.0% |
| Verona, City of | 3 | 3 | 100.0% |
| Waukesha, City of ¹ | – | – | – |
| Wauwatosa, City of | 1 | 1 | 100.0% |
| Whitefish Bay, Village of | 1 | 1 | 100.0% |
| Totals | 72 | 71 | |

¹ This municipality did not provide us with any pre-election test results.

² One pre-election test result included insufficient documentation, which prevented us from determining whether the equipment had accurately counted the votes for presidential candidates.

³ This municipality provided us with incomplete pre-election test results.