

Post-Election Audit Summary

September 14, 2021 Primary Election

Cleveland Ward 02 Member of Council

There were 58,437 total ballots cast in the September 14, 2021 Primary Election. A hand count was conducted of 390 ballots cast in the audited contest. The accuracy rate for the post-election audit is 100%.

On December 14, 2021 we conducted one Risk-Limiting Post-Election Audit for the September 14, 2021 Primary Election. Audited race and batch details are provided below:

RACE	TOTAL BALLOTS CAST	UNIQUE BATCHES AUDITED	TOTAL BALLOTS AUDITED	NUMBER OF PRECINCTS IN CONTEST
Cleveland Ward 02 Member of Council	2,145	5	390	23
Total	2,145	5	390	23

Our Risk-Limiting Audits were based upon the Kaplan-Markov method as explained by Philip B. Stark and Mark Lindeman. Auditing best practices recommend we split up the total ballots cast by precinct into multiple batch types. We utilized six batch types each consisting of one single ballot type category: Vote-by-Mail, Election Day, Early In-Person, Provisional, Post Vote-by-Mail, and Post Election Day.

A master spreadsheet was created for each contest with statistical formulas to determine the number of batches that must be audited in order to reach a 90% confidence level. This confidence level means the audit has at least a 90% probability of leading to a full recount if the apparent outcome is incorrect.

We used a “Probability Proportional to Error Bound with Replacement” selection method. We assigned numbers ranging from 0000 through 9999 for each batch within each contest. Unique ranges of numbers were allocated to specific batches based upon their error bound - i.e. the greater the possibility of a miscount within a batch, the more numbers assigned, and the more likely it is to be selected. For example, if a single batch has a high probability of a miscount, multiple numbers would be assigned to that single batch, making the random selection of that batch more likely during the audit. Each of those individual numbers might be randomly selected and included in the overall batch audit requirement, but the single batch to which those numbers are assigned would need to be audited only once. To obtain the precinct batch number we rolled differently colored dice numbered 0 - 9, each one of the colored dice representing one digit of the batch number.

