

Colorado State Assembly Teller/Hand Count Report 2024

A whitepaper report documenting the success and areas for improvement for the plan applied to this event.

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EXECUTIVE SUMMARY

On April 6th, a historic hand count election was held at the Colorado State Assembly meeting in Pueblo, Colorado. This was the largest hand count planned in Colorado's history since the introduction of machines and was in response to the growing loss of confidence in machine voting systems.

The Teller Team, a term compliant with Colorado State Statute, was responsible for the distribution, polling (collection) and counting of the ballots. Unlike in the past, the Teller Team was not responsible for credentialing qualified voters. The State GOP Executive Committee managed the credentialing process.

The distribution and collection of approximately ~2000 ballots took approximately 1 hour and 23 minutes. After a brief period for setting up the counting floor, the hand count itself took ~45 minutes. With XXX(144) volunteers, 136 plus 8 floor manager/trouble shooters, this is ~44 ballots per minute count average resulted in a fully auditable and error-free election.

The process included 8 (actually only 4, then we added one = 5) batching tables, 24 counting stations and 4 aggregation tables. The actual election consisted of a single race with three candidates on the ballot. The ballot was designed and prepared for additional candidates to be added as 'write-ins' through a floor nomination process.

The following report will include a breakdown of what had been planned, what had to be adapted or changed on the day of the event and the lessons learned from this. We will also discuss methodologies for distributing ballots and collecting them in a similar scenario, compliant with the Colorado State Statute and the Elections Handbook.

It is probably important to point out that this plan was put together in less than three weeks. Had more time and resources been available, the planning team may have considered more of the security measures implemented by the consultant to the team at previous hand counts.

The Hand Count Process

The applied process started with adapting the Maricopa County, AZ method for the Maricopa County Republican Committee (MCRC) in January 2024. James Knox, one of the leaders in designing that method, consulted and helped plan this hand count. The process consists of three primary parts: batching, counting, and aggregating. There are multiple roles in this three-stage process, each of which we will cover.

The key to the process is nothing is done alone. Everything is documented in duplicate, checked and rechecked. This transparency allows for any mistakes due to human error to be identified immediately, addressed and corrected. Unlike a machine counting system, if there is an error, it may not be caught immediately or requires an elaborate adjudication process to resolve. Any error that would occur within the 'black box' may never be caught depending upon the details of the technical audit process applied to the counting systems.

Batching

Batching is a crucial step in the hand count process and is the process of taking a large quantity of ballots and breaking them into smaller manageable quantities. To remain compliant with the

Colorado State Statute, we had the Polling Judges take the sealed polling boxes to the batching tables, which initiated the chain of custody. It is also important to point out that the polling bins and judges never left the designated election area, again staying compliant with state statutes.

When the Batchers were ready, each polling bin was placed on a batching table. The bin was labeled with a bin ID prior to being placed into service. The seals were cut at the table, and the batching team began to work.

The Batching Table team consists of 4 individuals. Two are to count the ballots into quantities of 25, each checking the others. Then they pass the batch over to the other two, who complete the Tally Sheets and the chain of custody, clip them together and place them in a Batch Runner pick-up area of the table.

BALLOTS TALLY																										
Ballot Box ID	Batch Station			Batch Runner			Tally 1			Caller			Aggregate Runner			Notes										
	Batch Number			Tally Station			Tally 2			Caller Quality Control			Aggregation Station			Ballots #			<25 Ballots in Batch			Date				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over

Figure 1: Ballot Tally Sheet Chain of Custody

The chain of custody consists of the Ballot Box ID, the Batching Station ID and the Batch Number. These three identifiers create a unique combination to track the batch throughout the remaining process.

Upon completion, a batch runner will deliver to an awaiting table.

Batching Lessons Learned

At the MCRC count, the batching teams had additional responsibilities to comply with the full security modeling applied there. Due to time constraints, some of the advanced security measures were not implemented at this event. These will be discussed later in the appendix.

Overall, having 4 individuals slowed up the initial batching process. Splitting the team into quantities of two, each team would duplicate counting a quantity of 25 ballots and complete the initial chain of custody, which would have resulted in expediting the initial availability of batches available to counting tables.

It was not a long delay, but it was a delay.

Counting

Counting, sometimes called tallying, is the process of counting the voter's intent selected on a ballot and documenting it on a ballot tally sheet. I mentioned voter intent; unlike machines, which can only read a small spot on a ballot to identify what the vote is, the hand count process allows for the voter's intent to be applied immediately. A machine would reject the ballot, and the adjudication process would remedy the ballot. If a voter circled a candidate or crossed out one candidate and then selected another, it can be adjudicated by the counting table. This results in a faster process of applying voter intent and lowering costs involved in systems for adjudication.

The counting team consists of four people. One caller will call or speak about the voter selection; one Caller QC will observe the ballot and make sure the caller properly speaks the voter intent and two Talliers. The Talliers do the same process, documenting the ballot on the tally sheet, and once the batch is completed, they will tally the results and compare the two sheets.

This duplicate documentation process results in several potential error-catching possibilities. The first is if one of the Talliers mistakenly documented the call and errors in totaling.

BALLOTS TALLY																											
Ballot Box	Batch Station			Batch Runner			Tally 1			Caller			Aggregate Runner			Notes											
	Batch Nu	Tally Station		Tally 2		Caller Quality Contr		Aggregation Station		Ballots # <25 Ballots in Batch										Date							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
10	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
13	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
14	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
16	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
18	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
21	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
23	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
25	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
Col Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Over	
	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total

Figure 2: Full view of Ballot Tally Sheet

Assuming the Ballot Tally Sheets are identical, the chain of custody is completed for the table an aggregation runner will be called to the table, they will double check the chain of custody portions of the tally sheets, sign them each and then place the(batch dn/batched ballots with one tally sheet into a secure document bag and seal it(.) and The remaining tally sheet would be clipped to the sealed batch and the batch delivered to an aggregations table. deliver the sealed batcha dn(batch with the remaining tally sheet to an aggregation table

The process of counting

There is a specific process used to count the ballots. The batch of ballots are placed face up on the table in the ballot area marked upon the table. The caller will take the top ballot and place it on the

table in front of them so the Caller QC can clearly see it. The caller will begin calling the numbers marked.

Each Tallier will place their ruler horizontally across the tally sheet, so the current ballot is the visible line above the ruler. As the caller calls the number, the tallier dabs the number, moving it from left to right. If there is a need for additional races/candidates, additional sheets can be used in such a way to flip and continue counting. We do have a very well-defined method to handle this, though we did not have the need to apply it to this event.

When the ballot has been read, the caller will place it face-side down in the called ballot area and call out a new ballot. Upon completing the last ballot, the talliers tallied the totals.

Error handling

Errors happen, and anyone saying hand counting is error-free is making a mistake. However, the way and when errors are addressed promotes an error-free result!

Errors in marking the called vote can be caught at three separate times. First, being the tallier, they may realize they mistakenly dabbed the wrong number. At this point, the tallier can call out pause and address the issue. Either ask to verify the called number or take action to correct it. All errors in the identifying of the called vote are circled with a red fine sharpie, signed with a ballpoint pen by the tallier, and the correct vote is marked. The tallier can then tell the caller to proceed.

The second time an error is caught is if the tallier gets down to the last ballot line and realizes they skipped a line. Though rare, it could happen. The remedy is for the skipped line to be marked with an arrow to the left, initiated by the tallier and the note section of the chain of custody to identify ballot X skipped all moved down and ballot 25 in X line. The other option would be for a floor manager to be called and a new tally sheet to be supplied, the chain of custody copied over, the tallier to then mark the new sheet, then write spoiled over the other and then the count to continue. The spoiled sheet should remain with the batch in the sealed bag.

The last point of catching an error is when the talliers compare the totals. At the end of the count, after they total the columns, one should call out the totals while the other verifies their sheet. There are two potential errors that can be found at this point. The first is that the total is off. Check the total and see if there is a mistake. The second would identify, with the two sheets next to each other, the first ballot on the column that is off. At this point, the caller can turn over the called ballots and, turning over each ballot face down, go to the specific first ballot in question and recall that race/candidate. The mistake is corrected, and the process moves forward.

Aggregation

Aggregation is the process of summarizing the tally sheets onto a summary sheet. Depending on the number of ballots and races, a secondary aggregation process may be required for totaling. Each aggregation team consists of two people. They will receive the batches in a sealed bag with a single tally sheet clipped to it. Upon receipt, they will ensure the visible tally sheet has the chain of custody completed, specifically for the runner who delivered it.

table needed a new batch. The runner would take it and sign the chain of custody on each tally sheet. Before leaving, the caller will verify that they signed.

Likewise, the American flag was used to call an aggregation runner. That runner would come, check the chain of custody, sign each tally sheet themselves, and then take the batch and one tally sheet, put it into a bag and seal it. Clip the remaining tally sheet to the batch and deliver it to an aggregation table.

Lesson Learned

Having runners assigned to a certain area and segment (batch or aggregation) could work well depending on the scale of the number of ballots to be counted. I cannot say we did not have success in this area. Still, if we had runners move from a batch runner to an aggregation runner, we could have reduced the number of runners needed and adjusted the placement as the counting process and demand changed. Having a way to adapt the runners so they can move to where a need exists is important.

Though we did not have runners for the aggregation tables to transport completed summary sheets to the totaling area, it may be something to consider.

The Counting Floor

We held the count in the back section of an arena. This was not ideal because we anticipated heavily amplified speeches during the count. It is important to maintain a low-noise environment to not distract or interfere with the calling of the votes. However, as luck may have it, the facility did turn down or off the PA system during our count, as all the speeches had been completed at that point. We also had some cloth barriers up to help with noise.

Space is another factor to consider. It would be best if you had plenty of space between tables to avoid cross noise and allow runners and floor managers to move around unimpeded.

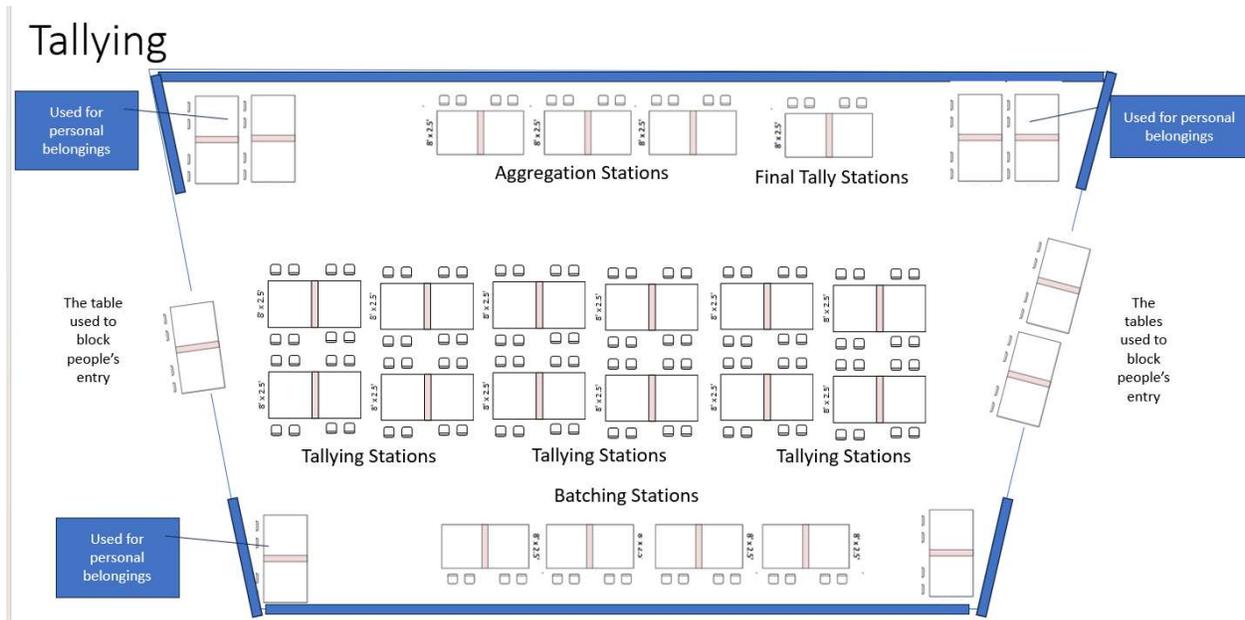


Figure 5: Counting Floor

The above figure represents the counting floor we had planned for. We also had been told the stage would be on the other side of the arena, at the back of the batching stations. In fact, the dimensions and shape of the area were incorrectly identified, but it worked in our favor. The parallelogram was reversed. So, we had to adapt, and though we kept the same table count and position, we had more space to use.

One thing to consider is the size of the tables. These tables were 8' x 2.5' and could be split into two counting sections. If the tables were shorter, that would not be an option.

Distribution and Polling

Unique to this event, the Teller team was responsible for the ballot distribution and polling (collecting), something I had not been previously responsible for. The team came up with a very structured method for each and ended up having to make one last-minute change, which really helped; I will address this change later.

DISTRIBUTION

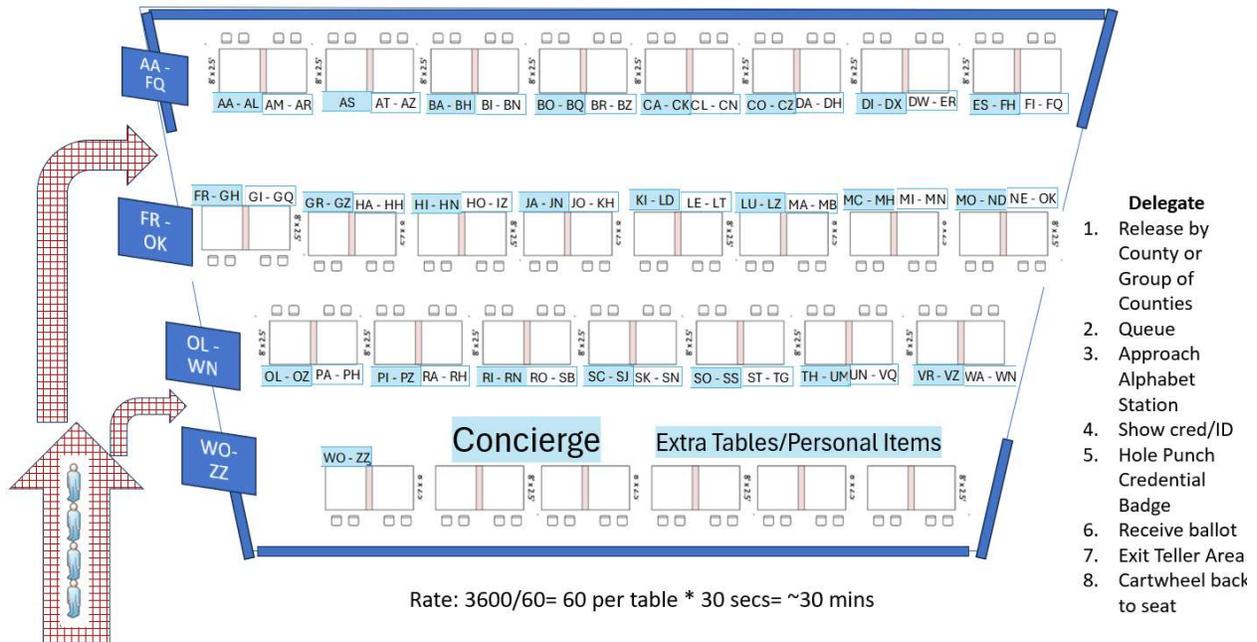


Figure 6: Distribution and Polling Layout

The above image was the intended ballot distribution and polling layout. We made some slight adjustments that spread the names to all three table rows a little more evenly. The intention was that once credentialing was completed, a task we had not been responsible for, the distribution of ballots could commence. The attendees who were credentialed would be released by counties to maintain an average flow and would walk through the area to the table that matched the last name, have their identity confirmed and their name struck from the paper credentialing list, the credential punched for receiving the ballot, a ballot handed to them and then exit on the far side.

Similarly, after the speeches, the polling would commence. Again, by county, the lines would begin to form, the voter would go to the table where they received their ballot, ID shown and the credential punched, the ballot would be placed into the sealed ballot box, and they would exit at the far side.

This was the plan; however, due to a very long delay in credentialing, all the speeches had been completed, and we did not begin our processes until about four and a half hours later than planned. Therefore, we made a quick change, allowing ballots not only to be distributed, but if you remained there, you could cast your vote and receive the second punch. If you choose to leave and come back, you will be required to show your ID a second time, and then your credentials will be punched, and your ballot will be accepted.

The adapted process worked extremely well, taking about one hour and fifteen minutes. After polling was closed, maybe 20 minutes to prep the area for counting.

Lessons Learned

There are multiple takeaways we learned. Not to challenge the credentialing process, it could have been adapted to the distribution of ballots, allowing vetted voters to take their ballot with them to hear the speeches. Another option, and this would apply to a larger ballot, is to allow the distribution of the ballots as described; the voter enters an area with tables so they can vote and ballot boxes at the end by the exits. The credential would be punched upon receipt and put into the ballot box. No one but credentialed voters are allowed in the area, and leaving and returning with your ballot would nullify the ability to vote. This last proposed model might closely follow a traditional public election where you vote at a precinct/voting center and are not allowed in and out.

Another lesson learned is people seem to want to 'swim upstream'. We had signs, made announcements and ushers to guide people to the tables and point towards the visible exits. Still, some people complained that they needed to go out the entrance. Still, people complained about this. You cannot have announced enough of the 'rules', but it is important to maintain the integrity of the process.

Mobility Challenged Voters

Handicap and other mobility-challenged voters can require some forethought. We did have a process defined where we had a special team that would go to them, check their credential status, provide a ballot, if needed, help vote and then collect it. You have to consider these options or else someone will complain. We did have a few complaints that we should have had them sitting closer so they could walk to the voting areas; this was something we did not control nor could have. Another option is to have Handicap designated Teller Team members available to push wheelchairs and/or help those with mobility issues. The designated volunteer can then take their credentials & ID & pick up their ballot for them, return with the ballot, delegate votes and volunteer returns ballot to station on their behalf.

Lessons Learned

Venue Assessment

It is strongly advised that leadership do a walkthrough of the venue and designated Teller area as early as possible in the planning process. Paying attention to traffic flow, electrical needs, sound infringements and security of the area. Always keeping in mind how the chain of custody of ballots and ballot boxes looks throughout the process.

The floor layout is critical. Teller Leadership must determine the floor plan layout & adapt to any square footage constraints etc. as dictated by the venue and event coordinator. Thus, ensuring an adequate number of tables and chairs are made available for set up and appropriate supplies ordered.

As the Teller process is in three phases (see diagram of floor layout) .

The team will need to determine the number of tables (8ft. Are best) and chairs per station, not forgetting that some positions are standing positions in the distribution/receiving process, if applicable. Extra tables and chairs will be needed for other functions.

Supplies & Equipment Needed

Venue/Event Coordinator Provided

- 8 ft. Folding tables & chairs for batching, tallying & aggregating stations.
- Extra tables for leadership “command” for printer, extra supplies, etc., personal items for volunteers, water station.
- Barriers for containing and securing the Teller Cage/Area, if needed.
- Pipe & drape for sound barriers, if needed.
- Trash Can(s).
- Easels as needed for signage to be elevated to eye level.

It is imperative to have all supplies needed several weeks in advance, sorted, signage made with extra “trouble shooting” supplies on hand.

In order to expedite all processes all “station” supplies needed per each phase are put in 2 1/2-gallon zip loc bags and marked on the outside as to whether they are “Batching A”, “Tally A”,

“Aggregating A”, etc. Each set of supplies are placed in clearly marked Batching/Tally/Aggregate boxes/bins ready for distribution as needed.

General Supplies

- Megaphone.
- 2' X 3' foam board for alphabet breakdown distribution/receiving(polling) stations.
- Extra poster board.
- Wide tip markers for sign making.
- Duct tape.
- Painter's tape 2" for tabletops.
- Scissors x 8 +/- for Ballot box/Polling Judges
- Laser printer and paper.
- Hanging name tags for Teller Committee and Observers.
- Cases of water for volunteers.

- Wipes for cleaning tables off.

Fluorescent Safety Vests

*****all volunteers receive colored safety vests that correspond to the specific task they are performing. This allows for easy recognition of the volunteers' role in the teller cage and for any observers as well.**

Different color designations for: ushers; batching; tallying; aggregating; runners; floor managers (Colored duct tape can be used to cover stripes on vests thus bringing differentiation to the role.)

***If your volunteers are doubling up on assignments such as distribution & receiving of ballots, vests are NOT passed out until the Teller Floor is ready to go. It is helpful to place the vests on the backs of the chairs according to their assignments.

Distribution & Receiving/Polling Stations (If Applicable)

- Colored safety vests for usher volunteers.
- Clear 25-30 Qt. Plastic storage bins for ballot boxes.
- Beaded security zip ties for ballot boxes.
- 2 ½ gallon Ziploc bag for supplies.
- 2 X Yellow highlighters.
- 1 x Opaque ruler.
- 1 x "5 Sheet" sturdy hole puncher.
- 4 x Black/Blue ink pens.

Batching Stations

- Colored safety vests for batching volunteers.
- Each station is to be given an alpha designation "A", "B", "C", etc. that is taped to the table.
- 2 ½ gallon Ziploc bag to contain supplies.
- Finger moistener for counting and/or rubber fingertips.
- Secure sealable plastic bags for ballot batches. 12 x 16
- Black/Blue ballpoint pens.
- Black paper binder clips.

Tallying Stations

- Colored safety vests for Tally volunteers.
- Each station is to be given an alpha designation "A", "B", "C", etc.
- 4 x 6 White Index Cards for making alpha designation.

- 8" table "number" stands to elevate alpha designation cards for easy visibility.
- 2 1/2-gallon Ziploc bag to contain all supplies.
- 2 x opaque wooden rulers.
- 4x green sharpies.
- 2x red sharpies.
- Finger moistener for Caller.
- 4x Black/Blue pens for signatures of Tally Team to Tally sheet & for Runners.
- Mini Gadsden Flag for alerting Batch Runner.
- Mini American Flag for alerting Aggregate Runner.

Aggregation Stations

- Colored safety vests for Aggregating volunteers.
- 2 ½ gallon Ziploc bag to contain supplies.
- 2 x small pocket calculators.
- Black/Blue Pens

Volunteer Recruiting & Coordination