

On-Site Field Test

Voting System Accessibility Testing for

<Vendor Name and Voting System Model>:

This protocol is designed to ensure accessibility for voters with disabilities as required in IC 3-11-15-13.6 and 52 USC sec. 21081(a)(3).

Indiana Code 3-11-15-13.3 incorporates the Voluntary Voting System Guidelines as the standards a voting machine must meet in order to be approved for use in Indiana. Additionally, Indiana law has several requirements for voting systems as it pertains to accessibility for voters with disabilities.

This document will be completed during the field testing by a contracted ADA consultant working with VSTOP. The ADA consultant will test the features discussed in this document through a vendor demonstration. A functionality test will be conducted on the accessibility features with a deck of prepared test ballots. The accessibility report will be completed by the consultant and submitted by VSTOP to the IEC along with the certification recommendation.

Ballot cards are sent by fax/email to voters with print disabilities.

Indiana state law requires a voter with print disabilities to be able to receive an absentee ballot by email. Ballot card layout for absentee ballots by mail should therefore be able to be read by adaptive technology, such as a screen reader. Is the ballot card used with the voting system for absentee voting by voters with print disabilities compatible with adaptive technology to allow the voter with print disabilities to be able to vote privately and independently at home, including marking their choices on the ballot card to be sent back to county election officials to tabulate in a similar manner to military and overseas voters using the Federal Post Card Application (FPCA)?

☐ Yes

☐ No

If no, please explain deficiency

Correcting ballot on DRE voting systems w. VVPAT.

All DRE systems used in Indiana must be used with a voter verified paper audit trail. When a voter reviews the paper audit trail and determines an error has been made, is the voter with disabilities able to make as many attempts as necessary to correct the error before completing the casting of the voter's ballot? (IC 3-11-14-24.5(d)) ☐ Yes ☐ No

If no, please explain deficiency

General:

- ☐ Yes ☐ No Is support provided (including posted instructions) to voters with disabilities intrinsic to the accessible voting station? For example, it should not be necessary for the accessible voting station to be connected to any personal assistive device of the voter. (i.e. Disabled voters should not be required to bring special devices with them to vote successfully).

If no, please explain deficiency

- ☐ Yes ☐ No If the provision of accessibility involves an alternative format for ballot presentation (for example audio), is all the information presented to voters (including instructions, warnings, error and other messages, and ballot choices) also presented in the alternative format?

If no, please explain deficiency.

Vision:

Partial Vision

- ☐ Yes ☐ No Did the vendor conduct summative usability tests on the voting system using partially sighted individuals?

If no, please explain deficiency

- ☐ Yes ☐ No Is the accessible voting station (hereinafter "AVS") with an electronic image display capable of showing all information in at least two font sizes, (a) 3.0-4.0 mm and (b) 6.3-9.0 mm? Is this function under the control of the voter?

If no, please explain deficiency

☐ Yes ☐ No Is an AVS with a monochrome-only electronic image display capable of showing all information in high contrast either by default or under the control of the voter or poll worker? High contrast is a figure-to-ground ambient contrast ratio for text and informational graphics of at least 6:1.

If no, please explain deficiency

☐ Yes ☐ No Indiana state law permits a vendor or county election official to post certain instructions required in the ballot layout standards in the voting booth. Do your training materials advise county officials the best practices for font size, shape, and color for those printed instructions to be displayed and read by voters with disabilities? For example, the ballot instructions are recommended to be printed in at least 16 point font if posted in the voting booth for voters with low vision to be able to read? (Note: This is not a requirement in Indiana but a question for information gathering purposes)

Please provide additional comments:

☐ Yes ☐ No Do you print materials about how to use your voting systems in large print or Braille? (Note: This is not a requirement in Indiana but a question for information gathering purposes)

Please provide additional comments.

☐ Yes ☐ No Will an AVS with a color electronic image display allows the voter to adjust the color or the figure-to-ground ambient contrast ratio? See Technical Guide for Color, Contrast and Text Size. In particular, it is not required that the station offer a continuous range of color or contrast values.

If no, please explain deficiency

☐ Yes ☐ No Are the buttons and controls on the AVS distinguishable by both shape and color?

If no, please explain deficiency

☐ Yes ☐ No Does an AVS using an electronic image display provide a synchronized audio output to convey the same information as that which is displayed on the screen?

If no, please explain deficiency

☐ Yes ☐ No For DRE voting system, does an AVS using an electronic image display provide a synchronized audio output to convey the ballot instructions referred to in IC 3-11-14-3.5(l) that the county election board decides to post in the voting booth instead of including them on the ballot label so that the voter with disabilities can hear and understand all the ballot instructions required by state law?

If no, please explain deficiency

Blindness

☐ Yes ☐ No Did the vendor conduct summative usability tests on the voting system using individuals who are blind?

If no, please explain deficiency

☐ Yes ☐ No Does the AVS provide an audio-tactile interface (“ATI”) that supports the full functionality of the visual ballot interface? ¹ Full functionality includes at least:

- Instructions and feedback on initial activation of the ballot (such as insertion of a smart card), if this is normally performed by the voter on comparable voting stations
- Instructions and feedback to the voter on how to operate the AVS, including settings and options
- Instructions and feedback for navigation of the ballot
- Instructions and feedback for contest choices, including write-in candidates
- Instructions and feedback on confirming and changing selections
- Instructions and feedback on final submission of ballot

If no, please explain deficiency

☐ Yes ☐ No Does the AVS provide the same capabilities to vote and cast a ballot as are provided by other voting machines or by the visual interface of the standard voting machine? For example, if a visual ballot supports voting a straight party ticket and then changing the choice in a single contest, so must the ATI.

If no, please explain the deficiency

☐ Yes ☐ No Does the ATI allow the voter to have any information provided by the voting system repeated?

¹ Audio-Tactile Interface (ATI) is defined as a voter interface designed not to require visual reading of a ballot. Audio is used to convey information to the voter and sensitive tactile controls allow the voter to convey information to the voting system.

If no, please explain deficiency

☐ Yes ☐ No Does the ATI allow the voter to pause and resume the audio presentation?

If no, please explain deficiency

☐ Yes ☐ No Does the ATI allow the voter to skip to the next contest or return to previous contests?

If no, please explain deficiency

☐ Yes ☐ No Does the ATI allow the voter to advance the reading of a referendum so as to be able to vote on it immediately?

If no, please explain deficiency

If the AVS provides an audio presentation of the ballot, it must conform to the following requirements:

☐ Yes ☐ No Does the AVS Provide its audio signal through an industry standard connector for private listening using a 3.5mm stereo headphone jack to allow voters to use their own audio assistive devices?

If no, please explain the deficiency

☐ Yes ☐ No When utilizing a telephone style handset or headphone to provide audio information, does the AVS provide a wireless T-Coil coupling for assistive hearing devices so as to provide access to that information for voters with partial hearing? The coupling shall achieve at least a category T4 rating as defined by American National Standard for

Methods of Measurements of Compatibility between Wireless Communications Devices and Hearing Aids ANSI C63.19.

If no, please explain deficiency

☐ Yes ☐ No Does the AVS cause electromagnetic interference with assistive hearing devices? The voting equipment, considered as a wireless device, must achieve at least a category T4 rating as defined by American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids, ANSI C63.19.

If YES, please explain the deficiency

☐ Yes ☐ No Does the vendor recommend keeping headphones sanitized and are standard procedures articulated in their materials to avoid accidental damage by their client.

If no, please explain the deficiency

☐ Yes ☐ No Does the AVS provide a volume control with an adjustable volume from a minimum of 20dB SPL up to a maximum of 100 dB SPL, in increments no greater than 10 dB? Does the AVS set the initial volume for each voter between 40 and 50 dB SPL?

If no, please explain the deficiency

☐ Yes ☐ No Is the audio system able to reproduce frequencies over the audible speech range of 315 HZ to 10 KHz?

If no, please explain the deficiency

☐ Yes ☐ No Is the audio presentation of verbal information readily comprehensible by voters who have normal hearing and are proficient in the language?

If no, please explain the deficiency

☐ Yes ☐ No Does the audio system allow voters to control the rate of speech? The range of speeds supported should be at least 75% to 200% of the nominal rate.

If no, please explain the deficiency

☐ Yes ☐ No If a normal procedure is to have voters initialize the activation of the ballot, does the AVS provide features that enable voters who are blind to perform this activation?

If no, please explain the deficiency

☐ Yes ☐ No If the normal procedure is for voters to submit their own ballots, does the AVS provide features that enable voters who are blind to perform this submission? For example, if voters normally feed their own optical scan ballots into a reader, blind voters should also be able to do so.

If no, please explain the deficiency

☐ Yes ☐ No Are all of the mechanically operated controls or keys on the AVS tactilely discernible without activating those controls or keys?

If no, please explain the deficiency

☐ Yes ☐ No On the AVS, is the status of all locking or toggle controls or keys visually discernible, and discernible either through touch or sound?

If no, please explain the deficiency

Dexterity:

☐ Yes ☐ No Are all the keys and controls on the AVS operable with one hand and do not require tight grasping, pinching, or twisting of the wrist? The force required to activate controls and keys shall be no greater than 5 lbs.

If no, please explain the deficiency

☐ Yes ☐ No Do the AVS controls not require direct bodily contact or for the body to be part of any electrical circuit? In other words, they must ensure operability for individuals with prosthetic devices.

If no, please explain the deficiency

☐ Yes ☐ No Does the AVS provide a mechanism to enable non-manual input that is functionally equivalent to tactile input? This requirement ensures that the accessible voting station is operable by individuals who do not have use of their hands. All the functionality of the accessible voting station (that is, straight party voting, write-in candidates) that is available through the other forms of input, such as tactile, must also be available through a non-manual input mechanism.

If no, please explain the deficiency

☐ Yes ☐ No If a normal procedure is for voters to submit their own ballots, does the AVS provide features that enable voters who lack fine motor control or use of their hands to perform this submission?

If no, please explain the deficiency

Mobility:

☐ Yes ☐ No Does the AVS provide a clear floor space of 30 inches minimum by 48 inches minimum for a stationary mobility aid? The clear floor space must be level with no slope exceeding 1:48 and positioned for a forward approach or a parallel approach.

If no, please explain the deficiency

All controls, keys, audio jacks and any other part of the AVS necessary for the voter to operate the voting machine must be within reach as specified under the following sub-requirements:

- ☐ Yes ☐ No If the accessible voting station has a forward approach with no forward reach obstruction, is the high reach 48 inches maximum and the low reach 15 inches minimum. (Figure 1)

If no, please explain the deficiency

If the accessible voting station has a forward approach with a forward reach obstruction (Figure 2):

- ☐ Yes ☐ No Is the forward obstruction no greater than 25 inches in depth, it is top no higher than 34 inches and its bottom surface no lower than 27 inches?

If no, please explain the deficiency

- ☐ Yes ☐ No If the obstruction is no more than 20 inches in depth, is the maximum high reach 48 inches? Otherwise, is it 44 inches?

If no, please explain the deficiency

Space under the obstruction between the finish floor or ground and 9 inches above the finish floor or ground will be considered toe clearance and must comply with the following provisions:

- ☐ Yes ☐ No Does the toe clearance extend 25 inches maximum under the obstruction?

If no, please explain the deficiency

☐ Yes ☐ No Is the minimum toe clearance under the obstruction either (a) 17 inches or (b) the depth required to reach over the obstruction to operate the AVS – whichever is greater?

If no, please explain the deficiency

☐ Yes ☐ No Is the toe clearance a minimum of 30 inches wide?

If no, please explain the deficiency

Space under the obstruction between 9 inches and 27 inches above the finish floor or ground is considered knee clearance and must comply with the following provisions:

☐ Yes ☐ No Does the knee clearance extend 25 inches maximum under the obstruction at 9 inches above the finish floor or ground?

If no, please explain the deficiency

☐ Yes ☐ No Is the minimum knee clearance at 9 inches above the finish floor or ground either (a) 11 inches or (b) 6 inches less than the toe clearance-whichever is greater?

If no, please explain the deficiency

☐ Yes ☐ No Between 9 inches and 27 inches above the finish floor or ground, the knee clearance is permitted to reduce at a rate of 1 inch in depth for each 6 inches in height.

If no, please explain the deficiency

☐ Yes ☐ No Is the knee clearance a minimum of 30 inches wide?

If no, please explain the deficiency

☐ Yes ☐ No If the AVS has a parallel approach with no side reach obstruction, is the maximum high reach 48 inches and the minimum low reach 15 inches? See Figure 3

If no, please explain the deficiency

If the accessible voting station has a parallel approach with a side reach obstruction, the following sub-requirements apply. See Figure 4

☐ Yes ☐ No Is the side obstruction no greater than 24 inches in depth and its top no higher than 34 inches?

If no, please explain the deficiency

☐ Yes ☐ No If the obstruction is no more than 10 inches in depth, is the maximum high reach 48 inches? Otherwise, it must be 46 inches.

If no, please explain the deficiency

☐ Yes ☐ No Are all labels, displays, controls, keys, audio jacks, and any other part of the AVS necessary for the voter to operate the voting machine easily legible and visible to a voter in a wheelchair with normal eyesight who is in an appropriate position and orientation with respect to the accessible voting station?

If no, please explain deficiency.

Disability Testing Figures 1-4

Figure 1: Unobstructed forward reach.

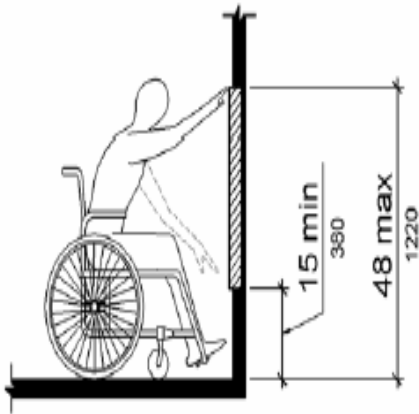


Figure 2: Obstructed forward reach.

- (a) for an obstruction depth of up to 20 inches.
- (b) for an obstruction depth of up to 24 inches.

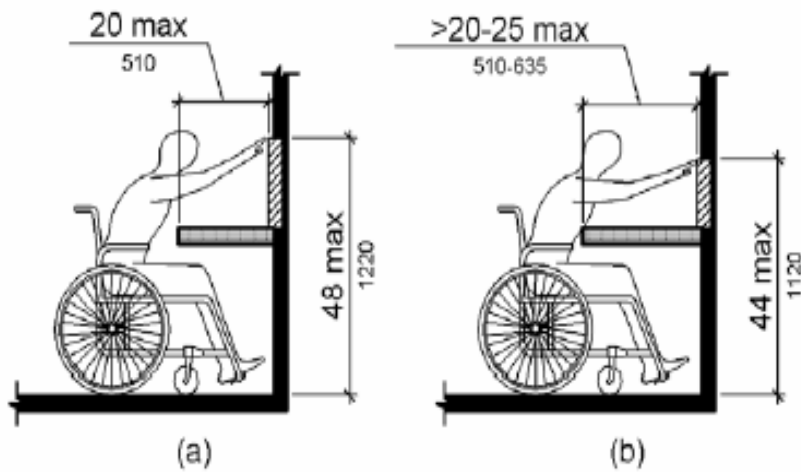


Figure 3: Unobstructed side reach with an allowable obstruction of up to 10 inches.

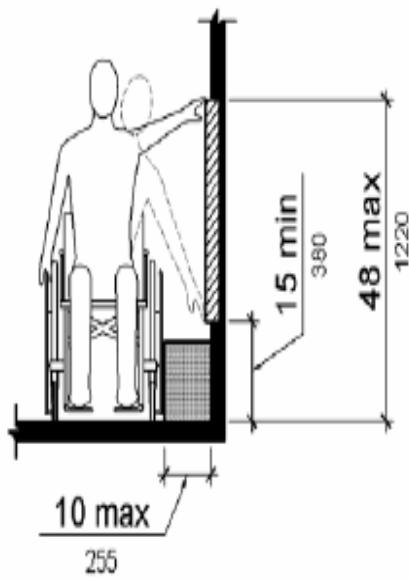
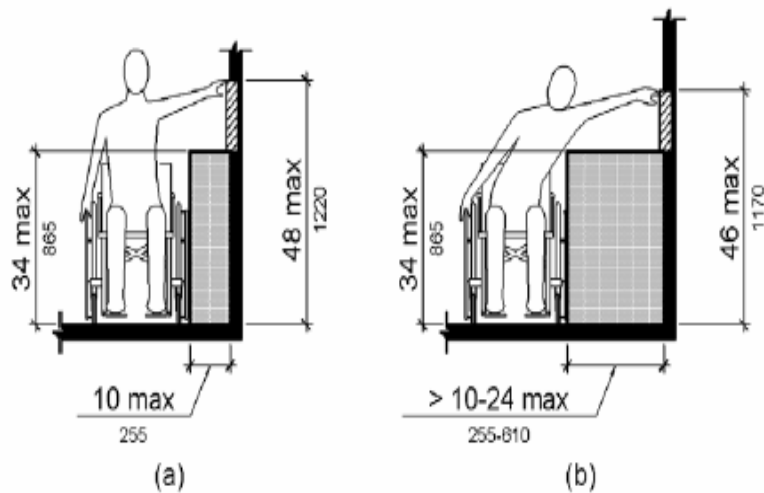


Figure 4: Obstructed side reach.

- (a) for an obstruction depth of 10 inches.
- (b) for an obstruction depth of up to 24 inches.



A functionality test will be conducted on the accessibility features with a deck of prepared test ballots. The test will include the following:

1. Undervotes
2. Attempts to overvote
3. Straight party
4. n of m candidates
5. Individual candidates
6. Public questions or statewide constitutional questions