

SAN DIEGO COMMUNITY COLLEGE DISTRICT AV STANDARDS

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I. Introduction

This document establishes the technology and audiovisual (AV) standards for the San Diego Community College District (SDCCD). These standards support modern teaching and learning environments, focusing on accessibility, hybrid learning capabilities, and secure network integration across district-wide systems.

The standards apply to the planning, design, procurement, installation, integration, maintenance, repair, and removal of District technology equipment in classrooms, lecture halls, meeting rooms, study spaces, recreational spaces, and workspaces to ensure consistency, functionality, security, and accessibility for students, faculty, staff, and visitors in compliance with California and federal accessibility and IT security laws, including ADA, Section 508 of the Rehabilitation Act, California Government Code 11135, and cybersecurity policies for network infrastructure. The Standards described herein shall apply to all parties engaging in the aforementioned activities and shall include but not be limited to District personnel and private contractors.

II. Strategic Goals.

All campus and District Technology activities shall be proximately related to the advancement of their respective campus and/or District Strategic Goals.

III. SDCCD Technology Pillars (Guiding Principles)

Each of the following values shall serve as a guiding principle and foundational pillar in the development and implementation of policies, practices, and procedures of San Diego Community College District Technology Services.

- a. **Priority.** In matters where SDCCD Technology Pillars hold competing interests, deference shall be given to Safety, Legal Compliance, and Equity-related concerns.
- b. **Safety.**
 - i. **Personal Safety.** All planning, design, procurement, installations, integration, maintenance, repair, and removal of District technology equipment shall be done with the greatest deference to the interests of campus safety, preventing bodily injury, and protecting the health (both mental and physical) and lives of those on campus and District facilities.
 - ii. **Information Security.** All activities covered herein shall be carried out in a manner that applies a high standard for information security carefully designed to protect the private information of students, faculty, and staff.
- c. **Legal Compliance.**

- i. All activities covered herein shall be carried out in a manner that strictly adheres to local, state, and federal laws and District Policies and Procedures. Legal Compliance, however, shall be regarded as a minimum baseline standard, and those undertaking activities covered herein shall not limit the execution of said activities to the minimum threshold of Legal Compliance; the interests of Safety, Equity, Sustainability, Fiscal Responsibility, Andragogy, and Best Practices shall all be weighed and considered when undertaking Technology activities.
- d. **Equity.**
 - i. **Definition.** Equity is the framework and practice in which historically marginalized and minoritized populations (based on race, economic class, gender identity, sexual orientation, ability, and/or disproportionately impacted) are provided the resources, opportunities, and education to achieve success – from access through completion. Equity addresses systemic inequalities through the implementation of evidence-based policies, programs, procedures, and legislation that inform strategic and intentional resource allocation, support structures, and opportunities in order to ameliorate the impacts from past and current inequalities.
 - ii. **Performance.** All activities covered herein shall be undertaken with great deference to the interests of equity and to eliminating gaps among underserved populations within the campus and District. Whenever possible, the goal of eliminating performance gaps among District and/or campus underserved and/or historically-marginalized populations should be advanced.
 - iii. **Planning.** All campus and District Technology Departments shall develop and maintain a Departmental Equity Plan (DEP).
 - 1. The DEP shall describe the individual Department’s policies, practices, and procedures designed to eliminate gaps among underserved populations within the respective campus or District.
 - 2. The DEP shall be based on current data from the current or preceding year, or from the most currently available District or campus-furnished data, whichever is most recent.
 - 3. Nothing in this section shall prevent any Department from using non-District or campus-furnished data in their DEP, so long as that data is acquired from a local, state, or government agency.
 - 4. The Departmental Equity Plan shall be updated annually and reflect the current climate and needs of the respective campus or District.
 - a. The annual update shall include quantitative and qualitative assessments of the prior years’ Equity-based goals.
 - iv. **Impact.** Prior to the respective campus or District Technology Department undertaking any integration or design activities, any department requesting Technology integration or design shall provide the relevant campus or District Technology Department with an Equity Impact Statement (EIS) describing the following:

1. Which underserved and/or historically-marginalized populations may be affected by the implementation of the proposed technology; and
2. How the proposed technology implementation is proximately related to reducing performance gaps among underserved or historically-marginalized District and campus populations.

e. **Sustainability.**

- i. **Definition.** To create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations. For purposes of this Order, sustainability is broadly defined as those actions taken to maximize energy and water efficiency; minimize chemical toxicity and harmful environmental releases, particularly GHG; promote renewable and other clean energy development; enhance climate adaptation resilience, and conserve natural resources while sustaining assigned mission activities
- ii. **Performance.** All activities covered herein shall be undertaken with great deference to the interests of sustainability.
Whenever possible, all activities described herein shall be undertaken and executed in a manner that promotes greater campus and/or District sustainability.
- iii. **Planning.** All campus and District Technology Departments shall develop and maintain a Department Environment Impact Plan (DEIN).
 1. The DEIN shall describe the individual Department's policies, practices, and procedures aimed at promoting sustainability within their respective campus or District.
 2. The DEIN shall be based on current data from the current or preceding year, or from the most currently available District or campus-furnished data, whichever is most recent.
 3. Nothing in this section shall prevent any Department from using non-District or campus-furnished data in their DEIN, so long as that data is acquired from a local, state, or government agency.
 4. The DEIN shall be updated annually.
 - a. The annual update shall include quantitative and qualitative assessments of the prior years' sustainability-based goals.
- iv. **Impact.** Prior to undertaking any integration or design activities for campus technology, a written Sustainability Impact Statement (SIS) shall be undertaken to assess the following:
 1. Which campus sustainability interests will be affected by the proposed activities, if any;
 2. How campus and/or District sustainability interest will be affected; and
 3. How the proposed technology implementation is proximately related to advancing campus and/or District sustainability interests.

f. **Fiscal Responsibility.**

- i. **Definition.** Fiscal Responsibility is the prudent, transparent, and compliant management of campus and District financial activities. It involves a multi-layered system of oversight and collaborative planning to support the campus and district's long-term financial stability.
- ii. **Performance.**
 - 1. All budgetary and expenditure activities shall be undertaken in a manner that avoids unnecessary waste.
 - 2. Fiscal and expenditure planning shall be undertaken in a way that gives equal measure to the total cost of ownership of a purchase as well immediate costs.
 - 3. Fiscal expenditures shall be done transparently and with input from the relevant campus or District. technical Specialists and/or technicians prior to departmental budget planning and/or equipment purchase activities.
 - a. If any campus or District technology Specialist or technician provides written notice to the relevant Technology Department administrator advising against the purchase or expenditure on the grounds of governmental waste or violation of law or District policy, then the relevant Technology Department administrator shall provide a written statement to the Specialist/technician and the Technology Department's supervising administrator addressing the concern(s) and describing why the purchase or expenditure is being made.

g. **Andragogy.**

- i. **Definition.** Andragogy is the scientific understanding and practice of adult learning and education.
- ii. **Performance.**
 - 1. Instruction-related Technology activities shall be undertaken in a manner that advances andragogical effectiveness.
 - 2. Classroom and instructional technology activities shall utilize data-driven and research-based tools and methodologies.
 - 3. Campus technology specialists and Instructional Lab Technicians shall, after consulting with campus end users and the relevant subject matter experts, utilize their expertise to determine the specific andragogical technology that best meets the end user needs.
 - 4. Campus and District technology specialists who serve campus instructors and/or instructional services shall undertake Pedagogy-focused professional development activities each year. The annual "Educause" conference is an example of an andragogy-focused professional development activity.

IV. **Best Practices.**

- a. **Definition.** Best Practices are the policies, practices, and procedures that are most likely to bring about the most effective use of Technology and Technology-related services to the campus, District, and public.
- b. **Performance.** Best Practices, as described herein, shall be followed.
- c. **Licensing and Certification.** For any installation, service, or repair that may require the work to be performed by a licensed or certificated contractor when done by a private contractor, then only a private contractor with the appropriate licensing or certification shall be utilized; the District shall not utilize unlicensed or uncertified District employees for such service.
- d. **Accessibility.**
 - i. **Definition.** The combination of various elements in a building, facility, site or area, or portion thereof which allows access, circulation and the full use of the building and facilities by persons with disabilities.
 - ii. **Performance.** In all Technology matters, user accessibility should be implemented, practiced, and maintained
 - iii. All Technology controls, such as switchers, controllers, audio controls, PC controls, and others shall be positioned in a manner consistent with accessibility considerations and ADA compliance
 - iv. **Display Text.**
 - 1. **Finish and Contrast.** Display characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.
 - 2. **Character Height.** Display text shall have a minimum character height compatible with the Table below:

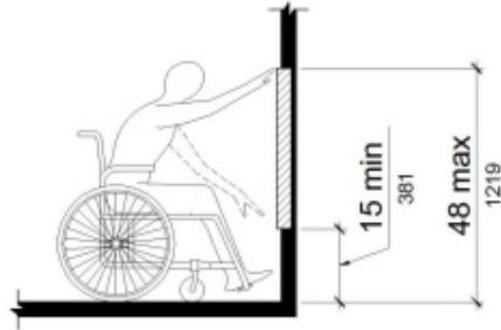
HEIGHT ABOVE FLOOR TO BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 inches (1016 mm) to less than or equal to 70 inches (1778 mm)	Less than 10 feet (3048 mm)	2 inches (51 mm)
	10 feet (3048 mm) and greater	2 inches (51 mm), plus $\frac{1}{5}$ inch (5.1 mm) per foot (305 mm) of viewing distance above 10 feet (3048 mm)
Greater than 70 inches (1778 mm) to less than or equal to 120 inches (3048 mm)	Less than 15 feet (4572 mm)	3 inches (76 mm)
	15 feet (4572 mm) and greater	3 inches (76 mm), plus $\frac{1}{5}$ inch (5.1 mm) per foot (305 mm) of viewing distance above 15 feet (4572 mm)
Greater than 120 inches (3048 mm)	Less than 20 feet (6096 mm)	4 inches (102 mm)
	20 feet (6096 mm) and greater	4 inches (102 mm), plus $\frac{1}{5}$ inch (5.1 mm) per foot (305 mm) of viewing distance above 20 feet (6096 mm)

- v. Wall-mounted displays protruding more than 4" from the wall and which do not have an ADA-compliant credenza beneath them shall have a walking-stick bar or other mechanism to alert visually-impaired persons of the displays' presence.
- vi. **Lines of Sight.** Where viewers are seated in a designated viewing area of a campus or District facility, all users shall have substantially equal lines of sight to all non-privately displayed images
 - 1. All displays and screens shall be positioned at a height such that the bottom of the display or screen is visible from the farthest designated seating area within a room; this requirement shall account for likely obstructions, such as standing viewers, whenever applicable

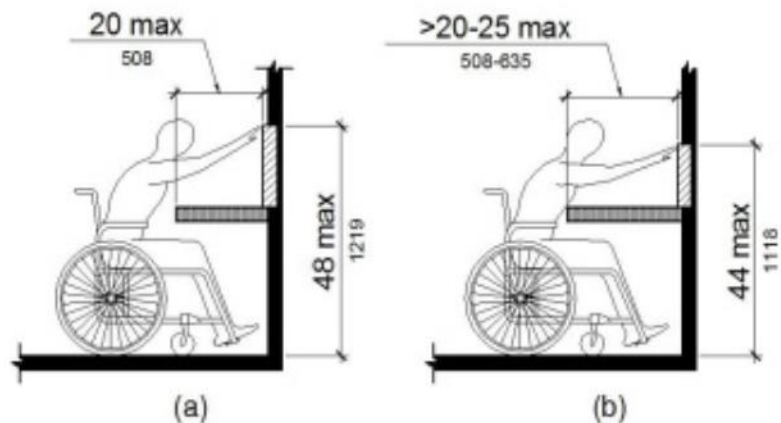
- vii. *Controls, Switches, and Outlets*. Controls, switches, and outlets intended to be used by the occupant of a room or area to control a technology device or piece of equipment shall comply with the following:

1. *Forward Reach*.

- a. *Unobstructed*. Where a forward reach is unobstructed, the high forward reach shall be 48 inches maximum and the low forward reach shall be 15 inches minimum above the finished floor
Illustration:



- b. *Obstructed High Reach*. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches maximum where the reach depth is 20 inches maximum. Where the reach depth exceeds 20 inches, the high forward reach shall be 44 inches maximum and the reach depth shall be 25 inches maximum



2. *Side Reach*.

- a. *Unobstructed*. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches maximum and the low side reach shall be 15 inches minimum above the

finish floor or ground

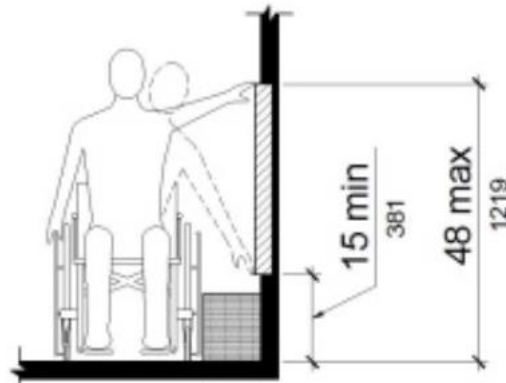
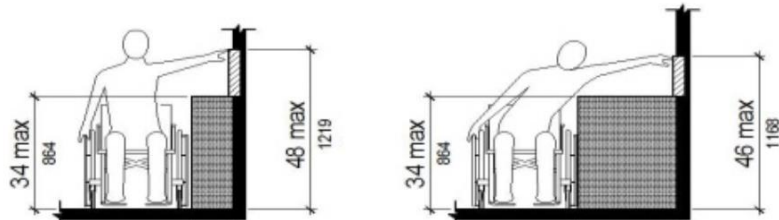


Illustration:

3. **Obstructed High Reach.** Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches maximum for a reach depth of 10 inches maximum. Where the reach depth exceeds 10 inches, the high side reach shall be 46 inches maximum for a reach depth of 24 inches maximum

Illustration:



viii. **Assistive Listening Systems.**

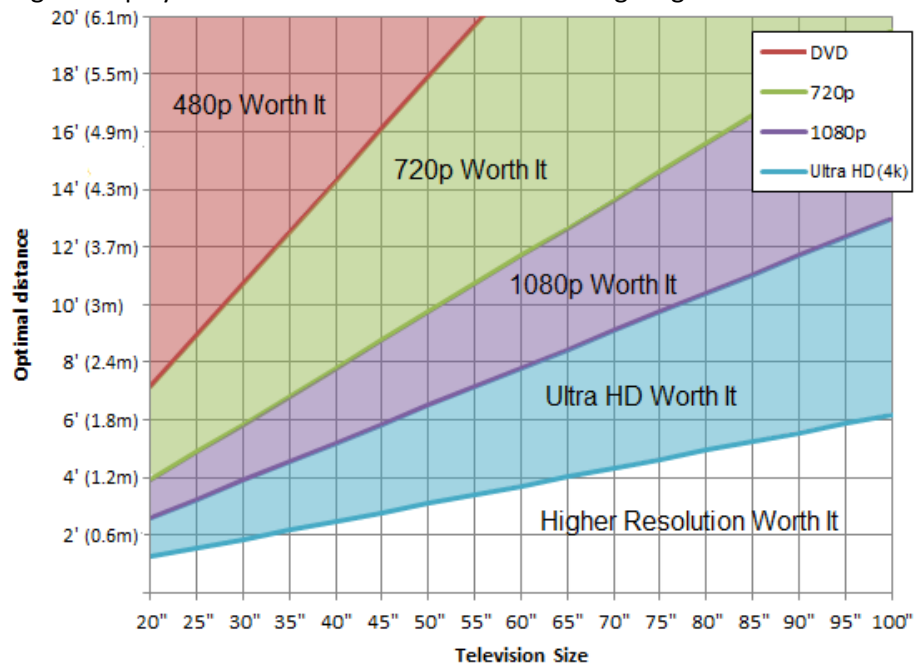
1. **Definition.** An Assistive Listening System is defined as an amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a sound source and a listener by means of an induction loop (hearing loop), radio frequency (RF), infrared (IR), or other direct-wired equipment.
 2. **Required Locations.** A permanently-installed assistive listening system shall be required in assembly areas, including but not limited to campus and District classrooms, conference rooms, meeting rooms, and auditoriums.
- ix. Multi-touch displays shall have multi-touch control options for accessibility; single-touch control options shall not be used in place of multi-touch controls
 - x. Displays shall include integrated or peripheral text-to-speech and screen magnification options for accessibility
 - 1.
- e. **Visual Design.** All visual designs produced shall follow the most recent relevant campus and/or District Style Guide published by the campus/District.
 - f. **Warranties.** All technology equipment shall have a minimum three-year warranty
 - g. **Copyright.**

- i. Technology departments shall not facilitate the use of any intellectual property which is either:
 - 1. Known to be illegal; or
 - 2. Which the employee, Supervisor, or administrator has a good-faith belief that the use is not lawful
 - ii. Suspected unlawful use of intellectual property shall be reported immediately to discovering employee's immediate supervisor
 - iii. Performance Rights. Technology departments shall not utilize, distribute, or facilitate the distribution of copyrighted music without purchasing the relevant rights from the artist-designated clearinghouse(s)
 - iv. Technology departments shall purchase and maintain memberships for the lawful use of any copyrighted music on campus from the BMI and ASCAP clearinghouses
 - v. Technology departments shall purchase and maintain memberships for the lawful use of any copyrighted music on campus from any other relevant clearinghouse such to ensure the lawful use of the copyrighted material
- h. **Training.** Campuses and Districts shall establish and maintain a robust training program for technology end users with both in-person and online training options.
- i. **Energy Efficiency.** All displays shall be EnergyStar compliant
- j. **AVIXA.**
 - i. AVIXA Audiovisual Best Practices shall be followed
 - ii. AVIXA memberships shall be purchased and maintained for all District and campus Multimedia Specialists and Multimedia and Learning Resources Instructional Lab Technicians
 - 1. The membership level purchased for employees shall, at a minimum, entitle the relevant employees to training and preparation for AVIXA certification at no cost
- k. **Design and Integration.**
 - i. **Design Plan.** For any audiovisual integration, installation, purchase, or design project where the budget or expected expenditures are \$2,000 or greater, a campus Multimedia Specialist, Multimedia Instructional Lab Technician, or Audiovisual Technician shall create a written Design Plan document before the purchase of any equipment or services
 - 1. The Design Plan shall consist of the following:
 - a. A brief statement of intended design
 - b. The name of the designing technician
 - c. The name of the Administrator requesting the integration, installation, purchase, or design
 - d. The requesting Administrator's designated point of contact and decision maker for the project
 - e. Photos of the installation/integration/design area
 - f. Notation of the existing infrastructure in the design area
 - g. Notation of any necessary additional infrastructure

- h. Notation of relevant measurements of existing equipment, furniture, and room
 - i. Notation of relevant measurements of anticipated equipment, furniture, and room
 - j. Notation of ADA requirements and compliance concerns
 - k. Notations of any equity, accessibility, and/or safety recommendations
 - l. A list of recommended products with approximate pricing
 - m. Any other information required under these Standards
2. Technology Designers shall meet with the end users, either physically or remotely, at least one time prior to the commencement of the Design Plan
- ii. **Timing.** Except in cases of emergency, Technology Departments shall not accept any integration request for projects requiring a change in infrastructure where the request was made fewer than three months before the requested completion date

I. Digital Displays.

- i. Digital displays used indoors shall have a 500 nit minimum
- ii. Digital displays used outdoors shall have a 1,000 nit minimum
- iii. Wall-mounted displays shall be mounted at an optimal viewing height for seated and standing users
- iv. Mobile and stationary floor display mounts shall have a load rating of no less than four times (4x) the weight of the display
- v. Digital Displays shall be sized based on the following diagram:



<https://www.rtings.com/tv/learn/what-is-the-resolution>

- m. **Ceiling-Mounted Projection in Instructional Spaces.** The following products shall be utilized for ceiling-mounted projection in instructional spaces:

- i. Laser-based projectors
 - ii. Mounts with security brackets rated for seismic safety
 - iii. Minimum two data ports with minimum 1Gbps ports located within one foot (1') of the mount site.
 - iv. Minimum duplex 1-gang 110v AC power outlet located within one foot (1') of the mount site.
 - v. Projection screens shall be positioned no closer than one screen from the closest point of a designated seating area
 - vi. Projection screens shall be positioned no farther than six times the screen height away from the closest point in the designated seating area
 - vii. All projection systems shall have a minimum native resolution of 1920x1080p
 - viii. Projectors shall have HDMI 2.1 and HDBaseT 3.0 connectivity
 - ix. Projectors shall have HDCP 1.4 support or greater
 - x. Projectors shall have us-based distribution and warranty services
 - xi. Projection screens shall be matched to the projector's native resolution
- n. **Sound and Audio Signal Processing.**
 - i. Reasonable measures shall be undertaken in every audio installation to avoid and/or limit audio reflections, reverberation, resonant frequencies, or other audio that may interfere with the intended use of the sound system
 - ii. Installers shall conduct a digital analysis of the installation area to identify and treat reflections, resonant frequency, and other fidelity issues after every audio installation
 - iii. Audio shall be equalized, delayed, compressed, limited, and otherwise processed to maximize the sound quality of all audio installations
- o. **Microphones.**
 - i. A permanently-installed wireless lapel microphone and voice amplification system shall be required in assembly areas, including but not limited to campus and District classrooms, conference rooms, meeting rooms, and auditoriums.
 - ii. Areas designed to accommodate 50 or more people shall be equipped with no fewer than two wireless lapel microphones and two handheld microphones with transmitters and receiver(s)
 - iii. Microphone selection shall be consistent with a room's intended use
 - iv. Microphones shall be properly matched to the correlating preamplifier's impedance rating
- p. **Speakers**
 - i. Speakers selection shall be consistent with a room's intended use
 - ii. Speaker usage shall match the correlating amplification system's ohm rating
- q. **Podiums and Lecterns.**
 - i. Classroom lecterns must be height-adjustable for standing or seated users
 - ii. Lecterns shall have a drop leaf for ADA compliance
 - iii. Lectern PCs shall be equipped with a web camera and microphone to use TTS
- r. **Cabling.** The following minimum cabling standards shall apply

- i. Cabling shall be suited to and aligned with the specific technology need
 - ii. Cabling shall match the impedance for the intended use
 - iii. Shielded and foiled twisted pair (S/FTP) Cat 6a (or higher)
 - iv. Braided four times (4x) shielded braided coaxial cable
 - v. Single mode LC fiber shall be used over multimode
 - vi. Balanced audio cable shall be used over balanced cable for all line-level audio signals
 - vii. AES67 over Dante, or a compatible digital audio technology, shall be utilized for network-based digital audio applications
- s. **Maintenance.**
 - i. Regular maintenance shall be undertaken as needed to preserve the life of equipment
 - ii. Reasonably-detailed maintenance records shall be maintained by all departments
- t. **Inventory**
 - i. Inventory of all newly-purchased capital assets shall be tracked and maintained
 - ii. An inventory of Classroom capital assets shall be kept and maintained
- u. **Network Compliance.**
 - i. District IT shall provide static IP addresses for integrated classroom devices
 - ii. Networks shall be configured to prevent unauthorized external connections to maintain cybersecurity standards
 - iii. Student and faculty VLANs shall have the ability to communicate over the network
 - iv. A dedicated access point shall be purchased with all Bring Your Own Device (BYOD) integration
- v. **Metrics and Reporting.**
 - i. **Reports.**
 - 1. In addition to other reporting requirements established herein, each campus and District technology department shall complete the following reports:
 - a. An annual campus/District technology infrastructure evaluation and assessment with recommendations for future improvements
 - b. An annual campus/District technology equipment evaluation and assessment with recommendations for future capital outlay purchases
 - c. An annual campus/District operational assessment by departmental Specialists and/or technicians including recommendations for future planning and improvements
 - d. A survey of campus instructors and Classified members in the Fall and Spring

2. All reports required under this Plan shall include any observed potential safety, legal compliance, or campus/District policy concerns (including but not limited to concerns regarding Equity and accessibility) of the reporting employee, if applicable, within each respective report.
 - a. Where concern for potential safety, legal compliance, and/or campus/District policy issues have been identified, the reporting employee is encouraged to provide recommendations to address the identified concerns in the report.
 - b. All recommendations under this section shall be delivered to the relevant campus and/or District administrator(s), without change or amendment by any party other than the reporting employee
- ii. *Surveys*. Surveys under this Plan shall be standardized among campuses and include an assessment and metrics of the following:
 1. Quality of training satisfaction
 2. Training options satisfaction
 3. Classroom audiovisual technology satisfaction
 4. Classroom computer technology satisfaction
 5. Troubleshooting service satisfaction
 6. Technology equipment self-efficacy
 7. Campus technology leadership satisfaction
 8. Equity and accessibility satisfaction
 9. Overall technology services
- iii. *Demographics*. Demographic data shall be gathered at the point of service for all technology services to assess impacts on underserved and historically-marginalized campus and District populations
- iv. *Campus or District Strategic Goal Alignment*. Data shall be gathered at the point of service for all technology services to assess alignment with relevant campus or District Strategic Goals
- w. *Capital Purchases*.
 - i. All single capital asset audiovisual technology purchases over \$5,000.00 shall be evaluated by at least one campus Multimedia Special, or Multimedia Instructional Lab Technician before purchase
 1. With the exception of situations where failure to purchase an asset under this section will result in immediate harm to the campus or disruption to campus services or classes, or other immediate harm to campus students or personnel, the evaluating Specialist(s) or Technician(s) shall have no less than three months to evaluate a product before purchase
 2. The evaluating technician under this section shall provide a written evaluation of the prospective asset purchase to the technician's immediate supervisor and the department/school administrator who oversees the budget being utilized for the purchase

