



SAN RAFAEL HIGH SCHOOL
NEW ARTS BUILDING & TE MODERNIZATION
BASIS OF DESIGN NARRATIVE

October 28, 2024



TABLE OF CONTENTS

INTRODUCTION 4

BACKGROUND INFORMATION 5

PROJECT SUMMARY 6

PROJECT OVERVIEW 7

PROGRAM SPACE REQUIREMENTS: 9

NEW ARTS BUILDING DESIGN REQUIREMENTS 11

TE BUILDING DESIGN GUIDELINES 15

DESIGN STANDARDS 26

ARCHITECTURAL DESIGN BASIS: 28

STRUCTURAL & FOUNDATION DESIGN BASIS: 30

MECHANICAL, PLUMBING, & FIRE PROTECTION SYSTEMS DESIGN BASIS: 30

ELECTRICAL AND LOW VOLTAGE SYSTEMS: 31

SITE WORK: 32

CODES & CRITERIA..... 33

APPENDIX

- GEOTECHNICAL REPORT
- MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
- SRCS DISTRICT LANDSCAPE STANDARDS
- SRCS DISTRICT STANDARDS
- SRCS DISTRICT IT STANDARDS
- HAZARDOUS MATERIALS REPORT
- CAMPUS WIDE SOLAR MASTER PLAN DIAGRAM LAYOUTS

REFERENCE DOCUMENTS

- AS-BUILT INFORMATION
- SITE SURVEYS
- ENVIRONMENTAL IMPACT REPORT
- SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
- SAN RAFAEL HIGH SCHOOL LANDSCAPE MASTER PLAN



PART 1

BACKGROUND INFORMATION & PROJECT OVERVIEW

INTRODUCTION

San Rafael High School is one of two comprehensive high school sites operated by the San Rafael City Schools District in Marin County. Originally constructed in the 1920s, the campus has undergone a series of capital improvements plans over the past 100 years. While maintaining its earliest architecture in the form of the “AD” Building, the campus has welcomed new and innovative architectural features, building systems, and programs to the site with various modernization projects as well as the recent newer buildings housing Career Technical Education programs (STEAM Building), a modern multiuse facility (MACK) housing a new administrative center, student commons area as well as a district central kitchen and the district’s alternative high school program (Madrone). The most current new construction project underway represents Phase I of the current bond program funding with the reconstruction and additions to current athletic and pool facilities in the Aquatic Center project. Phase II for the bond funds address the northern edge of the campus, along Mission Avenue with the development of modern spaces to support the visual and performing arts programs at San Rafael High School.



Historic "AD" Building



STEAM Building



Aquatic Center Rendering



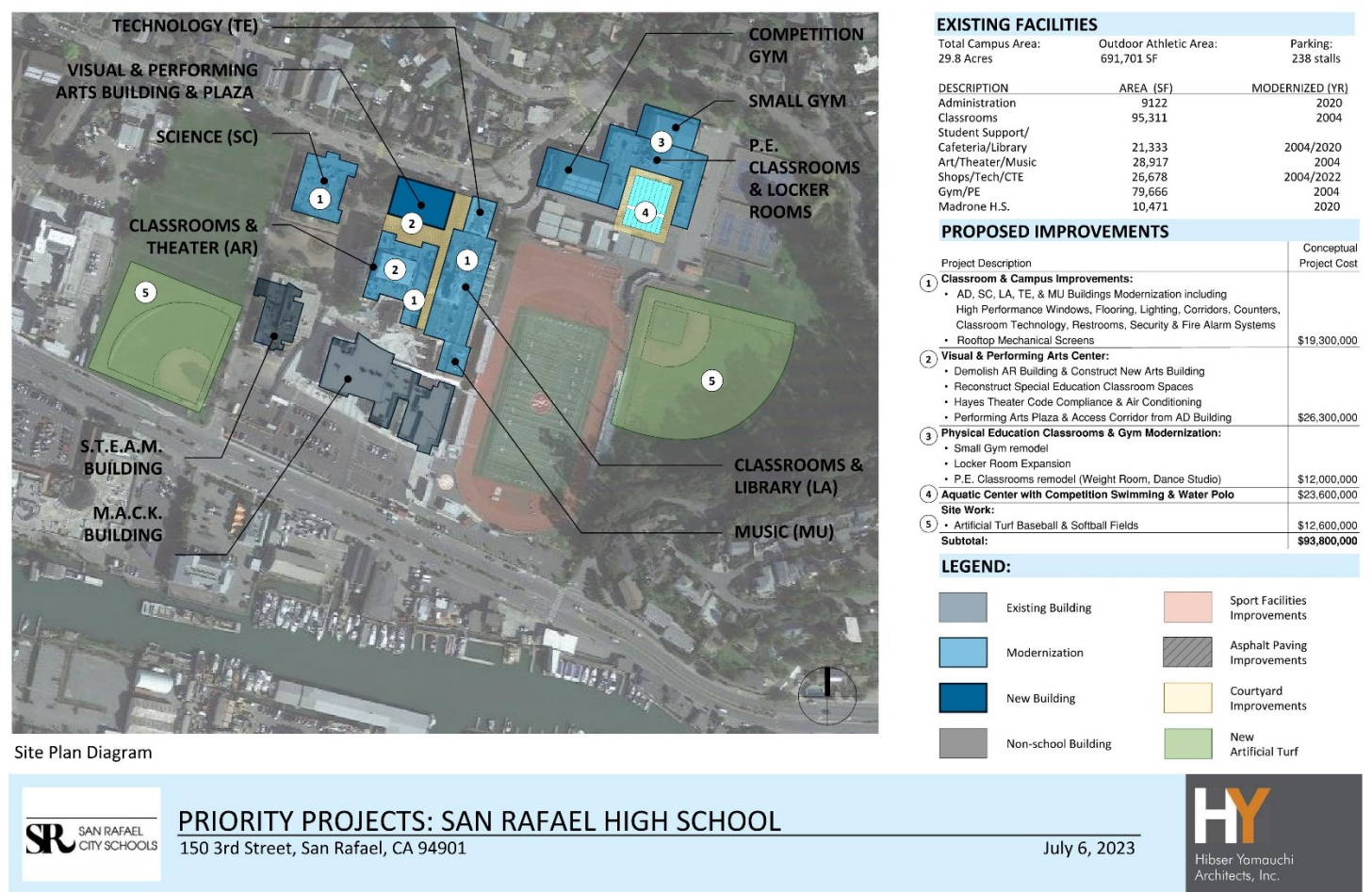
MACK Building



BACKGROUND INFORMATION

In 2022, voters passed Measure B Bond Program to fund capital improvements projects at the high school district. The bond measure was preceded by a Master Facilities Plan Update that describes the primary programmatic, functional, operational, and safety objectives of the bond.

San Rafael City Schools engaged HY Architects to complete programming and conceptual design planning for the new Arts Building as well as the remodel of the TE building to house the identified programs. The basis of design narrative herein describes those program needs, campus wide design considerations and parameters, district wide standards for construction and systems, and identifies reference materials related to these parameters. It will be the responsibility of the design-build team to obtain all state and local agency approvals, pursue the design objectives as outlined in this narrative and as further refined through direct discussion with the district, as well to construct the facilities in their entirety on GMP contract basis with the district.



Site Plan Diagram

PRIORITY PROJECTS: SAN RAFAEL HIGH SCHOOL

150 3rd Street, San Rafael, CA 94901

July 6, 2023

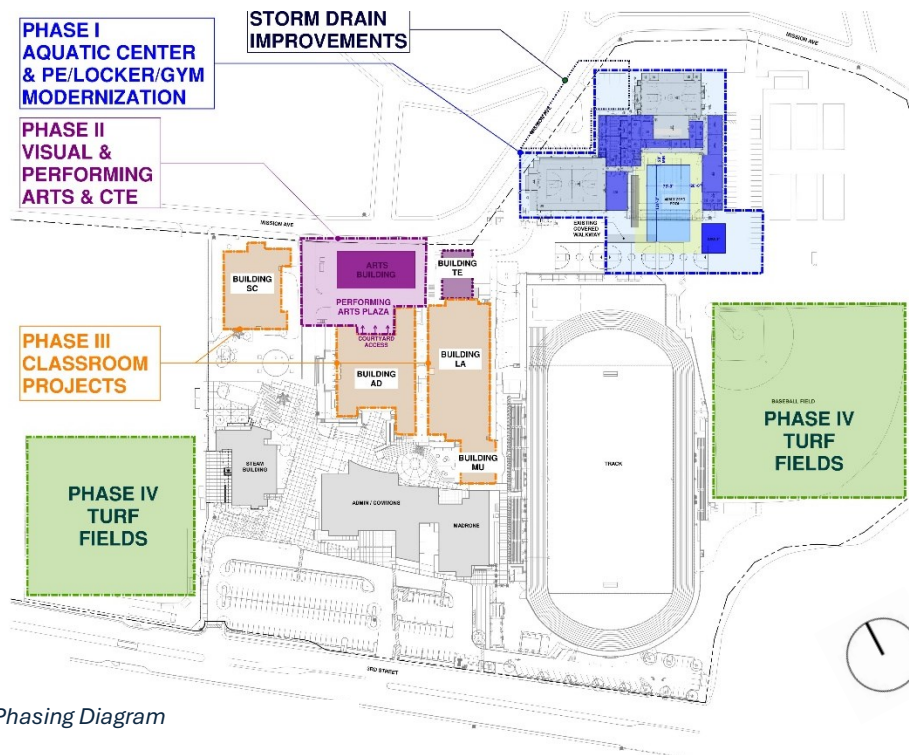
Hibser Yamauchi Architects, Inc.

SRHS Master Plan Diagram



PROJECT SUMMARY

The project basis for Phase II modernization and new construction addresses programmatic needs for Visual and Performing Arts (VAPA) and Career Technical Education (CTE). The identified projects for the VAPA programming include the demolition of the current “AR” building and subsequent replacement with a new arts and CTE building, complete renovation of the “TE” building, and related infrastructural and site work to develop the courtyard areas around the VAPA program for both functional program use as well as improve the overall exterior conditions of the campus. An existing special education program, ceramics program, as well as the district’s technology center must also be accommodated in this work.



Measure B Bond Program Phasing Diagram



Existing Performing Arts Plaza



PROJECT OVERVIEW

San Rafael High School is home to approximately 1200 students, teachers, staff, and volunteers. Previous construction projects on the campus addressed many of the needs of the existing programs and the VAPA construction project is meant to capture both current program needs and plan for future uses.

The site occupies a mixed flood plain hazard area, sits between a residential area on the north and east edges, a commercial area to the south and west, and transverses over 8 feet of grade differential between the public way at the Mission Avenue edge and the student circulation levels on the campus side. The vision for the new construction project is to bring all of these considerations into harmony.

An Environmental Impact Report (EIR) and supplemental EIR were completed for the campus and this project. The mitigation monitoring and reporting program (MMRP) requirements should be observed during both design and construction of the project and are provided as an appendix to this document. The measures address items such as noise and light pollution, landscape design criteria, maximum building heights, traffic impacts to the residential areas, construction practices for noise, dirt, and street impacts as well as aesthetic and historical context for the campus. Existing building “AD” historically named building “A” is considered an historical resource and as such the design of the new building must comply with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties*. Measures are included for both design and construction activities.

A landscape master plan was developed for the campus which is available to the design teams and should be followed as a guideline for development of new or refreshed areas on the campus.

A campus wide solar project is currently underway with construction anticipated during 2025/2026. Coordination with the campus wide solar project in both design parameters and utility applications for the construction of the VAPA project will be the responsibility of the design-build team. The current solar master plan overview is presented as an appendix to this document and is subject to update and change.

Other reports and studies that have been conducted to date that are available to the design-build team include a soils report at the AR building (and area of new construction), hazardous materials studies that have been conducted on the existing buildings to date, existing building plans collected from the district’s archives as well as topographic and utilities surveys, and the complete EIR documents. It is the responsibility of the design-build team to confirm existing site conditions, and coordinate with the district for additional investigatory needs.



MACK Building



PART 2

PROGRAM REQUIREMENTS

PROGRAM SPACE REQUIREMENTS:

Program requirements for the project were developed over a series of meetings with campus representatives; teachers, school site administrative staff, parents and students, as well as district facilities and maintenance teams and reviewed with district administrators for alignment with the district's long term academic vision and goals. The program requirements are guidelines that represent current needs for the campus and should be viewed as the foundation for future program needs. Design proposals and solutions should consider long term use, flexibility to adapt to changing program needs as well as long term maintenance and infrastructure planning. Program confirmation meetings shall be conducted in accordance with the site based on the requirements set forth in the RFP.

Program Space Requirements: New Arts Building		
Program Use	Indoor Area (SF)	Outdoor Area (SF)
Career Pathways Studio		
Lab Classroom	2,200	
Material Storage	400	
Outdoor Work Area		1,800
Art Studio		
Lab Classroom	1,900	
Storage & Preparation	400	
Outdoor Work Area		500
Ceramics Studio		
Lab Classroom	1,550	
Kiln Room	400	
Clay Storage	100	
Student Work		
Storage/Gallery	650	
Outdoor Work Area		900
Performance Arts Studio		
Black Box Classroom	1,800	
Control Room	400	
Storage	500	
Support Space		
Stairs/Elevator/Circulation	600	
Restrooms	350	
Custodial	100	
Mechanical	250	
Electrical	200	
IDF	200	
Total Indoor Area	12,000	



Program Space Requirements: TE Building Modernization		
Program Use	Indoor Area (SF)	Outdoor Area (SF)
Digital Media Classroom 1		
Lab Classroom	1,081	
Storage/Office	200	
Digital Media Classroom 2		
Lab Classroom	729	
Storage	52	
Digital Media Studio		
Production Studio/Green Room	624	
Equipment/Instrument Storage	322	
Control Room	203	
Student Work Storage/Gallery	650	
Special Education		
Classroom	800	
Kitchenette	200	
Break Out/Meeting Space	250	
Restroom	100	
Laundry	75	
Storage	99	
Outdoor Work Area		800
District IT		
Technology Center	946	
Kitchenette	46	
Storage	289	
Network Administrator Office	139	
Director Office	144	
Testing Center	195	
Support Space		
MDF	149	
Custodial	50	
Utility	55	
Circulation	602	
Total Indoor Area	8,000	



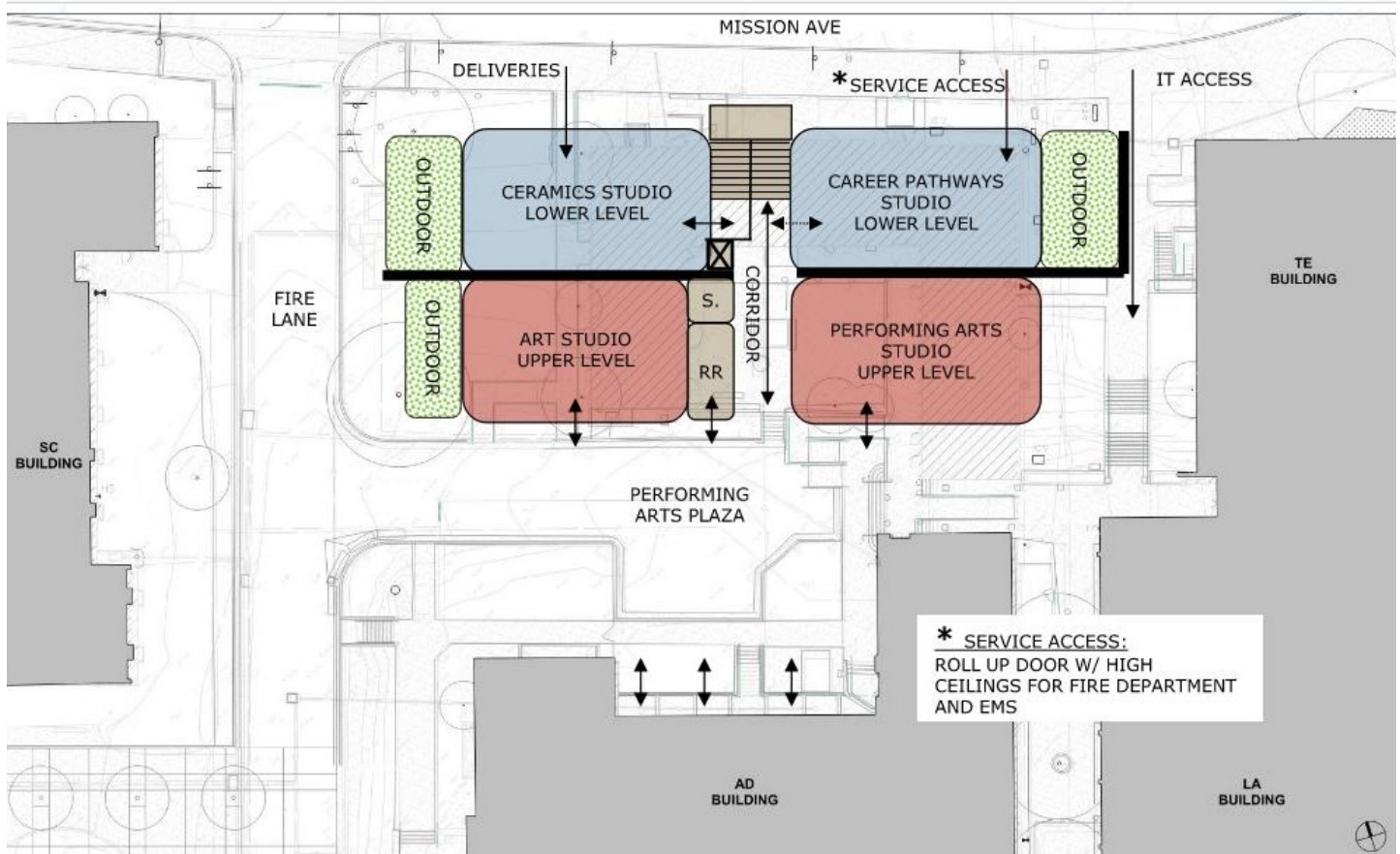
NEW ARTS BUILDING DESIGN REQUIREMENTS

The new art building has been developed through basic programming requirements and adjacencies. The building is envisioned as a laboratory or studio type program basis to hold suits of program spaces and their support areas. The core program functions of the building are the art studio, ceramics studio, Industrial Arts Lab, and Performance Arts Lab.

The new building is proposed along Mission Avenue, across the street from residential housing. It will need to be neighborhood friendly regarding noise, light, and street activity. The supplemental EIR has specific criteria that will need to be incorporated into the design.

The location of the proposed new building (where the current AR building sits) has approximately 13 feet of grade difference between the street level (Mission Avenue) and the highest level of the existing plaza that connects to the AD building and forms the circulation connections to the SC and LA buildings. Significant grading and/or vertical circulation will be required to meet site accessibility, circulation, and vehicular access requirements.

The bubble diagram below illustrates adjacency requirements for the major program elements and suggests grade level adjacencies for access requirements.



New Building Adjacency Diagram



ART STUDIO

- Full time fine arts curriculum for up to 36 students at multiple levels of instruction
- Flexible classroom configuration to allow 2 separate classes to be supervised simultaneously by 1 teacher
- Adjacent, covered outdoor workspace required for spill over activities for small groups of up to 6 students to work
- Classroom based storage for art materials, papers, paints, pencils, easels, reference books, cutting tools, craft materials, etc. for direct student access including large format drying racks for large quantities of flat format storage for work in process
- Flexible desk areas for student work and backpack storage to be out of the way of circulation paths
- Preparation area for clean-up and materials preparation accessible to student use. Utility sinks and counter area for multiple students to use simultaneously
- Teaching wall/station for instruction
- Hose down floors with drains, sealed concrete surface and base
- Daylighting with motorized shades for multiple lighting modes
- Storage room for high value materials and items that are not directly accessible to students for distribution and special projects.
- Adjacent to Arts Plaza for direct access for gallery nights, back to school nights or other events.
- Art materials drop-off shall be considered for convenience of teacher and delivery access.

CERAMICS STUDIO

- The ceramics classroom will be located with direct access to an indoor kiln room, clay storage area, outdoor classroom workspace, and student work gallery display.
- The classroom will have adequate space for both students' worktables, a glazing station, 20 electric pottery wheels/workstations, and five computer/ printer stations within the room.
- The ceramics classroom will have a hose bib connection, and concrete floor with floor drains and clay traps.
- The room will include hot water, trough style sinks with four (4) faucet areas, counters with traps and a large dish and other equipment drying area.
- Daylighting with motorized shades for multiple lighting modes
- Teaching wall/station
- Student work storage: 1,000 lineal feet of deep shelving for approximately 5 feet per student (192 students: 6 sections of 32 students) for storage of art work in progress.
- Separate glaze-making and glaze-using areas as well as a humidity controlled wet clay area, are needed. The glaze area shall allow for display of glazes for students to easily see and access. Metal bins for dry mixing glazes with counter space for five-gallon buckets are needed. The glazing area shall be ventilated.
- One 10-foot clay-wedging table is specified with storage underneath. A clay recycling area is provided. A gas line to the classroom will support a compressor and airbrush. The airbrush station is adjacent to the glazing area and includes appropriate ventilation and counter workspace.
- Kiln room construction should allow for one (2) cone six electric and two (1) cone 10 gas-powered kilns.
- A rollup door is specified for clay and other deliveries. A clay recycling area is provided. Clay deliveries come in large format trucks with palettes of materials several times per year.
- An outdoor workspace that has permanent cover from rain and sun shall be immediately adjacent to the classroom space and shall allow for a cart to roll between the classroom and the outdoor area with student work on it. The outdoor space shall serve as additional work area for students doing ceramics based activities. Access to lighting, power and water via hose bib shall be provided. Consideration for a 3'-6" wide door shall be at this area should be made.



CAREER PATHWAYS STUDIO

- An Industrial Arts classroom is proposed as a multi-use lab type space designed to support future CTE program expansion. Program opportunities that drive the space design are for a partnership EMS training program with Marin County, and for an auto shop program.
- Vehicular access is required to both the classroom and outdoor yard area from Mission Avenue. Vehicular access between the classroom and yard area should also be considered. Large format electrically operated door is required for vehicles as large as an ambulance to pass through.
- The laboratory space requires large open ceilings, durable finishes, and available water, gas, compressed air, and high exchanges of indoor air as well as exhaust air.
- A teaching wall/station is required for instruction.
- Flexible classroom furnishings shall be provided.
- Lockable equipment storage areas shall be provided.
- A secure outdoor work yard with areas for equipment and large workspaces shall be provided adjacent to the classroom space and with vehicular access from the street. The yard should be visibly screened from the neighborhood.
- Specific equipment requirements for the lab shall be coordinated between the district and the design-build team.

PERFORMING ARTS STUDIO

- A performing arts laboratory shall be provided that will be able to function as a black box theater classroom, lecture space, and music practice room.
- Variable acoustics and theatrical lighting and controls are required.
- Large volume, low velocity HVAC shall be provided to reduce background noise and reverberation to achieve performance levels.
- Provide direct adjacency to a dedicated storage room and an accessible raised control room shall be included.
- Portable fold away risers shall be included that have 2 tier seating platforms.
- Consideration shall be given for moving scenery between this room and the Hayes Theater at the first-floor level of the AD Building.

PERFORMING ARTS PLAZA

- The performing arts plaza represents a major area of cross circulation within the campus. The plaza area should be developed with the goals of providing accessible connections to the LA, AR, SC, TE and AD buildings.
- Grading should promote gathering space as well as path of travel requirements.
- Wayfinding should be implicit as well as explicit with classroom work areas clearly separated from circulation areas.
- The plaza shall support outdoor seating and eating areas.
- Direct access to the all gender restrooms in the new building shall be afforded for use during theatrical or musical performance events.
- The plaza should consider providing better access to the lower-level theater support spaces by expanding the lower level of the plaza and improving the path of travel movements between grade levels.
- The plaza should function as an outdoor lobby during special events for the school such as back to school night or for gallery showing of the arts program.
- Consideration for various types of seating both fixed and furniture as well as shading from sun and rain should be included in the design.





MAIN COURTYARD



MACK & AD BUILDING COURTYARD



TE BUILDING DESIGN GUIDLINES

A test fit was created for the TE building with the intent of housing special education on the ground floor (North) and District IT at the ground floor (South). The upper level was reviewed for an augmented digital media program that includes digital film, photography, yearbook, and music. The digital film program is connected with an academy and enrolled students are committed to multiple courses that work in tandem. The TE project is assumed to require a complete replacement of all systems and finishes. Consideration shall be made to preserving the existing structure in such a way as to limit the code mandated structural improvements scope.

The special education program is a life skills based program which accommodates approximately 12 students, the primary teacher, and aides. The program requires facilities for teaching basic home skills such as laundry, cooking, cleanup, as well as academic skills at varying levels. The program utilizes the community heavily for life experiences and is often out at local businesses engaging with everyday training to further develop functional skills that may aid in future jobs and development. The program feeds into the local community college based curriculum for jobs and skills development. Though the classroom is the primary space for these students on campus and most students spend the majority of their day in the special education classroom, they also engage with other students and programs on campus. There are tutoring and mentoring partnerships with other students and many special ed students enroll in other classes at the high school. The special education classroom should be a place for groups of students to work in simultaneous but differing activities, have the ability to foster some down time, provide a place for exterior work and lunch, be securable for students who are a flight risk, have adjacency to the Mission Avenue bus and drop-off areas, and feel connected with other areas of campus for both casual and more formalized interactions. The design of the space and adjacent exterior spaces should promote cross campus dialog and a feeling of transparency and independence for the students.

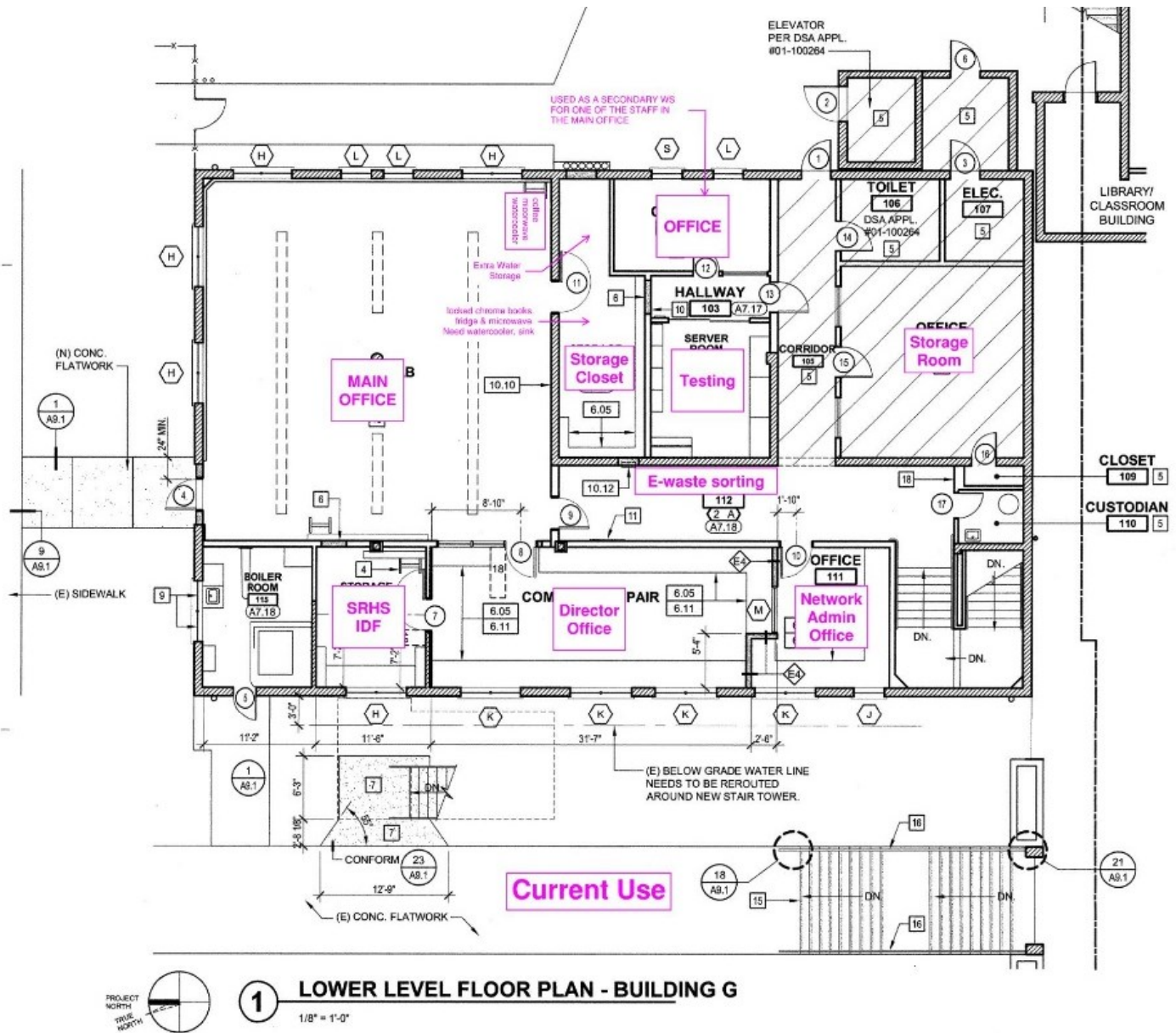
The District IT program which currently occupies the entire lower level of the TE building has been envisioned as an approximately 2000 square foot area which provides IT support to the district at large. At times the IT department space need to accommodate up to 30 chrome book carts at a time for a period of a few weeks. The department serves a clearing house for technical support to the schools and may need to intake a large shipment of new technology items such as promethean boards and prepare them for distribution. To this end the IT department needs to be accessible to Mission Avenue for deliveries and visitors without requiring or providing access to the school campus at large. Outdoor and indoor staging areas are needed for the intake and processing of the larger shipments of technology equipment. The primary open office and storage areas for the department need to be configured for flexibility to suit movement of furnishing and equipment.

The digital media program was reviewed with an expectation of helping the school to maximize the potential student participation by allowing for sharing of high-level equipment and spaces. The current programs are disparately located throughout the campus, and some suffer from a lack of high quality equipment. A matrix of program use was developed and reviewed with the school and district administrators to confirm the maximum possible class scheduling by sharing both primary classroom spaces and supporting areas by up to 2 teachers for up to 5+ periods of digital media programming in each classroom per day.

The test fit diagrams that follow illustrate the above requirements and have been reviewed at length by the district. Any modifications to the overall plan layouts and adjacencies shown should be reviewed and approved by the district facilities department.



TE BUILDING: EXISTING 1ST FLOOR



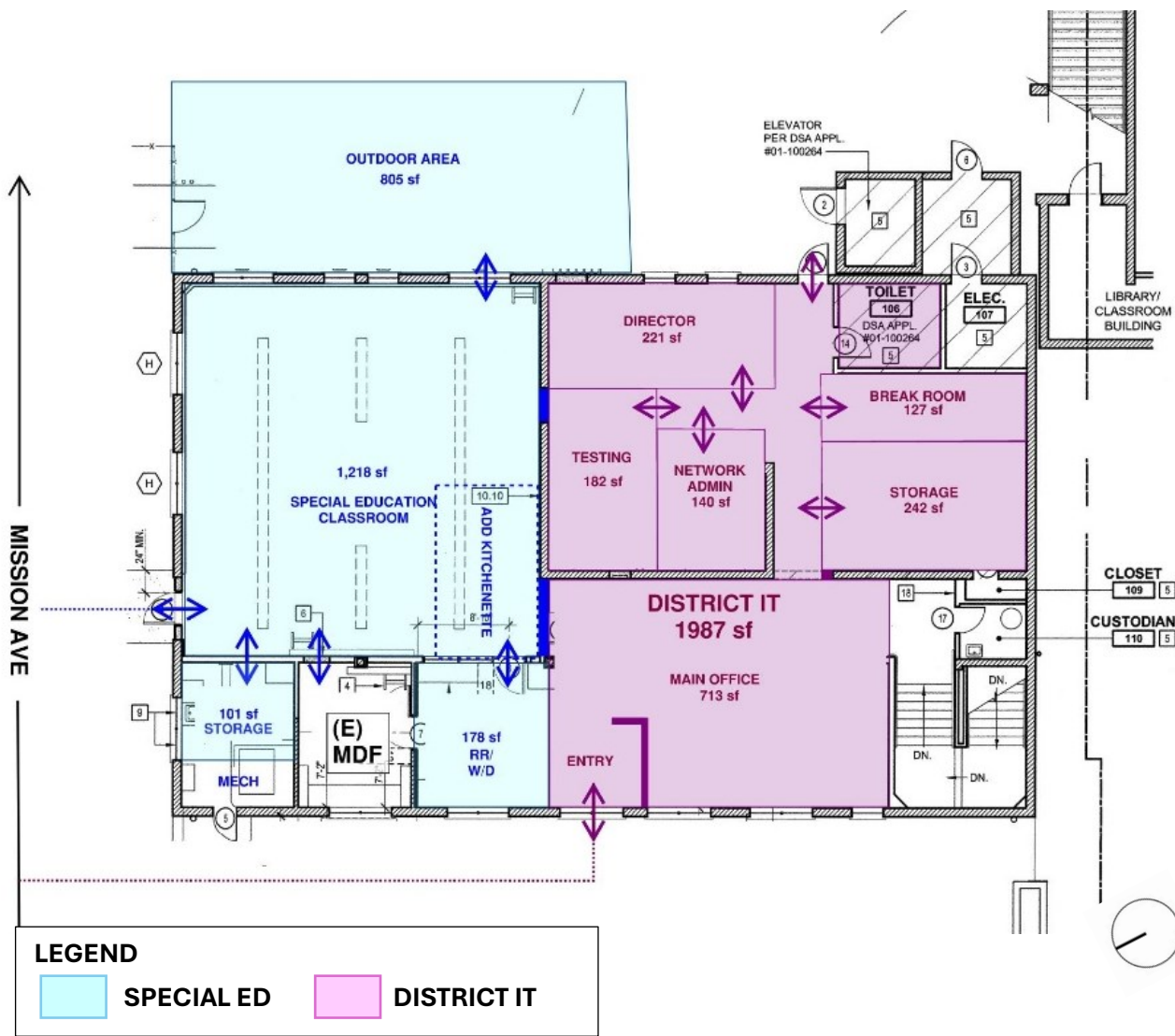
TE BUILDING MODERNIZATION TEST FIT - 1ST Floor: Special Education & District IT



Proposed Entry to District IT



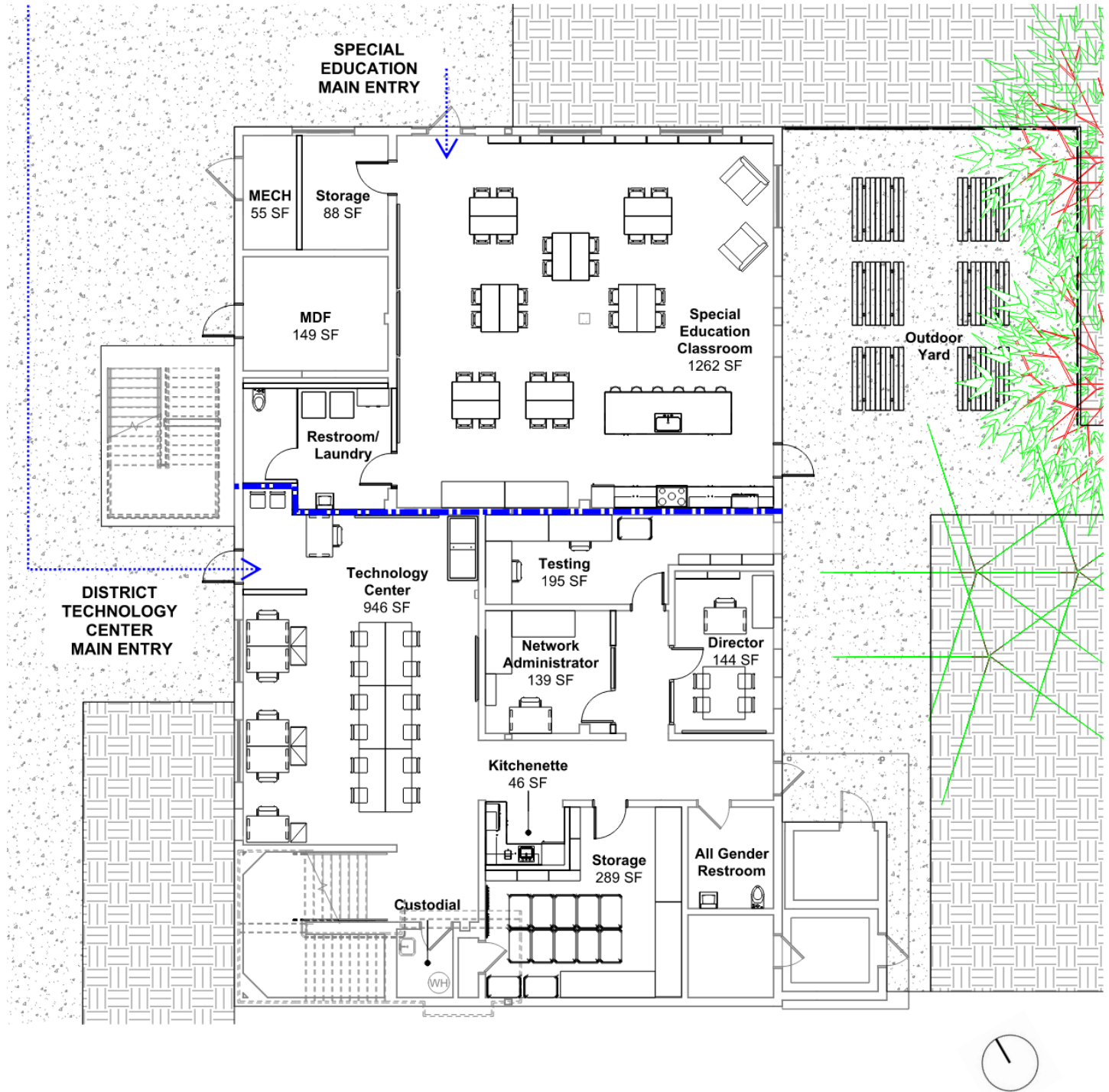
View of TE Building from Mission



TE Building 1st Floor Test Fit- Shared Use



TE BUILDING 1ST FLOOR PLAN & PROGRAM REQUIREMENTS



SPECIAL EDUCATION CLASSROOM

- Full time classroom including breakfast and lunch. Extended summer programming.
- Life skills program
- Direct access to dedicated outdoor courtyard area (covered), Mission Avenue for drop-off/pick-up and walking excursions.
- Teaching wall/station
- Bookshelves for classroom storage supplies
- Kitchenette for cooking, food preparation, and clean up for 4-6 students plus 2 staff members to use at one time.
- Dedicated restroom facilities.
- Washer, dryer, and folding area for life skills practice
- Flexible Furnishings for small group set up
- Lockable storage closet for teacher access only
- Quiet corner or space for pull out quiet activities or small meetings.

OUTDOOR CLASSROOM (SPECIAL ED)

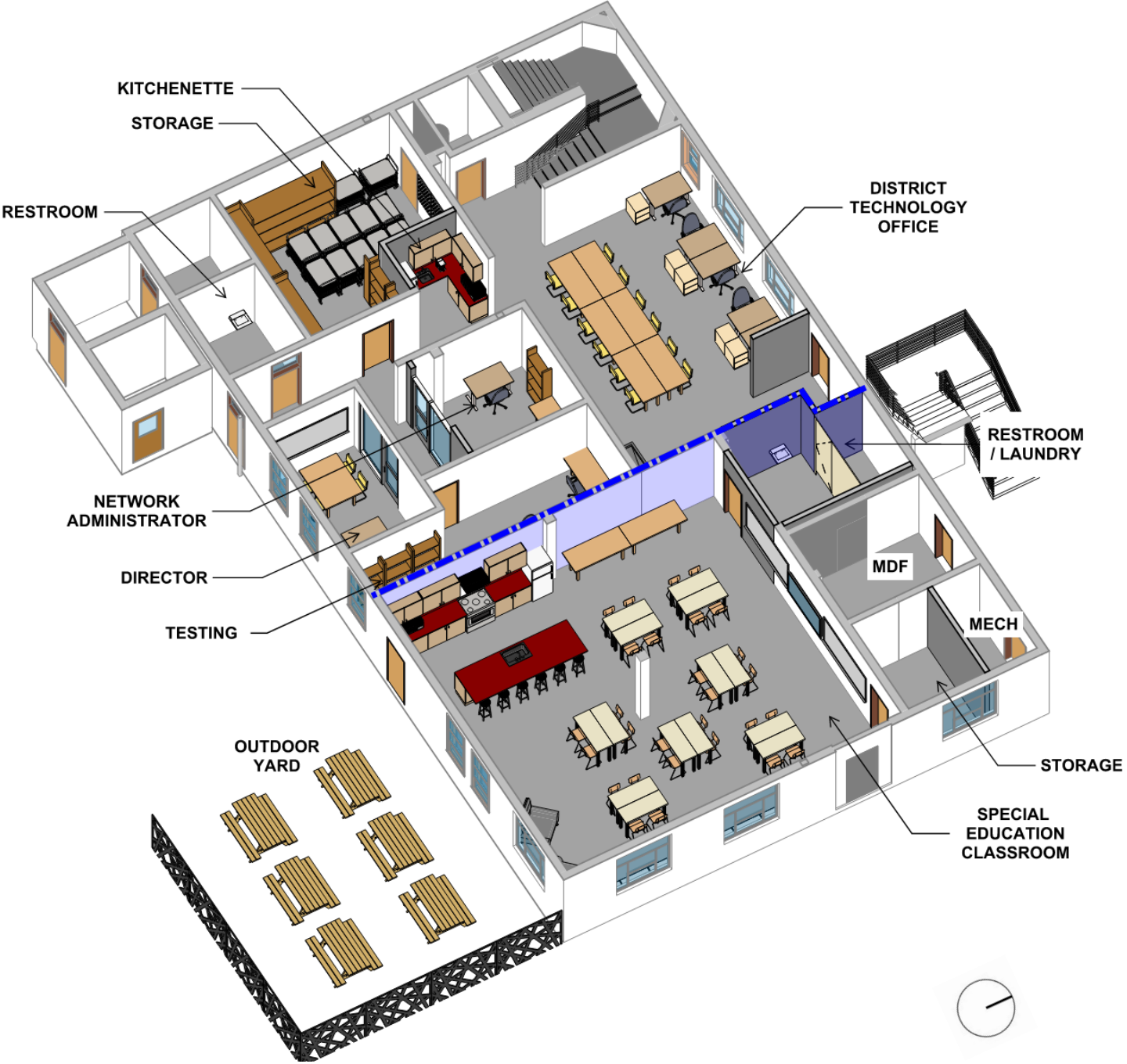
- Immediately adjacent to Special Ed classroom. Secured from street and separately enclosed from the campus
- Covered Seating
- Activities include lunch, project work, small group work, reading, tutoring, spill out area from classroom

DISTRICT IT:

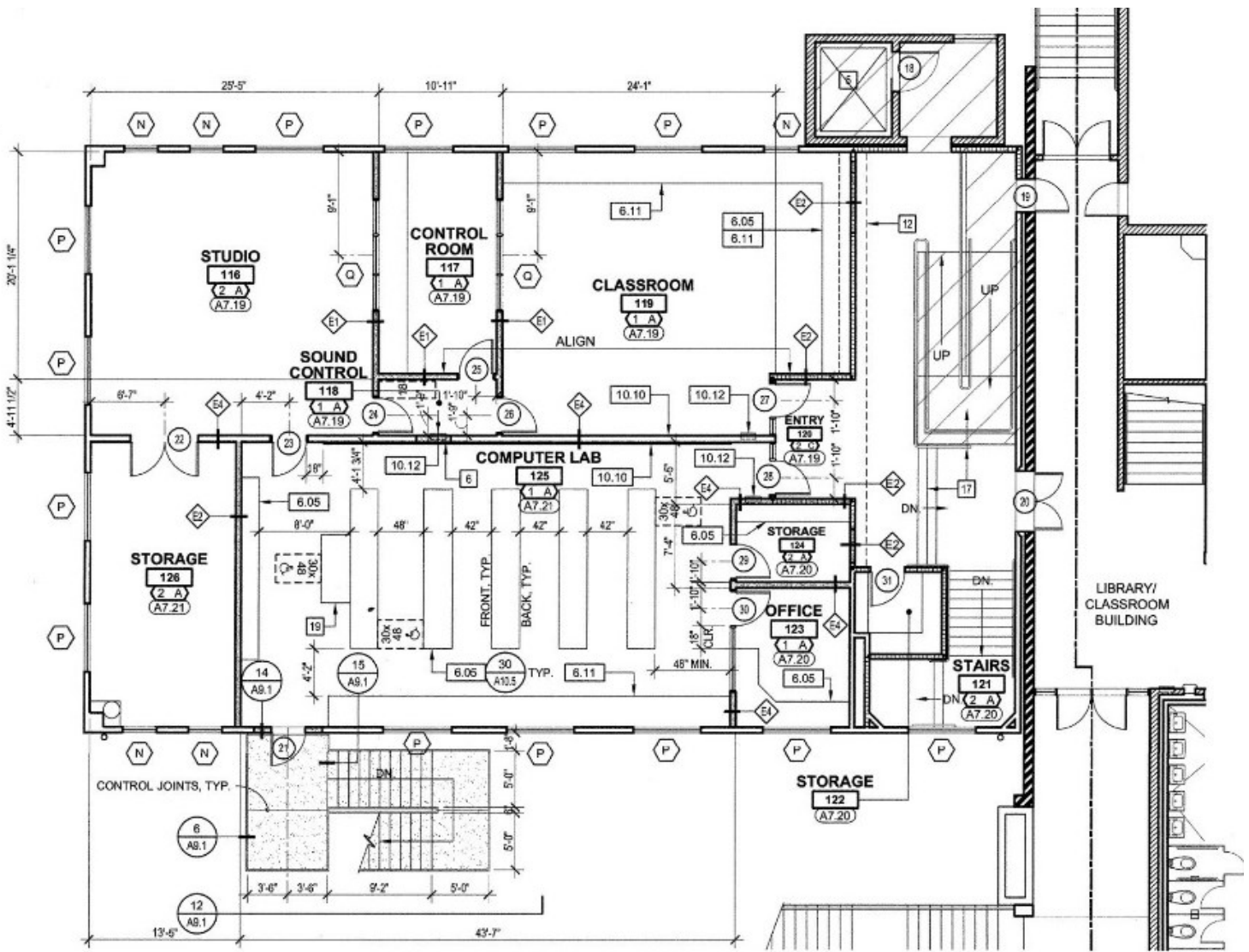
- Direct access to Mission Avenue
- Open office area for 6 workstations, flexible space to hold meetings for up to 10 people, receive visitors, and intake technology equipment.
- Entry/waiting/reception area for visitors
- Director's Office with space for small meetings
- Network Administrator Office with work area for computer diagnostic/repair and storage of miscellaneous equipment
- Small kitchenette for lunches/water, coffee
- Storage for utility carts, chrome books, monitors, hard drives, wires, cables, small tools, electronic waste
- Testing room for diagnostics and repair of machines (3-4 at a time)
- Dedicated restroom



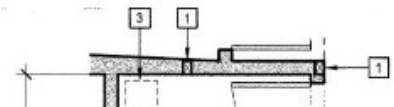
TE BUILDING 1ST FLOOR AXONOMETRIC FLOOR PLAN



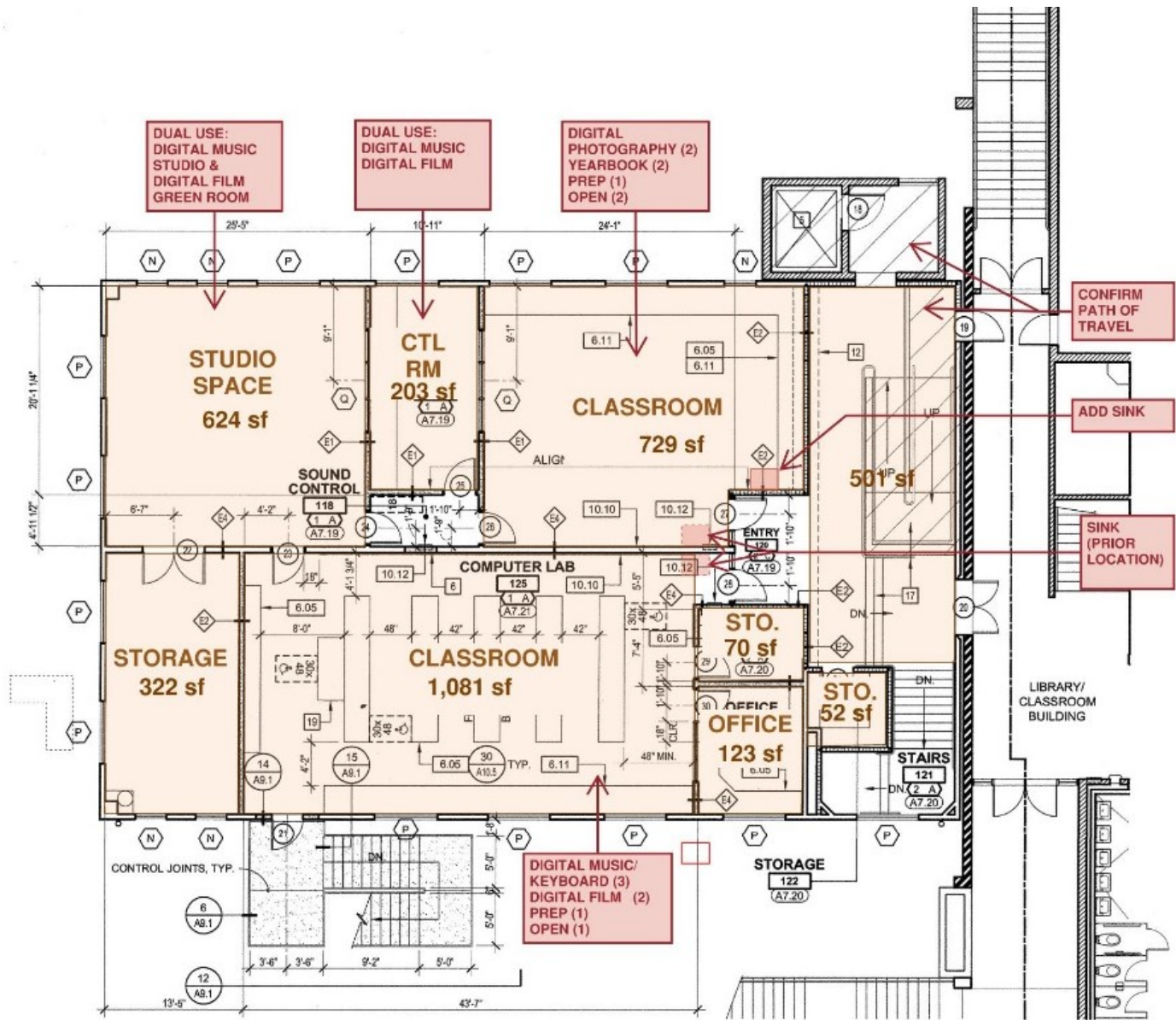
TE BUILDING: EXISTING 2ND FLOOR



2 UPPER LEVEL FLOOR PLAN - BUILDING G
1/8" = 1'-0"



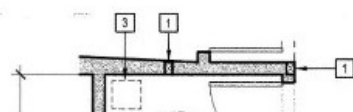
TE BUILDING MODERNIZATION TEST FIT - 2nd Floor: Digital Media



PROJECT NORTH
TRUE NORTH

2 UPPER LEVEL FLOOR PLAN - BUILDING G

1/8" = 1'-0"



TE BUILDING 2ND FLOOR PLAN & PROGRAM REQUIREMENTS

DIGITAL MEDIA CLASSROOM (LARGE):

- Digital music/keyboard (2+ periods/day)
- Digital film (2 periods/day)
- Storage space for at least 20 keyboards which can be stored off the work surfaces and brought out for the keyboard class.
- Flexible Furnishings
- Teaching wall/station
- Lockable teacher storage for 2 separate teachers
- Access to media studio & control for sound recording and mixing for 4 to 5 students plus a teacher.

CONTROL ROOM

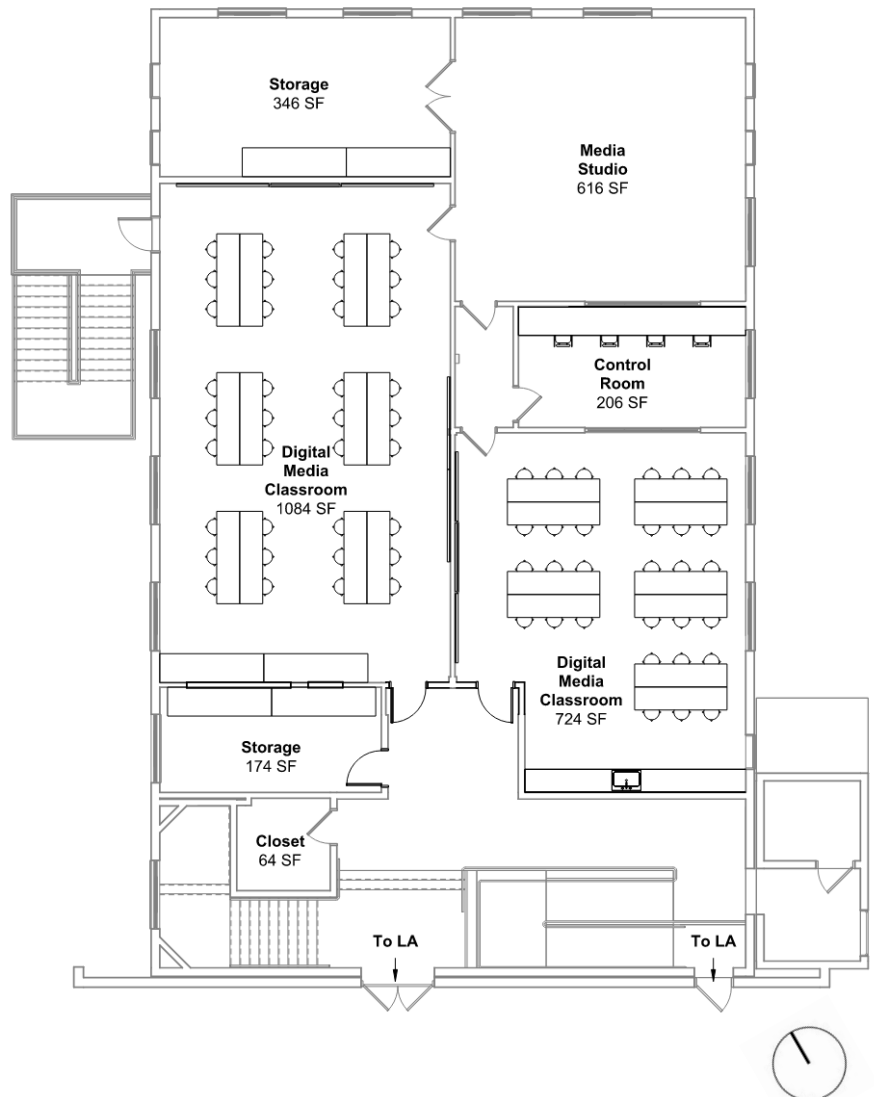
- Control room for digital music, digital photography and digital film
- Mixing stations with lighting controls & sounds controls station
- Acoustic isolation
- Large windows to view all of the production studio

MEDIA STUDIO:

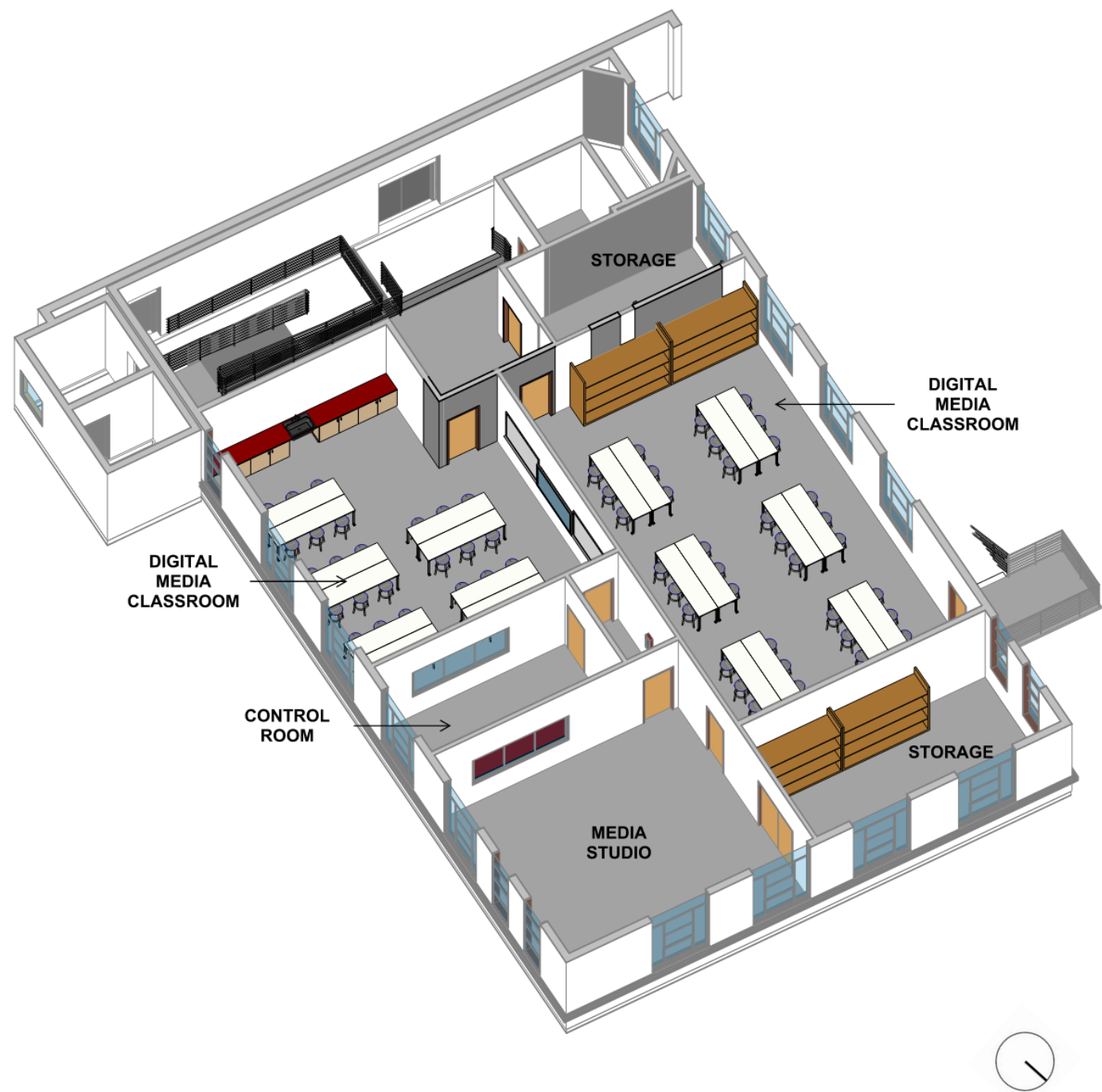
- Music production studio & digital film green room
- Acoustic isolation
- Multiple lighting modes for required flexibility.
- Variable Acoustics

DIGITAL MEDIA CLASSROOM (SMALL):

- Digital photography (2 + periods/day)
- Yearbook production (2 periods/ day)
- Utility sink and counter area required for chemicals and film development (not a dark room)
- Access to media studio and control room for photo booth set up
- Portable photo booths for 4 staging areas
- Variable lighting to support simultaneous classroom instruction and photo booth lighting
- Presentation area and teaching wall/station



TE BUILDING 2ND FLOOR AXONOMETRIC FLOOR PLAN



PART 3

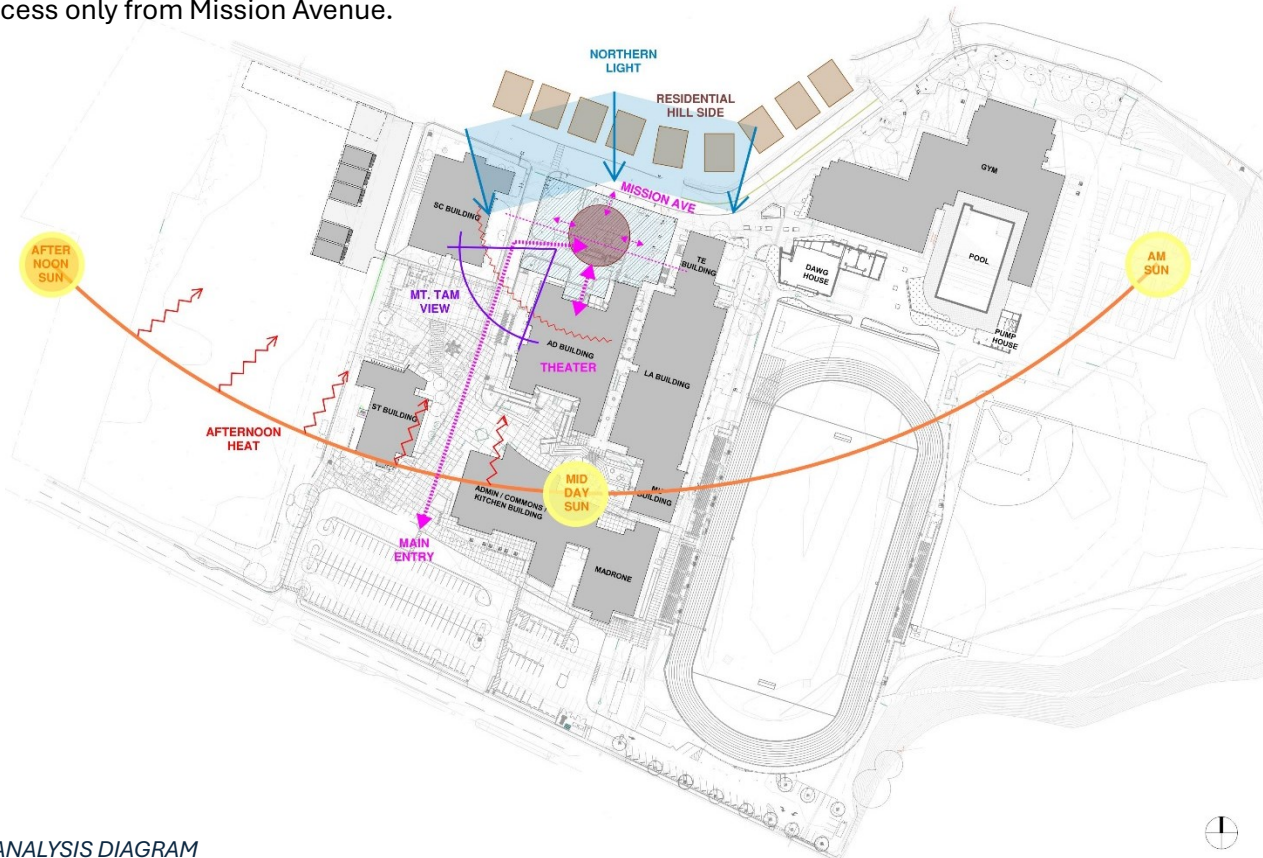
DESIGN GUIDELINES

DESIGN STANDARDS

GENERAL AESTHETICS & PLANNING

Buildings shall be designed to be both contemporary in appearance and compatible with features, size, scale and massing of the existing Historic Building A (“AD”) on campus. Consideration for the newer contemporary building styles should be given for a campus wide overall design aesthetic. Buildings shall conform with district standard materials and practices as described in this section.

- Building heights shall not exceed 36 feet.
- New buildings shall be designed in a color scheme compatible with the existing buildings, with accent colors for specific detailing.
- Large expanses of flat wall along Mission Ave. shall be avoided for the Visual Arts Building. Windows and architectural detailing shall be added to provide a more aesthetically pleasing view of the building as seen from Mission Avenue.
- The Landscape plan shall be compatible with the existing planting, walkways, etc of the existing campus.
- Provide planting and screening at the north end of the buildings to provide a visual setback from Mission Avenue.
- Exterior building lighting shall avoid “light spill” and “upward sky lighting”.
- Northern facing windows with protected exposures on southern, eastern, and western facades should be strategized.
- The building faces the historic Louis Pasteur statue in the main campus quad and may take advantage of views toward Mt. Tamalpais.
- The campus core is secure with circulation access from the 3rd Street entrance and emergency and vehicular access only from Mission Avenue.



SITE ANALYSIS DIAGRAM





View to Mt. Tam from SRHS Campus



Student Commons Plaza @ South Side of "AD" Building



ARCHITECTURAL DESIGN BASIS:

DISTRICT STANDARDS

- The design and construction shall comply with San Rafael City School District Design Standards, included as an appendix to this document.
- The following systems are sole source:
 - Security – Honeywell
 - Access – Open Path
 - Door Hardware – Von Duprin/Schlage
 - Controls – Allerton
 - Security Cameras – Verkada
 - Vape Sensors – Verkada
 - Lighting Controls – Wattstopper

CAMPUS COLOR PALETTE

- The existing color palette of exterior paint colors shall be taken as a standard and includes the following colors (Kelly Moore Design Basis):
 - KMW45 Feather White
 - KM5819 Rotunda White
 - KM4929 Warm Grey Flannel
 - KM4935 Sequoia Fog
 - KMA89 Black Oak
 - KMA3 Haute Couture
 - KM5407 Brick-A-Brack
 - KMA69 Roasted Kona
 - HLS4268 Red Hot Jazz

WINDOWS AND DOORS

- Windows and glazing systems shall be thermally broken, high performing, commercial grade, with solar ban xl70 or higher rated glazing. Exterior windows should be tempered, and laminated safety glazing. Windows should be provided with appropriate external shading devices to reduce glare, direct sunlight, and improve daylighting. All glazing at 7'-0" and lower should be provided with integral reflective coating for safety and security.
- Motorized roller blinds are required in any rooms containing blackout requirements, at all classrooms, and for lighting controls where required.
- Doors and trims should be hollow metal.

CASEWORK AND CABINETRY

- Stainless steel or epoxy counters should be provided in ceramics studio, art studio, and career pathways studio classrooms.
- Casework should not have particle board cores.
- District preferences tend toward minimal fixed casework installations and flexible furnishings instead.
- Wet areas should be provided with appropriate backsplash materials (ceramic tile or similar).

ROOFING



- 80 mil PVC energy star rated.
- ½” dens deck prime coverboard
- Access preferred via ship ladder. Provide fixed access to all areas where mechanical systems are installed.
- Rooftop solar systems should be low profile. Where rooftop solar power is provided, roof slopes should be designed for ideal capture of solar power- south/southwest facing, sloped approximately 5 degrees.
- Roof overhangs should extend at least 4’ over all entry ways.

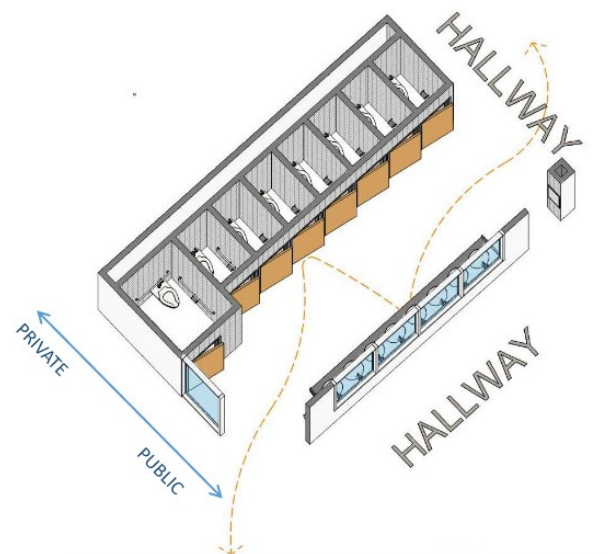
FINISHES, FITTINGS, ACCESSORIES, & EQUIPMENT

- Polished and sealed concrete floors are preferred for ease of maintenance in heavy use areas such as the career pathways, ceramics, and art studios as well as in corridors and circulation areas.
- At multi-stall all-gender restrooms, full height partitions should be used with a zero gap at the ceiling, over doors, and at floors. Partition doors should have a minimal undercut (¼” – ¾” max). Multi-stall all-gender restrooms should be designed to have maximum visibility for supervision purposes; all stalls should face a common circulation zone that is adjacent to a hallway or corridor. If a sink wall separates the restroom circulation zone from the adjacent area, it should be a pony wall- 4’ high maximum to allow wall mounted sinks and soap dispensers. All other accessories should be mounted on side walls such as not to obscure visual supervision.



Figure 4: Inclusive restrooms are designed with full height acoustic partitions, photo of SPPS St. Anthony Park Elementary School.

1Inclusive Restroom Design Guidelines, Cuningham Group, 2020



- District preferences tend toward minimal fixed casework installations and flexible furnishings instead.
- Wet areas should be provided with appropriate backsplash materials (ceramic tile or similar).
- District Technology standards should be reviewed for classroom-based technology systems. Teaching wall stations typically include white boards and a free standing, cart based promethean board.



STRUCTURAL & FOUNDATION DESIGN BASIS:

FOUNDATION SYSTEM

- Design foundation system based on information and program provided by subsurface exploration and recommendations made by the geotechnical report. Additional exploration requests, California Geological Survey submittal and approvals shall be completed by the design-build entity.
- Design below grade structures to withstand hydrostatic pressure as indicated by flood risk assessment. Every effort shall be made to set finish floor elevations above flood plain datums.
- Provide a complete subsurface waterproofing system compatible with the foundation style.

STRUCTURAL SYSTEMS

- Vertical and lateral load resisting systems shall be designed to comply with all applicable code requirements. Proposed structural systems shall be reviewed with the District during the RFP/Q process.
- Building shall be designed for long life span, changing occupancies, and life cycle cost considerations.
- Structural design shall be prepared and sealed under the responsible charge of a California Licensed Structural Engineer.

MECHANICAL, PLUMBING, & FIRE PROTECTION SYSTEMS DESIGN BASIS:

HEATING COOLING AND VENTILATION SYSTEMS

- Complete heating, cooling, and ventilation systems shall be provided for all spaces to meet ASHRAE standards and comply with all applicable codes. San Rafael High School is located in climate zone 2.
- Summer outdoor design conditions shall be set at 95 degrees. Winter outdoor design conditions shall be set at 30 degrees. Ambient set temperatures shall be set to 68 degrees in the summer and 72 degrees in the winter.
- Individually controlled spaces with dedicated thermostats shall be provided to the greatest extent practical.
- District maintenance prefers rooftop package units but will accept VRF systems on a limited basis. Ceiling cassette style systems should be avoided in preference for ducted fan coil distribution.
- Complicated hydronic systems are difficult for the district to maintain. Floor based hydronic heating and cooling systems are not allowed.
- HVAC design should be all electric and gas use shall be limited to required classroom equipment systems such as gas fired kilns. Water heating should also be electrically powered.
- Where restrooms are designed with full height stalls to the underside of the ceiling provide individual exhaust fans at each stall.
- All specialty systems requiring exhaust, dust collection, or acoustic performance shall be provided for.
- Mechanical systems should be designed with high performing acoustics to reduce background and reverberation noises. Mechanical units should utilize vibration isolation. Fan and motor units should be internally isolated.
- Systems shall be visually screened from the neighborhood and meet EIR requirements for acoustics.
- Mechanical systems shall be commissioned by the district's commissioning agent and the design team shall perform design review practices with the commissioning agent to meet enhanced commissioning criteria. The design team shall be responsible for providing the basis of design narrative for the district's review. Systems shall be reviewed with the district at each design phase deliverable and shall include maintenance personnel at the review.



- Mechanical systems at acoustically sensitive areas should be reviewed by an acoustic consultant for compliance with acoustic design parameters.
- Options for passive cooling such as actuated louvers, high level operable windows, ceiling fans, and relief vents should be considered with the design. All operable components should be mechanically actuated and integrated with the controls sequence of operations.

PLUMBING SYSTEMS

- Wall mounted fixtures shall be provided for water closets, lavatories, classroom sinks (unless top mounted in casework), and urinals.
- Hydration stations shall be provided with chilled water and inclusive of bottle filling stations.
- Plumbing fixtures shall be motion sensor operated and provided with hard wired electrical power for operation.
- Plumbing fixtures shall be selected based on district standard guidelines.
- Trap primers are required at all floor drains and floor sinks.

FIRE PROTECTION

- All new buildings shall be outfitted with an automatic sprinkler system and modernizations shall include provisions for an automatic sprinkler system consistent with Title 24 requirements.
- Coordination with Local Fire criteria shall be conducted by the design-build team.
- Sprinkler heads at high impact areas shall be protected from damage by cages or via concealed heads.

CONTROLS

- Fully integrated controls shall be coordinated with the district's Syserco representative and integrated with existing EMS systems. Allerton controls are standard at the campus.
- Fully integrated controls are required for all HVAC units, VRF fan coils, condensers, heat pumps, ceiling fans, operable actuated louvers, plumbing hot water circulation pumps, cold water supply, water heaters, and electrical lighting.

ELECTRICAL AND LOW VOLTAGE SYSTEMS:

ELECTRICAL & RENEWABLE POWER

- With the conversion to all electric power for building systems, the existing power service should be evaluated for capacity. The design demand should account for 25% expansion capacity to capture future demand load. Applications for service upgrades or main panels or switchgear upgrades shall be identified early in the planning process to allow time for approvals and equipment shall be ordered in advance as required to maintain the design and construction schedule.
- Electrical power shall be coordinated with the campus wide solar power installation. The new building shall meet title 24 requirements for solar photovoltaic and/or battery back-up.
- Performance based analysis and building systems shall be designed and calculated to alleviate all battery back up requirements. The solar PV and battery system design should be coordinated with the existing solar infrastructure so as to work in tandem with the campus wide implementation. The design building team will be responsible for coordinating with the district's solar consulting teams for integration.
- All electrical wiring shall be placed in conduit and concealed within walls. MC cable only allowed at runs between pole cans and junction boxes above acoustic lay-in ceilings.



LIGHTING

- Interior lighting for classrooms should be designed for presentation or A/V mode as well as general illumination. The district standard is for Wattstopper Digital Lighting Management (DLM).
- Exterior lighting should be connected to campus wide lighting controls and shall be connected to a timeclock which governs a “lights out” time at night during which time period the exterior lights will turn off unless triggered.
- Specialty lighting design shall be provided by a qualified Audio Visual Consultant as required to support the program needs of each space.

LOW VOLTAGE SYSTEMS

- Data systems shall be provided with Category 6A cabling or better.
- Clock, Bell, and PA system shall be Bogen Nyquist E7000 IP based paging system and connect to existing Bogen controls.
- PA System shall extend to cover outdoor classroom, plaza, and courtyard areas.
- Intrusion alarm shall be provided with motion sensors, door contacts, and keypads.
- Keycard access should be provided at main building entries and coordinated with district facilities and maintenance staff.
- Vape detection is required at all restrooms.
- Networked fire alarm should be provided for all building projects and should be notifier 3000. The fire alarm should connect to the main panel in the AR building and all building-to-building connections should be underground via fiber optic cable.

SITE WORK:

CIVIL AND LANDSCAPE CRITERIA

- All concrete flat work shall include lamp black to reduce glare.
- Landscape strategies shall comply with the district standards for landscape and be consistent with the SRHS Landscape Master Plan.
- Irrigation shall be planned to be purple pipe compatible for future conversion to recycled water systems.
- Landscape areas shall be low maintenance and provided with irrigation.
- Small building adjacent bioretention zones shall be avoided and rooftop runoff should be piped to larger bioretention or bioswale areas.
- Site furnishings shall be consistent with existing selections and should combine fixed and flexible components.
- Shading should be provided for outdoor use areas and, where indicated, weather protection.
- All utilities should be inclusive with connections to city and county mains as required and coordinated by the design-build team.
- Review of existing easements and boundaries shall be the responsibility of the design build team.



CODES & CRITERIA

DESIGN PERFORMANCE

- Design-build teams shall employ acoustic, audio visual, and other specialty consultants as required to meet high performance standards for the program and systems functions.
- The building envelope shall be of high performing components designed to meet or exceed title 24 requirements and provide outstanding thermal comfort, indoor air quality, daylighting, and acoustic performance.

APPLICABLE CODES

All work performed shall conform to the following codes (or the latest version at the time of submission) including but not limited to:

2022 California Building Administrative Code, Part 1, Title 24, California Code of Regulations (CCR)

2022 California Building Code (CBC), Part 2, Title 24, CCR Based on the 2021 International Building Code (IBC) With 2021 California Amendments)

2022 California Electrical Code (CEC), Part 3, Title 24, CCR Based on the 2020 National Electrical Code (NEC) With 2020 California Amendments)

2022 California Mechanical Code (CMC), Part 4, Title 24, CCR Based on the 2021 Uniform Mechanical Code (UMC) With 2021 California Amendments)

2022 California Plumbing Code (CPC), Part 5, Title 24, CCR Based on the 2021 Uniform Plumbing Code (UPC) With 2021 California Amendments)

2022 California Energy Efficiency Standards (Energy Code), Part 6, Title 24 CCR

2022 Safety Code for Elevators and Escalators, (ASME A17.1-2019)

2022 California Fire Code (CFC), Part 9, Title 24, CCR Based on the 2021 International Fire Code (IFC) With 2022 California Amendments)

2022 California Existing Building Code, Part 10, Title 24 CCR (2021 Ieb Code And 2022 California Amendments)

2022 California Green Building Code (CalGreen), Part 11, Title 24, CCR

2022 California Referenced Standards, Part 12, Title 24 CCR

Title 19 CCR, Public Safety, State Fire Marshal Regulations

2010 ADA Standards for Accessible Design

NFPA 20	Installation of Stationary Pumps	2019 Edition
NFPA 24	Installation of Private Fire Mains	2019 Edition
NFPA 72	National Fire Alarm and Signaling Code	2022 Edition
NFPA 80	Fire Doors and Other Opening Protectives	2019 Edition
NFPA 92	Standard for Smoke Control Systems	2018 Edition
NFPA 110	Standard for Emergency and Standby Power Sys.	2019 Edition
NFPA 170	Standard for Fire Safety and Emergency Symbols	2018 Edition
NFPA 253	Critical Radiant Flux of Floor Covering System	2019 Edition



NFPA 2001	Clean Agent Fire Extinguishing System	2018 Edition
ICC 300	Standard on Bleacher, Folding and Telescopic Seating	2017 Edition
UL 38	Standard for Safety Manual Signaling Boxes for FA	1999 Edition
UL 268	Smoke Detectors for Fire Alarm Systems	2016 Edition
UL 300	Fire Suppression Standards	2005 (R2010) Edition
UL 305	Standard for Safety Panic Hardware	2012 Edition



PART 4

APPENDIX