TAYLOR design

PERALTA COMMUNITY COLLEGE DISTRICT

Laney College Title IX Locker Room Remodel

Criteria Documentation

Basis of Design Narrative

PREPARED FOR:

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Architect's Project Number: 5514
Prepared on: April 3, 2020
Update for Design Build RFP: **August 10, 2020**

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Architectural

PART 1 - CODES AND STANDARDS

1.1 Codes

A. The Peralta Community College District (PCCD), the Division of the State Architect (DSA), and the State Fire Marshal (SFM) will have jurisdiction for the plan review and approval of the Construction Documents prepared by the Design Build team.

B. The Design will conform to the following Codes, Standards and Guidelines. Where differences arise between any Code, Standard or Guideline, the Code shall prevail. In all cases, where an edition number is not indicated, the current accepted edition will be used.

1. 2019 California Building Standards Code, Part 2, Volume 1 & 2, Title 24, California Code of Regulations
2. Title 19 C.C.R., Public Safety, State Fire Marshal Regulations (1990)
3. 2019 California Mechanical Code
4. 2019 California Plumbing Code
5. 2019 California Electrical Code
6. 2019 California Fire Code
7. 2019 California Energy Code
8. 2019 California Green Buildings Standards Code
9. 2019 California Referenced Standards
10. 2010 ADA Standards for Accessible Design
11. Local Code Amendments

C. Existing Construction

1. Type I, Fully Sprinklered, concrete structural frame, concrete floor slabs
2. Group B Occupancy
3. Analysis of the existing egress system and access by the disabled to the existing accessible parking stalls and public way from the boundary of the locker area of alteration is included in the scope of work.
4. The PCCD in association with Laney College will implement health and safety protocols and procedures for the protection of personnel. These will include the following:

a. Compliance with CAL OSHA including material handling, maintenance, storage, and access clearance requirements.

b. Building Evacuation Plans.

c. Emergency Response Plans.

Building Evacuation Plans will be provided at appropriate locations to show safe emergency exit routes, locations of fire alarm and extinguishers, and emergency response equipment.

PART 2 - ARCHITECTURAL

2.1 Executive Summary

Laney College, one of four campuses of Peralta Community College District, has embarked upon re-visioning their existing locker rooms, located below the plaza. The project began with a planning process to remodel the Locker Room to ensure Title IX compliance for female athletes. Working with a group of stakeholders, a design concept that met compliance-related concerns was identified. The College Council and Facilities Planning Committee expanded the scope of the initial remodel to incorporate a larger redesign to support universal design principles and better meet the needs of Laney College programs and students.

Through secondary research, primary research, and observations, we developed the following insights and shared them with the College Council and Facilities Planning Leadership Team. These insights will guide the Design Build team as they continue to develop the project.

Implementing a Strategic Thinking model, the team at Taylor Design brought a human-centered approach which incorporates interactive and engaging user group feedback. After conducting a two-step series of workshops to gather input and facilitate discussion among stakeholders, we created a conceptual layout. Input was gathered from Athletic Director, Athletic Trainer, Women's Team Coaches, Kinesiology/Health/Sports Faculty, Locker Attendants, Dance Department, Female Athletes and General Use Female/Male Students. This Criteria Document represents the full scope of work.

2.2 Project Objective

A. The proposed design celebrates women and female athletes of Laney College by placing their functions centrally in the space, while improving visibility and security. The design provides gender-neutral paths into any of the hallways. As such, coaches and staff of opposite gender can easily gain access to Team Rooms, Storage Areas, Laundry, All-Gender Restrooms, and Meeting Rooms without disrupting student privacy. Private All-Gender Restroom/Shower rooms have been placed in various locations to allow for gender privacy. These can be used by transgender students, families of mixed gender, game officials, disabled students with helpers, or any other person who prefers to change in private. Three Women's Team Rooms are intended for use by Volleyball, Basketball and Swim/Dive/Water Polo with areas within for team gatherings. In the Base Scope, open Student Lounge Areas are created. The design seeks to accommodate a future shaped by expanded access by all and increased quality of the Laney College athletic experience.

B. Six key insights act as a north star for all design decisions:

1. Before all else, hygiene and safety
2. Student athletes form bonds with coaches that go beyond athletics
3. Dark and remote spaces are underutilized because they feel unsafe
4. Student athletics need a place to feel proud and celebrate their wins
5. Every student athlete deserves recognition and acknowledgement
6. Lockers need to accommodate both student athletes and general use

C. Stakeholders

1. Athletics and Kinesiology Faculty and Staff
2. Student Athletics
3. Dance Students, Faculty and Staff
4. General Use Students

2.3 Research Process

A. Taylor Design began their relationship with the PCCD and Laney College team by taking an in-depth walkthrough of their current facility to understand the current capacity and needs for their athletes and staff.

B. Discovery Workshops

1. Strategy-based design is an iterative approach that leverages the best of lean methodology, human centered design, and design thinking. In practice, we begin every creative challenge with a Discover phase, where we identify the problem, prepare and conduct research, and gather inspiration from a wide range of sources. Our first step is to listen. We need to understand our users and their challenges in order to design effective solutions.
2. With the goal to understand how the range of users currently use the locker room and surrounding spaces, to discover user needs and workarounds, and to encourage creative problem solving by co-creating a solution with users, we conducted two design exercises.
    a. Locker Room Usage Mapping - Users mapped their pathways through the locker room area using spaghetti diagrams and discussing their current use of the space.
    b. Design Your Ultimate Locker Room - Co-creating with the users to design a new solution for the locker room area based on their needs and desires, using a blank slate.
3. In a design workshop with our consultants we learned that our electrical consultant coaches high school tennis and is full of interesting ideas for locker room design. Other consultants appreciated being brought in early into the process and having their voices heard in decisions.

4. We invited Mechanical/Plumbing, Structural, and Electrical consultants into our Design Lab to sketch with us with the goal of integrating the design process early on to avoid expensive subsequent rework later. Bringing consultants into the design process early allows us to

    a. Shared user insights with the consultants so they knew who they are designing for and what is important.

    b. Charrette with consultants and test early ideas against mechanical and structural constraints so we don't get too far down the rabbit hole on an idea that works for users but is not feasible for the building.

5. Based on our insights from the Discover Workshops and the early design ideas from the Consultant Workshop, Taylor Design created 5 design options that we evaluated internally using the Choosing By Advantages process (CBA). We scored each design in the CBA by evaluating the design against the criteria we developed with the users to narrow down the options to 3 designs that we believed best met the user's needs and use cases and provided distinctly different opportunities.

6. The three Test Fits we developed were themed, based on the primary design feature placed in the center of the redesigned locker room area: one celebrated the Students, one celebrated Women and one celebrated Teams.

7. The Concept Feedback Workshop was the first time that all of the users met together. In addition to providing valuable feedback on the design, this workshop built empathy between the users, allowing them to hear what is important to one another. We knew we were successful when users started considering each other's needs out loud, saying things like "This design would work for me and my students, but I'm not sure it would work well for dance."

8. The goal of this workshop was to confirm the needs that we heard in the Discover workshops and to elicit feedback on how those needs translated into design decisions. We needed to gain enough understanding and feedback from the users to be able to confidently and effectively edit the Test Fits into one final, proposed solution.

2.4 Interior Design

A. WOMEN'S AND MEN'S LOCKERS/SHOWERS/RESTROOMS

1. Full-height, double stack lockers (6'-0")

2. Wooden Benches, anchored to the floor

3. Resilient homogenous sheet flooring in locker room area, ceramic tile flooring in restroom and shower areas

4. LED light fixtures

5. Suspended acoustic ceiling with water-resistant panels

6. Painted gypsum board walls with metal stud framing, rubber wall base, and stainless-steel wall protection (corner guards)

7. Ceramic tile wainscot in restroom and shower areas

8. Solid phenolic restroom partitions (partial height)

9. Solid phenolic shower partitions (full height)

10. Mirrors in restrooms at sinks and full-size mirrors in locker room area

11. Solid surface counters with plastic laminate casework below in locker rooms areas

12. Restroom accessories (toilet paper dispenser, toilet seat cover dispenser, no-touch paper towel dispenser, no-touch soap dispenser, trash receptacle, and feminine trash receptacle)

13. Hi-lo drinking fountain with bottle filling station

14. Swimsuit dryer in locker room area

B. TEAM LOCKERS/SHOWERS/RESTROOMS

1. Full-height, double stack lockers (6'-0")

2. Wooden Benches, anchored to the floor

3. Resilient homogenous sheet flooring in locker room area, ceramic tile flooring in restroom and shower areas

4. LED light fixtures

5. Suspended acoustic ceiling with water-resistant panels

6. Painted gypsum board walls with metal stud framing, rubber wall base, and stainless-steel wall protection (corner guards)

7. Ceramic tile wainscot in restroom and shower areas

8. Solid phenolic restroom partitions (partial height)

9. Solid phenolic shower partitions (full height)

10. Mirrors in restrooms at sinks and full-size mirrors in locker room area

11. Solid surface counters with plastic laminate casework below in locker rooms areas

12. Restroom accessories (toilet paper dispenser, toilet seat cover dispenser, no-touch paper towel dispenser, no-touch soap dispenser, trash receptacle, and feminine trash receptacle)

13. Swimsuit dryer in shower area

14. Flat screen television and whiteboard in each team room

15. Laney College branding super graphics on one wall in each team room

C. WOMEN'S AND MEN'S LOCKER ROOM ATTENDANTS

1. Resilient homogenous sheet flooring

2. LED light fixtures

3. Suspended acoustic ceiling

4. Painted gypsum board walls with metal stud framing and rubber wall base

5. Whiteboard

6. Security one-way glass window in the Women's Attendant Room

7. Transaction window in both Attendant Rooms

8. Office Furniture – desk, shelving, task chair, and guest chairs

D. TRAINING ROOM

1. Ceramic tile floor

2. LED light fixtures

3. Suspended acoustic ceiling with water-resistant panels

4. Painted gypsum board walls with metal stud framing, tile wall base, and stainless-steel wall protection (corner guards)

5. (2) Ice baths (Owner Furnished) with water and waste connections by the Contractor

6. (2) Massage beds (Owner Furnished)

7. Wall hung sink

8. Ice machine (Owner Furnished) with water and waste connections by the Contractor

9. Refrigerator (Owner Furnished) with power connection by the Contractor

10. Full-length mirrors

11. Solid surface counters with plastic laminate casework below and shelving above

12. Restroom accessories (no-touch paper towel dispenser, no-touch soap dispenser, and trash receptacle)

13. Whiteboards

14. Flat screen television

15. Laney College branding super graphics on one wall

E. LAUNDRY ROOM

1. Ceramic tile floor

2. LED light fixtures

3. Suspended acoustic ceiling with water-resistant panels

4. Painted gypsum board walls with metal stud framing, and tile wall base

5. Space for (3) washing machines – power, water, waste

6. Space for (3) dryers – 240v power and dryer exhaust outlet with mechanical discharge fan

7. Utility sink

8. Solid surface counters with plastic laminate casework below and shelving above

9. Restroom accessories (no-touch paper towel dispenser, no-touch soap dispenser, and trash receptacle)

F. PRIVATE SHOWERS/RESTROOMS

1. Ceramic tile floor

2. Wood bench, hung from wall

3. LED light fixtures

4. Suspended gypsum board ceiling

5. Painted gypsum board walls with metal stud framing and tile wall base

6. Ceramic tile wainscot

7. Solid phenolic restroom partitions (partial height)

8. Solid phenolic shower partitions (full height)

9. Mirrors at sinks and full-size mirror in changing area

10. Solid surface counter

11. Restroom accessories (toilet paper dispenser, toilet seat cover dispenser, no-touch paper towel dispenser, no-touch soap dispenser, trash receptacle, and feminine trash receptacle)

G. ALL-GENDER RESTROOMS

1. Ceramic tile floor
2. LED light fixtures
3. Suspended gypsum board ceiling
4. Painted gypsum board walls with metal stud framing and tile wall base
5. Ceramic tile wainscot
6. Mirror at sink
7. Restroom accessories (toilet paper dispenser, toilet seat cover dispenser, no-touch paper towel dispenser, no-touch soap dispenser, trash receptacle, and feminine trash receptacle)

H. MULTI-PURPOSE/STUDENT STUDY AREA

1. Resilient homogenous sheet flooring in hallways with rubber base
2. Carpet tile in enclosed study/conference rooms with rubber base
3. LED light fixtures
4. Suspended acoustic ceiling in enclosed study/conference rooms
5. Painted gypsum board walls with metal stud framing, rubber wall base, and stainless-steel wall protection (corner guards)
6. Aluminum storefront walls at hallway
7. Plastic laminate credenza casework with solid surface countertop
8. Flat screen television
9. Whiteboards
10. Custom stadium-seating in open common spaces
11. Sports character super graphics on one wall in the connecting hallway

I. STORAGE AREAS

1. Suspended LED light fixtures
2. Exposed ceiling, painted
3. Painted gypsum board walls with metal stud framing, rubber wall base, and stainless-steel wall protection (corner guards)
4. Sealed concrete floor

5. High-density steel storage racks

6. Plastic laminate casework storage and shelving

J. HALLWAYS

1. Resilient homogenous sheet flooring with rubber base

2. Suspended LED light fixtures

3. Exposed ceiling, painted

4. Painted gypsum board walls with metal stud framing, rubber wall base, and stainless-steel wall protection (corner guards)

5. Bulletin boards and whiteboards

6. Custom plastic laminate casework storage with solid surface countertops and shelving

7. Hi-Lo drinking fountain with bottle filling station

K. GENERAL REQUIREMENTS

1. Wi-Fi Connection throughout

2. Security/CCTV throughout public spaces, hallways, entrances, Locker Room Attendant Rooms, and exit stairs

3. Code required signage at all doors, rooms, and exits

4. Way-finding signage in the public hallways, above and beyond code minimums

L. DOORS

1. All doors and frames to be hollow metal with air seals, painted, and equipped with small vision panel where indicated.

2. All doors within the scope of work to be equipped with the following hardware: closers, armor protection plates, sound / air seals, automatic door bottoms, and thresholds to maintain thermal/humidity control within the locker rooms.

3. All doors leading to the Team Rooms, the main entrance, Locker Room Attendant, and storage rooms to receive Proxy Card reader (fob) access

M. CASEWORK

1. Plastic laminate low and upper cabinets with solid surface countertops

2. Custom storage solutions for storage rooms, training room, laundry room, and locker room attendant rooms.

N. SPECIALTIES

1. Large heavy-duty storage racks for the storage rooms
2. Workroom furniture
3. Audio/Visual system
4. Dry erase and tack boards
5. Branding super graphics – vinyl decal applied to walls
6. Swimsuit dryers
7. Training Room equipment – ice baths, massage tables, and ice machine

O. DEMOLITION NOTES

1. Demolish existing partition wall assemblies
2. Demolish existing metal lockers, concrete curbs, and benches
3. Demolish existing fixtures
4. Demolish existing finishes; ceiling, wall, floor
5. Demolish existing doors and frames
6. Demolish existing MEP assemblies
7. Demolish existing concrete ramp at locker rooms
8. Demolish existing caged storage areas

P. SUSTAINABLE DESIGN

1. Sustainable design elements and materials should be considered as the design and construction process goes forward. The intent of the sustainable efforts is in general to minimize the environmental impact, help to conserve energy, water and other natural resources (energy savings equipment), to reduce the College's operating costs, and provide healthy and productive workspaces for the students and employees.
2. LEED Certification will not be required on this renovation project; however, the project is required to be designed to LEED Silver standards.

END OF ARCHITECTURAL SECTION

Structural System

PART 1 - CODES AND STANDARDS

1.1 Codes

A. 2019 California Building Code with DSA Amendments

1. Part 1 California Administrative Code (CAC)

2. Part 2 California Building Code (CBC)

3. Part 10 California Existing Building Code (CEBC)

B. Standards

1. ASCE 7-16 Minimum Design Loads for Buildings and Other Structures

2. ACI 318-14 Building Code Requirements for Structural Concrete

PART 2 - DESIGN CRITERIA

2.1 Executive Summary

A. The proposed project consists of the renovation of the existing locker room area at the interior of the building. The renovation is primarily nonstructural in nature and includes the removal of existing raised concrete curbs at the lockers, and the construction of new concrete stairs and ramps for accessibility. The new stairs and ramps can be formed directly over the existing concrete slab-on-grade floor to minimize demolition.

The existing mechanical subfloor plenum system will be abandoned in place and replaced with a new, conventional overhead ductwork system suspended from the concrete slab above. Existing plenum floor openings will be infilled with new reinforced concrete.

The new architectural floor plan for the renovated area will require new full-height interior partition walls and new mechanical, electrical and plumbing distribution systems. New subfloor trenching will be required for the new plumbing fixture locations. The trenching will be located to avoid existing building foundation elements, but will be permitted to interrupt the abandoned concrete mechanical plenum where required.

PART 3 - EXISTING CONDITIONS

3.1 Existing Building Description

A. The existing building is a one-story concrete structure constructed circa 1968. The building is seismically-separated from several adjacent buildings that were constructed at the same time to form the original college campus. The roof of the building is an occupiable outdoor plaza that includes landscaped tree wells that extend down to the building foundation and one internal exit stair.

The roof structure consists of a sloped concrete slab of variable thickness (12″-17″) protected by an architectural topping slab and waterproofing. The structural slab is supported by interior concrete columns with capitals, and concrete walls at the interior tree wells and the building perimeter. The building foundation consists of grade beams and pile caps over piles (type unknown).

The ground floor is a concrete slab-on-grade with thickened tie beams connecting foundation pile caps. An existing concrete mechanical plenum is located under part of the slab on grade and connects to the raised concrete locker pads for air ventilation.

PART 4 - PROPOSED STRUCTURAL SYSTEM

4.1 Nonstructural Interior Partition Wall Framing

A. New metal stud nonstructural walls will use 18 ga studs at 16 inches on center and 18 ga tracks. Typical walls will be constructed full-height (slab-to-slab) and anchored to concrete with shot pins at 8 inches on center. Backing plates and anchorage will be provided at partitions walls, as required for installation of casework, furniture, equipment, and accessories.

4.2 New Concrete Slab-On-Grade

A. New MEP systems may require opening and routing of utilities below the existing slab-on-grade. The new underground conduit will be located to avoid existing foundation grade beams and piles and encased in controlled density fill below the repaired slab-on-grade.

B. Existing concrete curbs can be removed and leveling compound can be applied at existing sloped floors where required. New concrete stairs and ramps can be constructed directly above the existing concrete slab-on-grade and building foundations.

4.3 Seismic Bracing for Suspended MEP Distribution Systems

A. If seismic bracing for suspended distribution systems is required by the California Building Code, it will be handled by the specification of a pre-approved bracing system, and the drawings will be a deferred submittal prepared by others.

B. Seismic bracing is required for the following:

1. Any system conveying hazardous materials

2. Piping made of low deformability materials, such as cast iron, glass, non-ductile plastic (Rp<4.5), unless:

    a. The pipe is supported on hangers which are all 12″ or less in length, or

    b. The pipe weighs less than 5 pounds per linear foot

3. Piping over 1″ diameter (nominal), unless:

    a. The pipe is supported on hangers which are all 12″ or less in length, or

b. The pipe weighs less than 5 pounds per linear foot

C. Piping on trapezes where the total weight is 10 pounds per linear foot or greater

D. Ductwork with cross-sectional areas of 6 square feet or greater, or weighing 17 lbs/ft or more

E. Conduit with diameters exceeding 2.5" (trade size) and weighing more than 5 lbs/ft

F. Conduit or raceways on trapezes where the total weight is 10 lbs/ft or more

END OF STRUCTURAL SYSTEM

Fire Protection System

PART 1 - CODES AND STANDARDS

1.1 Work Included:

A. Wet automatic sprinkler system.

1.2 Codes - Systems shall be designed in accordance with the latest edition of the following codes:

A. ASCE 7, Minimum Design Loads for Buildings and Other Structures (most recent adopted edition, at the time of permit submittals).

B. California Building Code (most recent adopted edition, at the time of permit submittals).

C. California Electrical Code (most recent adopted edition, at the time of permit submittals).

D. California Fire Code (most recent adopted edition, at the time of permit submittals).

E. California Plumbing Code (most recent adopted edition, at the time of permit submittals).

F. NFPA #13, Standard for the Installation of Sprinkler Systems (most recent adopted edition, at the time of permit submittals).

G. Local Amendments to above Codes.

1.3 Standards – The following reference standards shall be used for the design:

A. ANSI – American National Standards Institute.

B. ASCE – American Society of Civil Engineers.

C. ASME – American Society of Mechanical Engineers.

D. ASSE – American Society of Sanitary Engineering.

E. ASTM – American Society for Testing and Materials.

F. AWS – American Welding Society.

G. AWWA – American Water Work Association.

H. FM Global Approval Guide.

I. ICC-ES – International Code Council Evaluation Service.

J. ICC-ES AC193 Mechanical Anchors in Concrete Elements.

K. ICC-ES AC308, Post-Installed Adhesive Anchors in Concrete Elements.

L. NEMA – National Electrical Manufacturer's Association.

M. NFPA – National Fire Protection Association.

N. OSHA – Occupational Safety and Health Administration.

O. UL – Underwriters' Laboratory.

P. UL Fire Protection Equipment Directory

Q. UL Online Certifications Directory.

PART 2 - DESIGN CRITERIA: WET AUTOMATIC FIRE SPRINKLER SYSTEM

2.1 Densities:

A. Building Area: Offices, Restrooms, Locker rooms, Showers, Team Rooms.

1. Occupancy Classification: Light.

2. Inside Hose Allowance: 0 GPM.

3. Outside Hose Allowance: 100 GPM.

B. Building Area: Laundry.

1. Occupancy Classification: Ordinary Group 1.

2. Inside Hose Allowance: 0 GPM.

3. Outside Hose Allowance: 250 GPM.

C. Building Area: Storage

1. Occupancy Classification: Ordinary Group 2.

2. Inside Hose Allowance: 0 GPM.

3. Outside Hose Allowance: 250 GPM.

PART 3 - FIRE SPRINKLER SYSTEM

3.1 Scope of Work

A. Revise and extend existing fire sprinkler system to accommodate new and remodeled spaces. The work on the sprinkler system will need to be performed in a manner that allows the existing system to remain in service during construction to provide protection for the occupied portions of the building. The revised system will be hydraulically calculated. The design and installation will comply with the CBC, CFC, and NFPA 13.

B. A fire watch will be required in accordance with chapter 33, *Fire Safety During Construction and Demolition,* of the CFC.

C. Location and type of tamper and flow switches will be coordinated with the fire alarm system. All switches will be individually addressed and annunciated at fire alarm control panel.

D. The design of the fire protection system will be based on a hydraulic design that utilizes 90 percent of available pressure and shall include interior and all underground pipe to the location of the hydrant flow test.

E. Coordinate location of exposed piping closely with the architect. Conceal piping above ceilings where possible.

F. Sprinklers will be located in center or quarter point of ceiling tiles and symmetrically with other ceiling features. Ceiling features include, but are not limited to, walls, lights, air diffusers, and other architectural features.

G. Complete sprinkler coverage for all rooms, combustible concealed spaces and overhangs will be provided.

H. Main and auxiliary drains will be provided to drain the entire system. These will be connected to the sanitary sewer with a gravity drain sized to accommodate flow from pressure pipe or will discharge to the exterior of the building.

I. Electrical connections and wiring as required will be provided for a complete and operable fire protection system, including, but not limited to flow switches, supervisory switches, and the like. Audible electric sprinkler flow alarms on the exterior of the building will be provided.

J. Seismic restraints for sprinkler and standpipe systems suitable for the Seismic Zone and local soil conditions will be provided.

PART 4 - OBSERVATIONS

4.1 The existing building has exposed sprinkler piping and exposed sprinkler heads in the locker room and service areas of the buildings.

PART 5 - FIRE SPRINKLER SYSTEM EQUIPMENT

5.1 Materials:

A. Materials to be UL Listed or FM Approved for their intended fire protection use, new, free of defects, of current manufacture, and identified.

B. Sprinkler Heads:

1. Pendent style: Quick Response, Recessed. Finish: Coordinate with Architect, Recessed Escutcheon.

2. Sidewall Style: Quick Response. Finish: Coordinate with Architect.

3. Unfinished Ceiling Spaces: Upright style, Quick Response, Finish: Coordinate with Architect.

C. Aboveground Pipe:

1. Aboveground: Threaded Pipe; ASTM A53, ASTM A135, or ASTM A795; minimum of Schedule 40 or Minimum Corrosion Resistance Ratio (CRR) of 1.00 per UL Listing or FM Global Approval. Allied BLT/XL is not permitted.

2. Welded Pipe: ASTM A53, ASTM A135, or ASTM A795; Schedule 10 or Minimum CRR of 1.00 per UL Listing or FM Global approval. Wall thickness greater than Schedule 5. Schedule 5 not approved.

3. Exposed pipe 8-feet or less above finished floor: A minimum of Schedule 10 or 40.

D. Fittings: Grooved fittings. Threaded cast or ductile iron fittings. Welded fittings. Provide high pressure fittings where working pressure exceeds 175 psi.

E. Couplings: Flexible grooved couplings. Rigid grooved couplings, threaded, or welded joints. Victaulic "Roust-a-Bout" style or plain end couplings are not acceptable. Provide high pressure fittings where working pressure exceeds 175 psi.

F. Sprinklers, valves, switches, pipe, fittings, backflow preventers, hangers, sway braces and the like will be UL listed or FM Global approved for fire protection. All attachments and seismic connections will meet OSHPD and ASCE-7 requirements.

G. Fire sprinklers in corridors and public areas will be of the flat plate concealed variety.

H. Sprinklers suitable for corrosive environments will be used outside and where there is a likelihood of corrosion.

I. Flexible expansion loop designed for sprinkler pipe passing through or crossing building seismic joints. Impart no thrust loops to building structure.

J. Sprinklers will be installed per ASCE 7 seismic requirements: Sprinkler heads installed in acoustic ceiling tiles to be provided with braided stainless-steel flexible sprinkler connections.

END OF FIRE PROTECTION SYSTEMS SECTION

Plumbing Systems

PART 1 - CODES AND STANDARDS

1.1 Codes

A. Systems will be designed in accordance with the following codes:

1. California Building Code (most recent adopted edition).
2. California Mechanical Code (most recent adopted edition).
3. California Energy Code (most recent adopted edition).
4. California Plumbing Code (most recent adopted edition).
5. California Fire Code (most recent adopted edition).
6. California Electrical Code (most recent adopted edition).
7. Local Amendments to above Codes
8. NFPA (most recent adopted editions).

1.2 Standards

A. The following reference standards will be used for the design:

1. ADA – American Disabilities Act.
2. ANSI – American National Standards Institute.
3. ASCE 7 Minimum Design Loads for Buildings and Other Structures.
4. ASME – American Society of Mechanical Engineers.
5. ASTM – American Society for Testing and Materials.
6. AWS – American Welding Society.
7. AWWA – American Water Work Association.
8. FM – FM Global Approval Guide.
9. NFPA – National Fire Protection Association.
10. UL – Underwriters' Laboratory

PART 2 - SCOPE OF WORK

2.1 Description of Work

A. The scope of work involves the following systems related to the remodel of the existing ground floor:

1. Sanitary waste and vent system.

2. Domestic cold-water system.

3. Domestic hot water and distribution system.

4. Plumbing fixtures and support.

5. Piping insulation

6. Building management system interface

7. Start up and testing.

Demolition of existing systems will include below grade sanitary waste and vent lines back to mains coming into the building and domestic cold and hot water back to campus loop mains.

PART 3 - EXISTING PLUMBING

3.1 Domestic water is served by a 4" main with backflow prevention.

3.2 Domestic water is provided by an existing building water loop.

3.3 Sanitary sewer and storm drains mains have several site connections from building to site.

PART 4 - PLUMBING SYSTEMS

4.1 Sanitary Sewer and Vent System

A. Sanitary waste piping will be provided to all plumbing fixtures and will be sized per CPC Chapters 7, 8, and 9.

B. The sanitary waste system shall be gravity drained and sloped at ¼" per foot.

C. Any floor drains or floor sinks that will receive intermittent waste will be provided with automatic trap primers. Access panels will be provided for the trap primers. Access panels will be consistent with the architectural specifications.

D. Cleanouts shall be provided per code and at a maximum of 50'-0" intervals. Locate cleanouts to allow service without interruption to the facilities' normal operations

E. Piping service below grade will be cast iron, service weight, 10-psi maximum service pressure, 140 degrees F maximum service temperature. It will be wrapped with 8 mil polyethylene plastic for corrosion protection. Under slab piping will be supported if settlement of soil below slab is established per soil or geo-tech report.

4.2 Domestic Cold-Water System:

A. The domestic cold-water system shall be designed per the California Plumbing Code. Fixture unit values shall be designed per CPC Table A.103.1.

B. Insulate domestic cold-water piping which is located in exposed tempered rooms and exposed outside the building. Insulated pipes exposed to weather shall be covered with aluminum jacket.

C. Connections between copper piping and ferrous materials shall be made with dielectric unions.

1. Provide full-port ball valves for isolation at the following locations:

2. At major branch lines.

3. To domestic cold water to each toilet.

4. In supply and return piping to equipment.

5. Gate valves are not acceptable.

D. The domestic cold-water system will be distributed through branch piping connected to the existing building mains. Existing piping will be demolished back as far as needed to accommodate fixture load of new layout. New branch piping will be provided. Each branch pipe will be provided with a branch shut-off valve (ball valve). Separate shutoff valves will be provided for each of the restrooms.

E. Secondary protection against backflow will be provided where required by code.

F. Pipes shall be sized on the more stringent of the below:

1. 6 feet per second in occupied areas.

2. 8 feet per second for mains and large branches.

3. 2 psi per 100 feet maximum pressure drop.

G. Design will ensure that no fixture has a pressure lower than 35 psi or higher than 75 psi.

H. The most remote flush valve type toilet shall be provided with minimum supply pressure of 35 psi.

I. System will be designed to prevent water hammer conditions by providing shock arrestors for fixtures, and shock arrestors for quick closing valves. Shock arrestors will be Zurn or PPP, Inc. and will be accessible.

J. Hose bibs with lockable boxes will be provided with vacuum breakers and loose key operated. Weather exposed hose bibs will have freeze protection. Recessed-type hose box will be provided where required.

K. Domestic water piping will be copper type K (for underground installations) and type L (for above ground installations) hard drawn copper, 125 psi maximum service pressure, 250 degrees F maximum service temperature.

L. A secondary zone backflow preventer will be provided for areas that can cause low or high hazard backflow at domestic water main.

4.3 Domestic Hot Water System:

A. The domestic hot water system shall be designed per the California Plumbing Code. Fixture unit values shall be per CPC Table A.103.1.

B. Pipes shall be sized on the more stringent of:

1. 4 feet per second in occupied areas.

2. 5 feet per second for mains and large branches.

3. 2.5 feet per second for domestic water return lines.

4. 2 psi per 100 feet maximum pressure drop.

C. The most remote fixture shall be provided with minimum supply pressure of 35 psi.

D. Water pressure at any fixture shall not exceed 75 psi inside the building.

E. The domestic hot water heating equipment shall be sized in accordance with ASHRAE Handbook chapter on "Service Water Heating" using the gallons per hour per fixture demand and applicable demand and storage factors.

F. The domestic hot water system shall be connected to the existing domestic hot water system. Existing branch piping will be demolished back as far as needed to accommodate fixture load of new layout. New branch piping will be provided.

G. Insulate domestic hot water piping supply and return. Insulated pipes exposed to weather shall be covered with aluminum jacket.

4.4 Plumbing Fixtures and Equipment:

A. Provide premium quality fixtures, faucets, and showers. Plumbing fixture selection shall be coordinated with the Architect and interior design consultant.

B. Fixture types and locations shall be per Architectural drawings.

C. Fixtures shall meet the California Standard Assembly Bill AB 1953, No-Lead Law.

D. Provide fixtures, faucets, and accessories to meet barrier free requirements of the governing code with respect to plumbing fixtures provided for the physically handicapped.

E. Provide hose bibs in water heater rooms, trash rooms, mechanical rooms, fire pump rooms, loading docks, janitor's closets, and public toilets.

F. Provide floor drains in water heater rooms, trash rooms, mechanical rooms, fire pump rooms, loading docks, and public toilets.

G. Provide water hammer arresters on all domestic cold and hot water lines serving fixtures and equipment, including dishwashers and clothes washers. Locate and size water hammer arrestors per PDI-WH 201 standard.

4.5 Pipe Hangers and Support:

A. Provide clevis or trapeze hangers with maximum spacing per the California Plumbing Code.

4.6 Piping Insulation:

A. Plumbing piping and equipment insulation shall be installed per California Energy Efficiency Standards for Residential and Nonresidential Buildings and the California Green Code.

4.7 Startup and Testing of Plumbing System:

A. The Contractor, Architect, and Engineer, along with the Owner, will determine the required functional testing necessary to assure that the systems and equipment function as designed, and as required, for a fully operational facility.

END OF PLUMBING SYSTEMS SECTION

Heating, Ventilating, and Air Conditioning Systems

PART 1 - CODES AND STANDARDS

1.1 Codes: Systems will be designed in accordance with the latest edition of the following codes:

California Building Code (most recent adopted edition).

California Mechanical Code (most recent adopted edition).

California Energy Code (most recent adopted edition).

California Plumbing Code (most recent adopted edition).

California Fire Code (most recent adopted edition).

California Electrical Code (most recent adopted edition).

Local Amendments to above Codes

1.2 Standards

A. The following reference standards will be used for the design:

B. AMCA – Air Movement and Control Association International, Inc.

C. ANSI – American National Standards Institute.

D. ARI – Air Conditioning and Refrigeration Institute.

E. ASHRAE – American Society of Heating, Refrigeration, and Air Conditioning Engineers.

F. SMACNA – Fire and Smoke Damper Installation Guide.

G. SMACNA – Guidelines for Seismic Restraints of Mechanical Systems.

H. SMACNA – Standards for Duct Construction.

I. EPA – Environmental Protection Agency

J. NEMA – National Electrical Manufacturer's Association

K. UL – Underwriters' Laboratories.

L. NFPA - National Fire Protection Association:

1. NFPA 90A – Air Conditioning and Ventilating Systems.

2. NFPA 101 – Life Safety Code

PART 2 - SCOPE OF WORK

2.1 Description of Work

A. The scope of work involves approximately 24,000 SF of below-grade locker room space. The locker room area will include all supporting rooms to the locker room, e.g. toilet rooms, storage rooms, offices, showers, and corridors.

B. Demolition and new design of much of the existing supply and exhaust duct systems and constant volume terminal boxes.

C. Implement DDC controls to replace existing pneumatic controls of HVAC system.

D. Design system to function with new CUP upgrades.

1. Design hot water coils for 130F supply water temperature.
2. Implement sequences of operation based on ASHRAE Guideline 36 sequences.
3. Provide HHW, DHW, and CHW metering to measure energy use.
4. Recommend sizing chilled water coils for high delta-T (e.g. 22F-25F).

PART 3 - OBSERVATIONS

3.1 Existing Mechanical System

A. Ventilation:

1. SF-4: The existing 16,635 CFM SF-4 with a hydronic heating coil serves the locker room area. Supply ductwork runs from the supply fan to 13 zone reheat coils. Supply air to the locker room is served via overhead ductwork and duct mounted supply grilles.

2. EF-7: The existing 17,525 CFM exhaust fan serving the locker room, EF-7, has had a segment of ductwork removed in between the exhaust fan and the ductwork to the exterior of the building. Exhaust air is currently being blown into the mechanical room. Existing exhaust ductwork below grade has been abandoned and no longer exhausts air from the locker room.

PART 4 - DESIGN CRITERIA

4.1 Load Calculations – Outdoor Design Conditions

A. System load calculations will be based on the following outdoor design conditions:

1. Summer - 96degrees F DB / 68 degrees F MCWB (0.1 percent - CEC Title-24) for airside system calculations.

2. Winter – 31 degrees F DB (Winter Median Extremes - CEC Title-24) for airside system calculations and heating system calculations.

4.2 Load Calculations – Indoor Design Conditions:

A. System will be designed to maintain the following temperature and humidity conditions (numbers below are the set-point to which load calculations will be completed and to which the control system will be set):

Space	Cooling (degrees F)	Heating (degrees F)	Relative Humidity (percent)
Staff/ Administrative space	74+/-2	70+/-2	Max 60%
Locker Rooms Areas	74+/-2	70+/-2	Max 60%
Restrooms	74+/-2	70+/-2	No Control
Corridors*	74+/-2	70+/-2	Max 60%
Private Offices / Conference rooms	74+/-2	70+/-2	TBD
Telecom, Data Room	78+/-4	No control	TBD
Unoccupied Areas (Elec. Closets, Mechanical Rooms, etc.)	No control	No control	No Control

4.3 Load Calculations - Internal Air Conditioning Loads Assumptions:

A. Lighting – 0.8 Watts/S.F. for offices and all other spaces. Utilize actual lighting load upon completion of lighting design.

B. Miscellaneous Equipment – 1.5 Watts/S.F. all spaces. Utilize actual Misc. load upon completion of lighting design.

C. People:

1. 225 BTUH Sensible/155 BTUH Latent for general people load. Utilize actual people load upon completion of design.

2. Number of people will be based on ASHRAE standard 62.1-2010.

D. Ventilation Rate – ASHRAE 62.1, CA Title 24

4.4 Load Calculation Methodology:

A. All cooling loads will be completed using industry standard software, IES or Trane Trace. Load calculations will meet industry standards as outlined in the latest ASHRAE Fundamental Handbook.

4.5 Load Calculations – Systems Sizing:

A. Block Loads: heating systems and air distribution systems will be sized based on block loads.

B. Airside System Sizing: Air handlers, associated coils, associated filters will be sized for an extra 10 percent load capacity than required for calculated loads. An additional extra 4 percent leakage capacity in fan motor horsepower will account for duct leakage.

PART 5 - HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS

5.1 Proposed HVAC system:

A. Existing SF-4 and any associated ductwork and zone reheat coils will be demolished. Provide a new supply air handling unit with a hydronic heating coil to serve the locker room and locker room support areas. Temtrol Nortek custom air handler with fan wall is basis of design.

B. Provide new supply air terminal boxes with reheat coils, as well as new branch supply ductwork and diffusers.

C. Existing EF-7 and any associated ductwork to be demolished. Provide a new exhaust air handling unit to serve the locker room areas. Temtrol Nortek custom air handler with fan wall is basis of design.

D. Provide new branch exhaust ductwork to exhaust the locker room, showers and miscellaneous areas to provide an air balanced system.

PART 6 - EQUIPMENT AND COMPONENT SELECTION

6.1 Selection Criteria:

A. Supply Air Handling Unit: 100% Outside air unit serving the locker room and locker room support areas to provide make-up air for the locker room and locker room support area exhaust. Filter to be MERV 14 Final Filter. Hot water coils provide tempered air to the locker room areas. No cooling provided.

B. Exhaust Air Handling Unit: Exhaust air unit serving the locker room and locker room support areas to properly exhaust all spaces.

C. Terminal CAV Units: Single duct CAV terminal units (with hydronic re-heat coil). CAV manufacturer with seismically certified CAV terminal unit that can communicate with existing campus BAS system is acceptable for basis of design.

D. Ductwork Mains: All main ductwork upstream of three or more terminal units for supply or three or more registers for return or exhaust air will be sized with extra capacity equal to 10 percent. Constant volume system supply air will be sized for a friction pressure drop of 0.1" H2O per hundred feet of ductwork and return/exhaust air main and branch ductwork will be sized for a friction pressure drop of 0.08" H2O per hundred feet of ductwork. Variable volume system supply air main ductwork upstream of terminal units will be sized for a friction pressure drop of 0.1" H2O per hundred feet of ductwork. Variable volume system supply air branch ductwork downstream of terminal units and return/exhaust air ductwork mains and branches will be sized for a friction pressure drop of 0.04" H2O per hundred feet of ductwork. Main supply air ductwork (ductwork upstream of terminal units) will never exceed 1,800 FPM. Main return/exhaust air ductwork will never exceed 1,500 FPM. Main supply air ductwork downstream of terminal units will never exceed 750 FPM. Exact duct air velocities will be coordinated per room acceptable NC level coordinated with acoustical requirements. Transfer air will be sized at a velocity not to exceed 250 feet per minute. No internal lining is acceptable in ductwork. Packless sound attenuators will be used where is required.

E. Diffusers: Diffusers will be selected at airflows less than 300 CFM each. Where the load is more than 300 CFM in a room, multiple diffusers will be provided. Diffusers will be selected at 5NC lower than Room Maximum NC values noted for the project. Titus PSS air inlet/outlets are basis of design.

F. Exhaust and Transfer Grilles: Exhaust air grilles will not exceed more than 500 CFM per grille. Transfer grilles will not exceed 250 FPM in ductwork used for transfer or 250 FPM in face of grille. Titus PAR air inlet/outlets are basis of design.

G. Vibration Isolation: All motor operated equipment will be provided with vibration isolation mounting to prevent transmission of vibration or noise to the building.

H. Fire Smoke Dampers: Ruskin fire smoke dampers are basis of design. Fire smoke dampers will have end switches and communicate / reset between fire alarm and BAS.

I. Seismic Restraints: Piping, ductwork, and equipment will be provided with adequate restraints conforming to California Building Code.

J. Testing, Adjusting, and Balancing: An independent testing and balancing contractor will be required (as a sub-contractor to the general contractor), AABC certified to balance all air and water systems and heating and cooling equipment to the required quantities; and to verify the capacity and operating conditions of each piece of equipment.

PART 7 - ACCEPTABLE HVAC NOISE LEVEL

7.1 Refer to ASHRAE Applications Chapter 48 Noise and Vibration Control.

PART 8 - TEMPERATURE CONTROLS AND ZONING

8.1 Temperature Controls Systems and Building Management

8.2 Temperature Control Systems: The temperature control system will control all distribution equipment (CAV terminal units, exhaust fans, etc.) Room sensors to simply be temperature sensor reporting to the VAV controller network.

A. Individual temperature controls will be based on functions, exposure, and individual control per room.

B. The system will be tied into the existing campus-wide control system and monitoring.

END OF HVAC SECTION

Electrical Systems

ELECTRICAL NARRATIVE

The existing locker room area of Laney College is to undergo a full demolition and remodel. Design for new power, lighting and data shall be provided with minimal existing elements to remain. Fire alarm devices shall be located for some devices, with a fire alarm vendor completing the design and related calculations.

ELECTRICAL SYSTEMS DESIGN CRITERIA

Codes, Guidelines and Standards

The equipment, design, materials and installation shall meet or exceed the requirements as set forth in the following codes, guidelines and standards. Do not construe anything in this BOD to permit work that does not conform to code. Consider interpretations and rulings of the enforcing agencies as part of the design criteria. All State, Local, County or City Ordinances shall also apply.

ADA	American with Disabilities Act, Accessibility Guidelines for Buildings and Facilities
ANSI	American National Standards Institute, Inc.
CAL/OSHA	California Occupational Safety & Health Administration
CBC	2019 California Building Code
CALGreen	2019 California Green Building Code
CEC	2019 California Electric Code
CFC	2019 California Fire Code
IEEE	Institute of Electrical and Electronic Engineers
IESNA	Illuminating Engineering Society of North America
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturer's Association
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
SMF	California State and Local Fire Marshal
UL	Underwriters' Laboratories

POWER DISTRIBUTION SYSTEM

Existing electrical panels in the existing Electrical and Mechanical Rooms shall be replaced, as well as new panels inside the remodeled area shall be installed. There is an existing 100-Amp, 480/277Y panel being replaced inside the Theatre Building Electrical Room TH115, along with [1] new 45-KVA transformer fed from this new panel that will be located inside the Locker Room Electrical Closet #152. There is [1] 225-Amp, 480/277Y panel and [1] 100-Amp, 208/120Y panel being replaced, along with a 30-KVA transformer inside the Locker Room Mechanical Room #151.

All of the new panels, with the exception of the panel in the Theatre Building, shall be installed to provide the remodeled area that will feed all new devices, luminaires and equipment. Ideally, the panels will be surface mounted and located in a centrally located room, although the panels may be flush mounted in a wall within the remodeled area. In front of the electrical panels and disconnects, there shall be 48" clearance for 480V and 277V loads, and 36" clearance for 208V and 120V loads. Where flush mounted panels are utilized, the wall shall be a minimum depth of 6".

BRANCH CIRCUIT LOADS

Branch circuits will be designed to carry less than 65% of breaker ampacity. Power and lighting load will not be on the same circuit. Branch circuits shall not have more than eight general purpose receptacles to a 20-amp single-pole circuit. Unless otherwise indicated, all 120-Volt, 20-amp branch circuits shall have dedicated neutrals.

The grounding terminals of all receptacles and all non-current-carrying conductive surfaces of fixed electrical equipment shall be connected to an insulated copper equipment grounding conductor. The equipment grounding shall be #12 AWG, unless otherwise noted, and installed in metal raceway or as a part of listed cables having a metallic armor with the branch circuit conductors supplying these receptacles or fixed equipment.

New receptacles will be provided in the corridors spaced at the most 25’ on center from each other. Multipurpose rooms, student study areas and meeting rooms will be provided multiple circuits to ensure adequate power is being supplied.

Plug load room controllers shall be utilized to comply with current energy codes, which have the ability to turn power off on a controlled device. Controlled devices shall be installed within 6’ of a non-controlled device in the following areas: Office Areas, Lobbies, Conference Rooms, Kitchen Areas in Office Spaces, and Copy Rooms.

Team showers shall be provided a GFCI receptacle near the entrance at +18”. Restrooms shall be provided a GFCI receptacle at counter height.

All equipment shall be provided a dedicated receptacle unless noted by the manufactured cutsheet that special provisions are required for installation.

Storage rooms shall be provided with one duplex receptacle each or multiple receptacles spaced 25’ on center for larger storage areas. Electrical room, telecom closet and mechanical room shall be provided a convenience receptacle outside of what is required to power equipment within these rooms. Convenience receptacles shall not share a circuit with any equipment. All other rooms shall be provided a circuit of convenience receptacles.

Provide all disconnect switches and combination disconnect motor starter for equipment provided by mechanical and plumbing contractors. Coordinate disconnect and motor starter requirements with the mechanical and plumbing contactors. If a Variable Frequency Drive (VFD) is utilized that has a disconnect built into it, an additional disconnect shall not be necessary for installation. However, this VFD/Disconnect combination shall now be fall under the working clearance provisions of CEC 110.26.

For devices that will be reconnected to replaced panels, contractor shall update panel schedules if it is discovered that this load was abandoned, or no longer exists. For devices mounted inside concrete walls that have been damaged or cannot be reconnected due to their installation limitations, these devices shall be removed, covered/capped, and be reflected on the record documents.

INTERIOR LIGHTING

Interior luminaires will utilize dimmable LED technology. Except decorative lighting, interior luminaires shall have 3500 degrees Kelvin Correlated Color Temperature (CCT) with a Color Rendering Index (CRI) of 80 or better. LED drivers shall be electronic type with less than 20% harmonic distortion. Diming shall be accomplished using 0-10V diming technology, capable of dimming to 10%.

All egress luminaires will be equipped with a battery backup that will provide the luminaire with 90 minutes of run time at a reduced lumen output. Exit signs will be coordinated with architectural egress plan. Signs are to be located in all paths of egress, and visible from no less than 100; from all directions.

The new interior lighting shall consist of recessed and surface mounted luminaires where a drop ceiling is provided. Where the open ceiling is to remain, suspended luminaires shall be used. New luminaires designed to mimic skylights shall be utilized in certain areas to provide 24 hour illumination and give the appearance of daylight and hint of an evening glow in later hours.

Unless otherwise directed, the lighting system shall provide the minimum Foot-Candle (FC) light level for the areas listed below.

Area	Avg Maintained FC
Attendant	20-30
Break Room/Kitchenette	20-30
Corridor	10-20
Electrical/Mechanical Room	20-30
Locker Room	15-30
Laundry Room	10-20
Multi-Purpose	30-50
Offices, Private	30-50
Restrooms	10-20
Shower, General	15-30
Shower, Private	15-30
Storage Room	15-20
Student Study	30-50
Team Rooms	20-30
Telecom Room	20-30
Training Rooms	30-50
Waiting Area	20-30

LIGHTING CONTROLS

All rooms shall be provided manual controls to raise and lower the lighting levels. Occupancy sensors shall be used to provide automatic shut off per California Title 24 Part 6. The lighting installed shall be provided with a demand response client interface. All lighting shall be connected to normal branch power.

Egress lighting and exit lighting shall be provided 90-min battery back-up via a UL 924 approved relay.

Because the are is greater than 10,000 square feet, the project shall have the capability to enforce Demand Response per Title 24 Part 6 Section 110.12 (a) and (c), and Section 130.5 (e).

TELECOMMUNICATIONS

A new Telecom Room shall be installed, preferably in a central location. The location shall limit the cable run from telephone and data devices to 300 feet. There shall be new telephone and data devices added in throughout the remodeled area. Locations and capacity to serve the area shall be coordinated with a facility representative. Conduits, back boxes and cable supports shall be provided for the new devices.

We are anticipating a new rack mounted UPS to be installed that will provide back-up for equipment in the Telecom Rooms. Size to be determined.

New equipment, overhead runway, and telecommunications racks shall be grounded, with a new ground bus bar installed in the Telecom Rooms. This new ground bus bar shall be bonded to building steel.

FIRE ALARM

New fire alarm notification and detection devices shall be added. Per current code requirements, horn/chime/strobe combination devices shall be added throughout. Smoke/heat detection shall be added in all spaces. If the Cubic Feet per Minute (CFM), for the new mechanical unit(s) is 2000 or larger in or a room from more than one mechanical unit whose total CFM is greater than 2000, duct detectors shall be added as well.

Voice evacuation shall also be installed in the area as well, with a design that integrates with new fire alarm.

A fire alarm vendor shall be brought on board during the construction document phase to provide shop drawings for engineer review and submittal.

SECURITY SYSTEM

Security equipment and conductors are provided by others. The drawings will incorporate boxes, cable support, conduits, and pull strings to support its infrastructure.

COORDINATION WITH OTHER TRADES

Provide preliminary electrical loads, mechanical room areas, roof loading, equipment pad information, and any other information required by other disciplines as soon as possible in the early part of the design phase.

Provide detailed coordination information to other disciplines including devices provided by other subcontractors such as motor starters, disconnect switches, smoke detection for HVAC equipment, plumbing connections, concrete pads, access doors, etc. during the design phase. Provide other subcontractors with this information with sufficient time to incorporate these items into drawings before final design documents are due.

end of electrical systems section

Existing Training Room (belonged to Men's)

Existing Training Room (belonged to Men's)

Existing Caged Storage Room

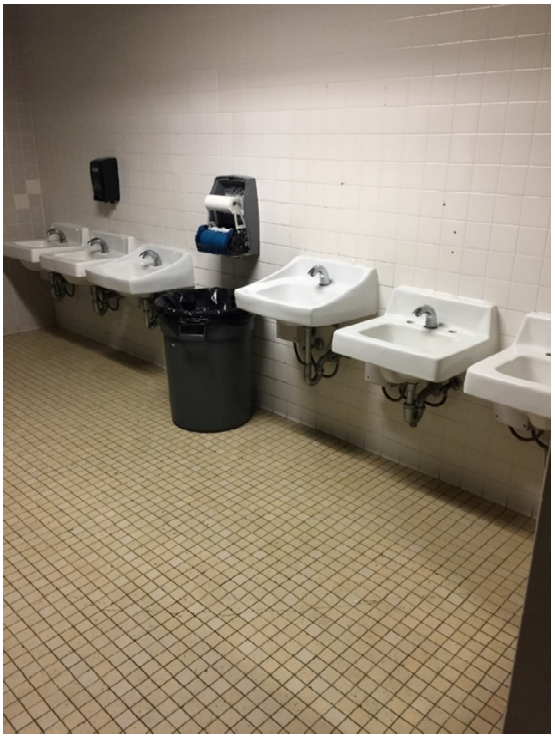
Existing Men's Locker Attendant Area

Existing Team Room (belonged to Men's Team)

Existing Team Room (belonged to Men's Team)

Existing Men's Shower Pole

Existing Men's Shower Area



Existing Men's Sink area

Existing Men's Restroom area

Existing Men's Locker Area

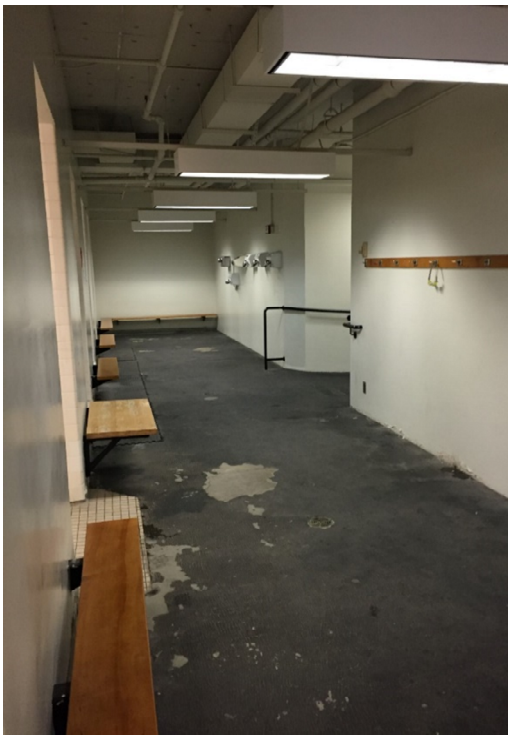
Existing Mechanical Room

Existing Women's Locker Attendant area

Existing Women's Locker Attendant area

Existing Women's Sink Area

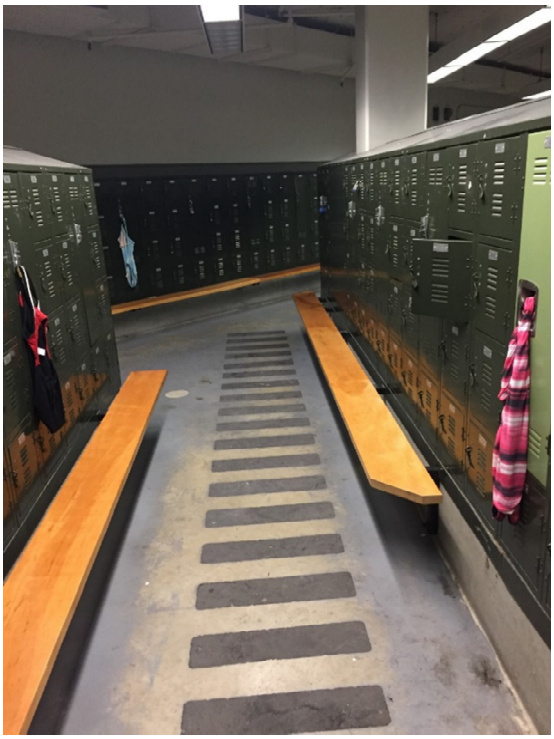
Existing Women's Restroom Area



Existing Women's Shower Area

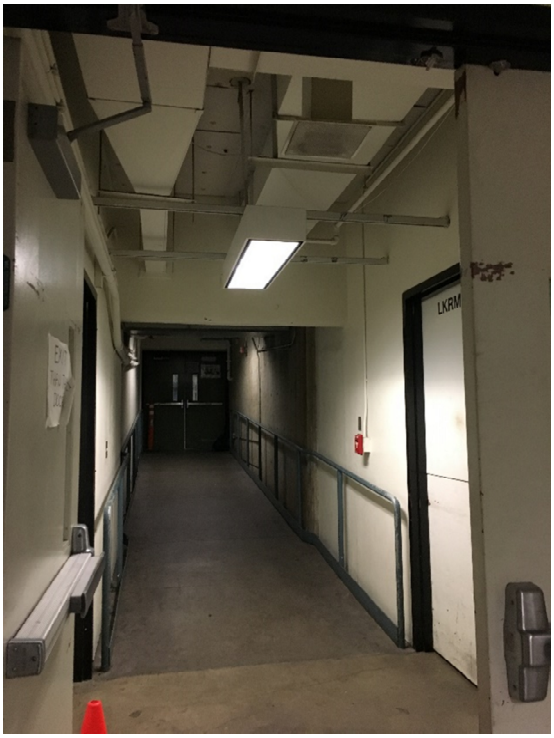
Existing Women's Shower Area

Existing Women's Locker Area



Existing Women's Locker Area

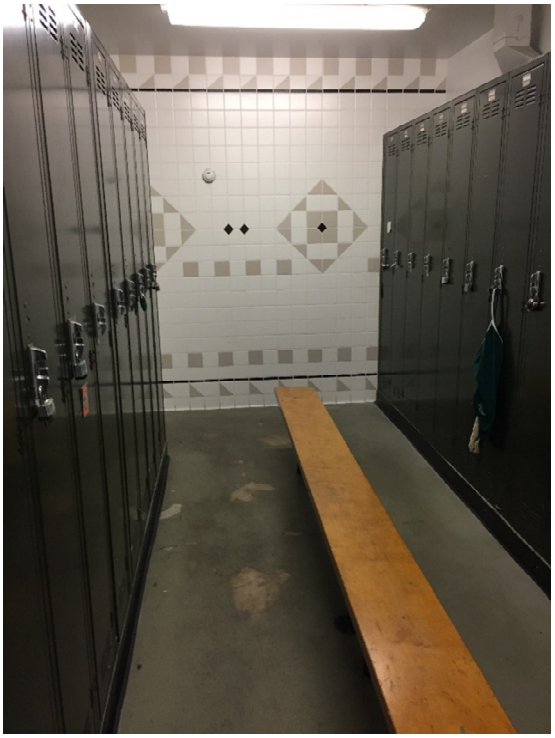
Existing Corridor



Existing Corridor

Existing Emergency Exit Stairs to Plaza

Existing Emergency Exit Stairs to Plaza



Existing Faculty/Staff Lockers

Existing Faculty/Staff Restroom Area

MEN'S LOCKER AREA

MEN'S SHOWER AREA

TEAM ROOM: SINK AREA

TEAM ROOM: RESTROOM

TEAM ROOM: SHOWER

TEAM ROOM: RESTROOM

TEAM ROOM: LOCKER AREA

TEAM ROOM: LOCKER AREA

TRAINING ROOM

TRAINING ROOM

TRAINING ROOM

TRAINING ROOM

MULTIPURPOSE ROOM

MULTIPURPOSE ROOM

KITCHENETTE

KITCHENETTE

Laney College Locker Room

Fieldhouse Images

STUDENT STUDY ROOM

PRIVATE RESTROOM

HALLWAY (PUBLIC AREA)

HALLWAY (STORAGE AREA)