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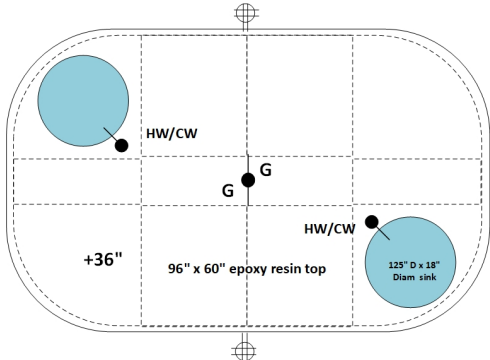
**NEW S.T.E.M. BUILDING**  
Mt. San Jacinto College  
San Jacinto, California

Lab Design Sketchbook  
Design Development  
2020 Mar 16

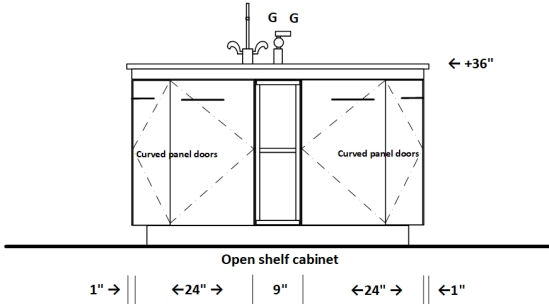


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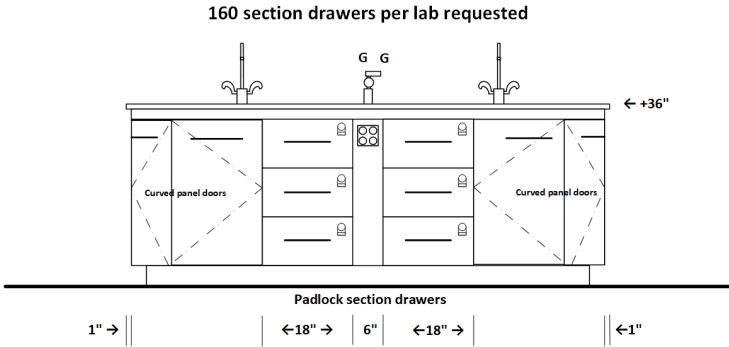
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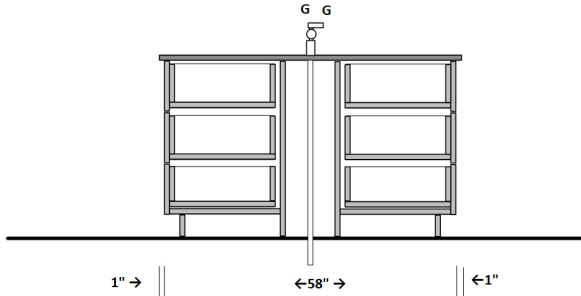
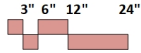
Top View



End Elevation



Side Elevation



Section

# SUMMARY

This document is the 2nd draft of the design development for the labs to be housed in the new S.T.E.M. Building at Mt. San Jacinto College, in San Jacinto, California.

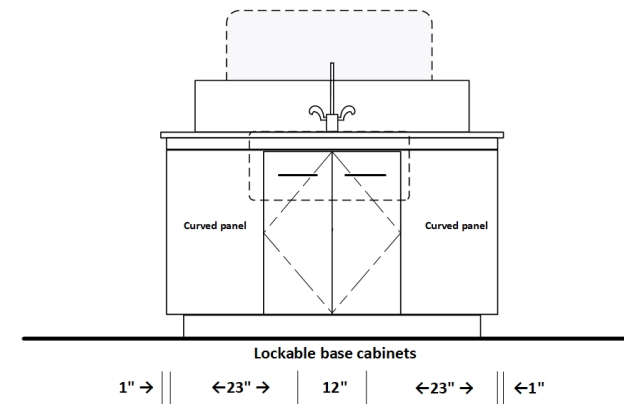
This document provides the basis of design for the 8 science labs and their associated prep rooms.

This document includes comments received from MSJC science faculty on 2020 Mar 02. The information contained herein will be converted to REVIT lab drawings for inclusion in the design development and construction documents.

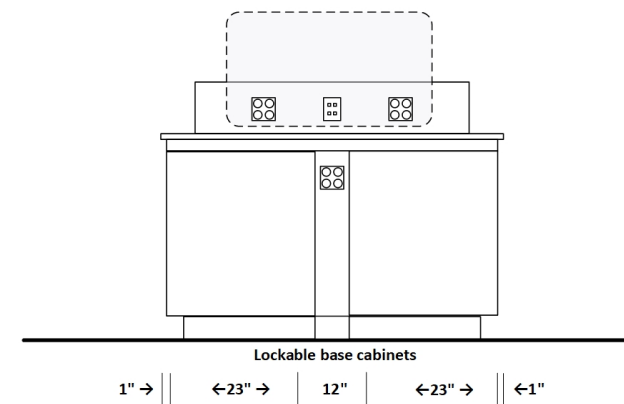
  
 Glen Berry, AIA  
 Laboratory Planning Consultant  
[glenb@herainc.com](mailto:glenb@herainc.com)



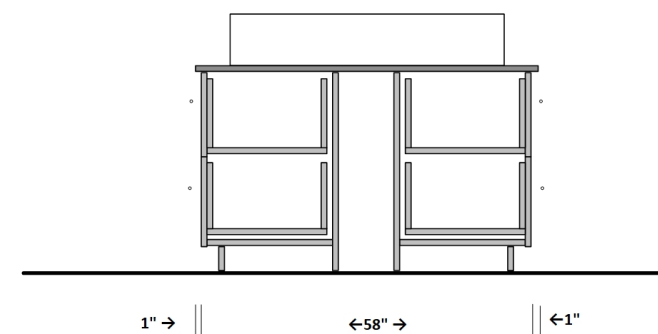
HERA Laboratory Planners  
 Health, Education + Research Associates, Inc.  
 Saint Louis, Missouri



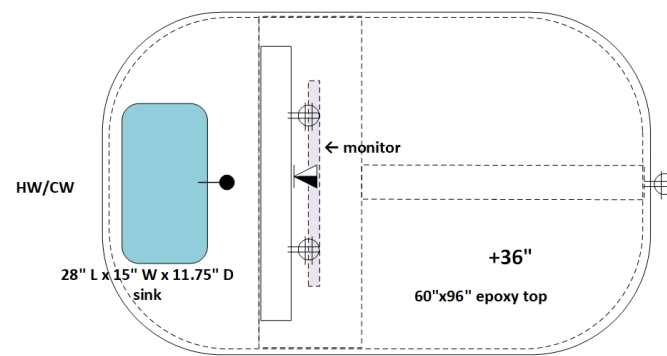
Sink End Elevation



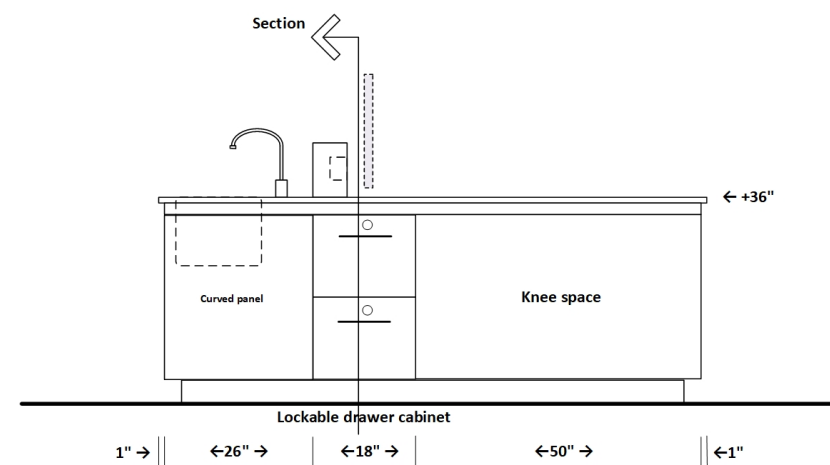
End Elevation



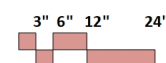
Section



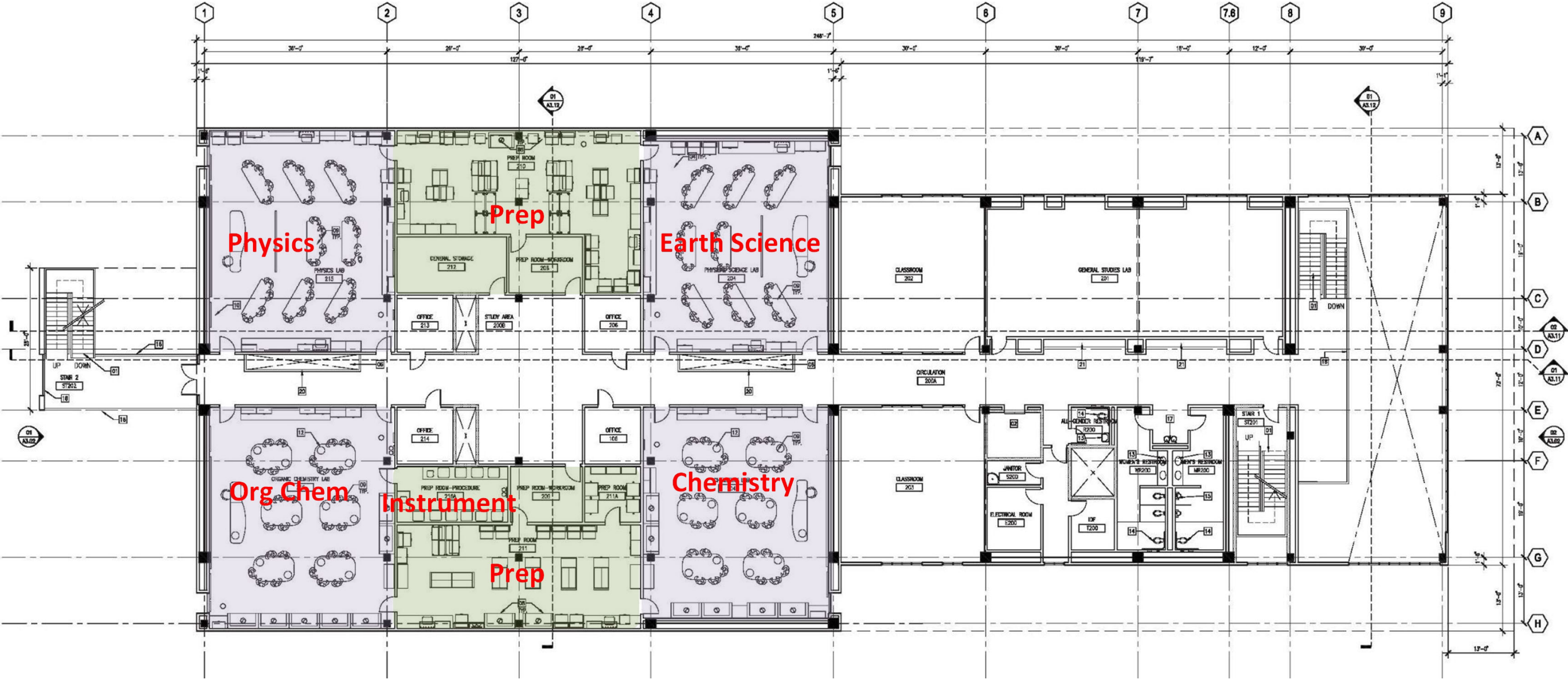
Top View



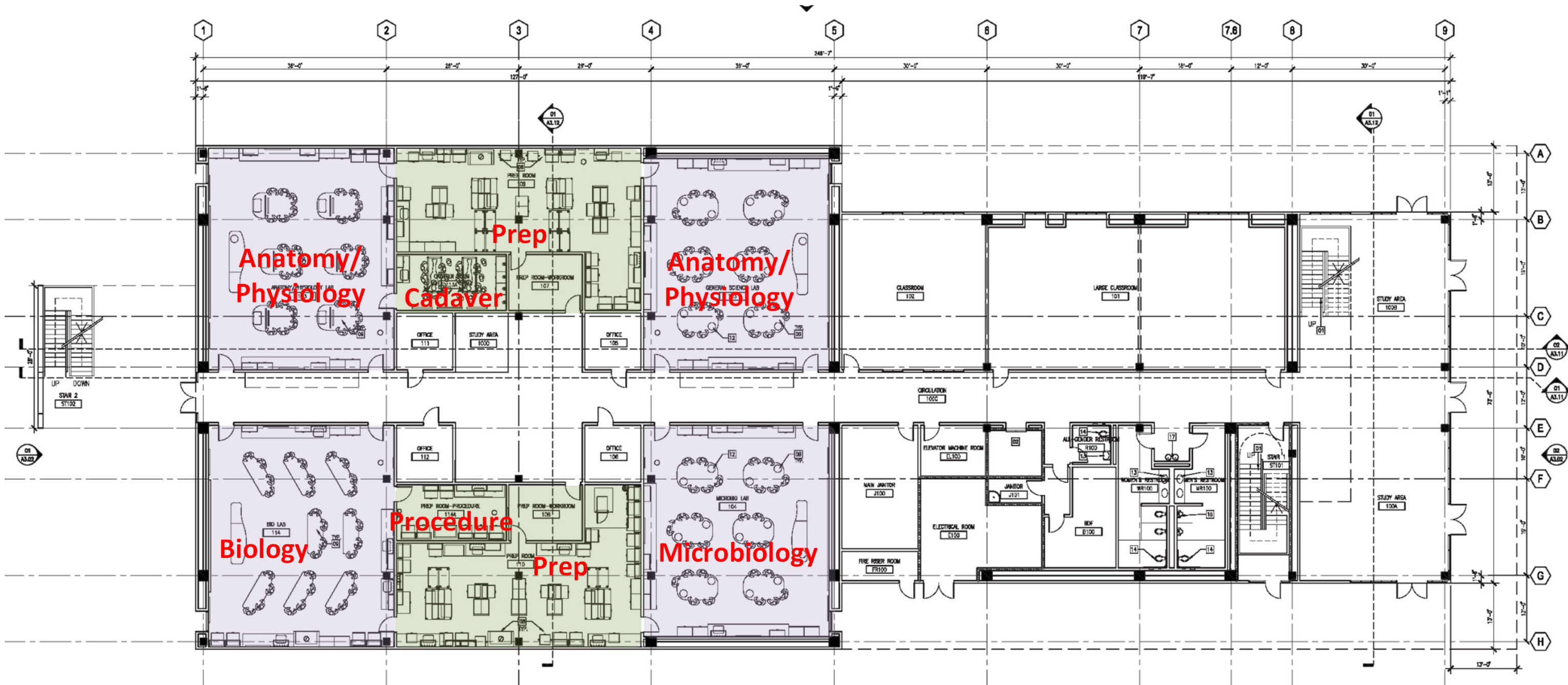
Side Elevation



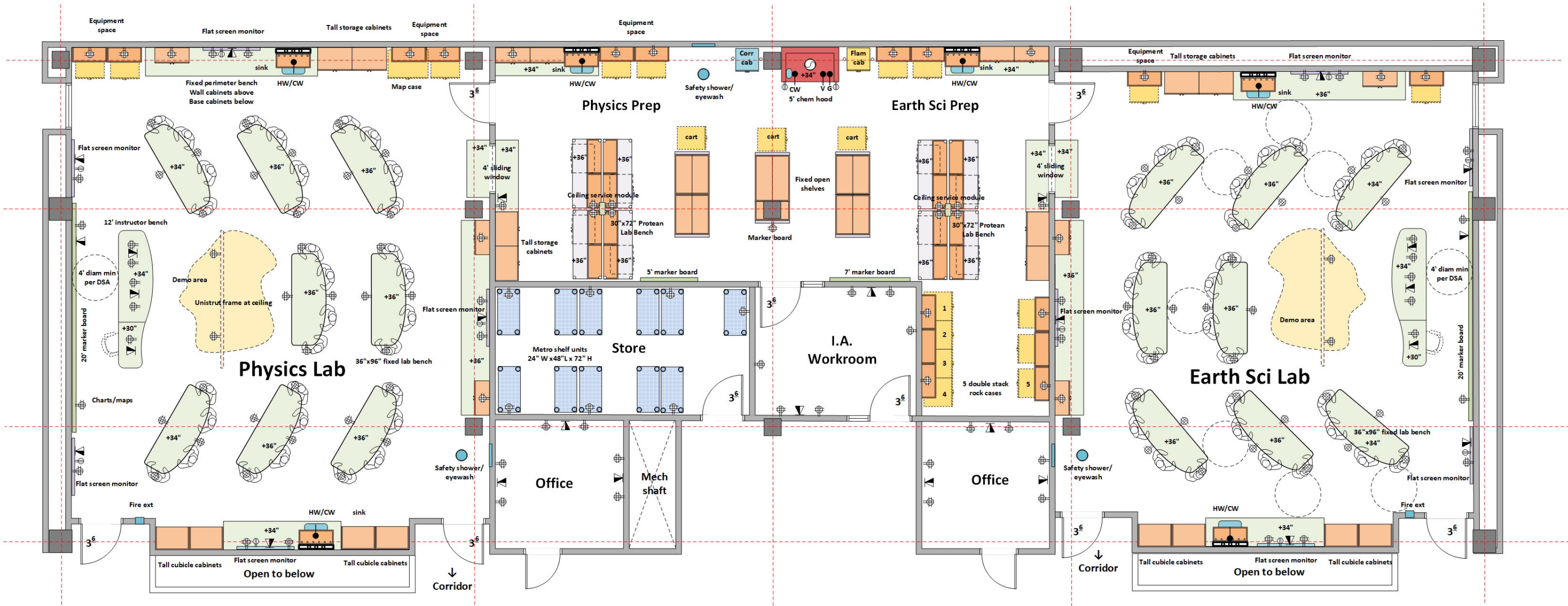
# PHYSICAL SCIENCE LABS- 2<sup>ND</sup> FLOOR



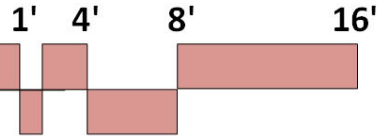
# LIFE SCIENCE LABS- 1<sup>ST</sup> FLOOR



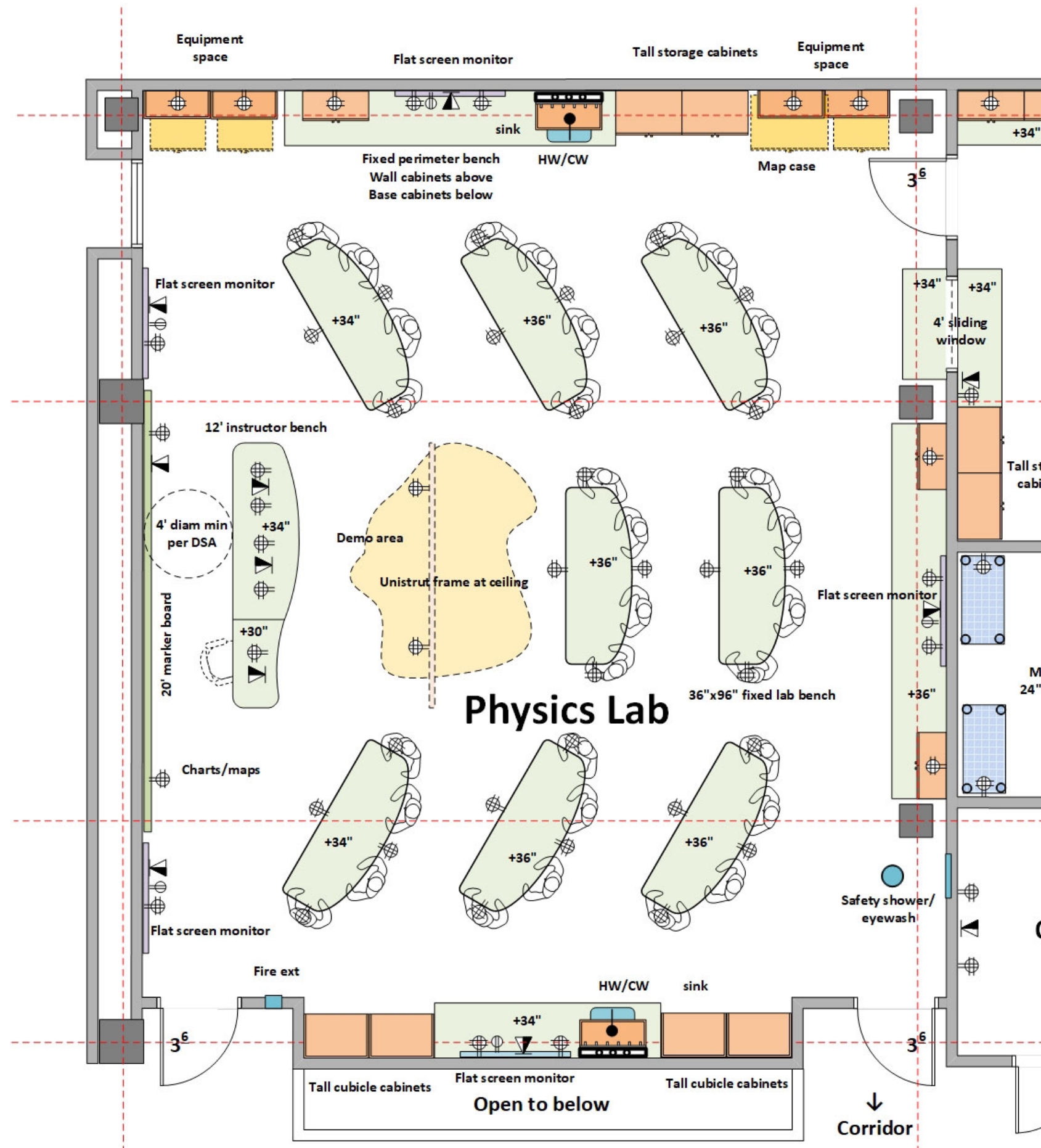
# PHYSICS & EARTH SCIENCE LABORATORIES



**h e** Physics & Earth Science Lab  
**r a** Mt. San Jacinto College  
 2020 Mar 15



# PHYSICS LABORATORY



## ARCHITECTURAL

Occupancy: B  
 Number of students: up to 32  
 Assignable Program Area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: Blackout light attenuation at windows and doors  
 Accessibility: student island, sink, and instructor bench  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less  
 Unistrut frame at ceiling: 500 lb. point load capacity

## MECHANICAL

Hours of operation: 6 am to 11 pm; Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(6) air changes per hour occupied; -(2) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX f.c. with dimmer  
 Zoned lighting at marker board wall  
 Provide data and power at roof for weather station- data to connect to labs  
 Provide red light at roof weather station for night vision

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Sinks at perimeter bench  
 Domestic water at safety shower/eyewash

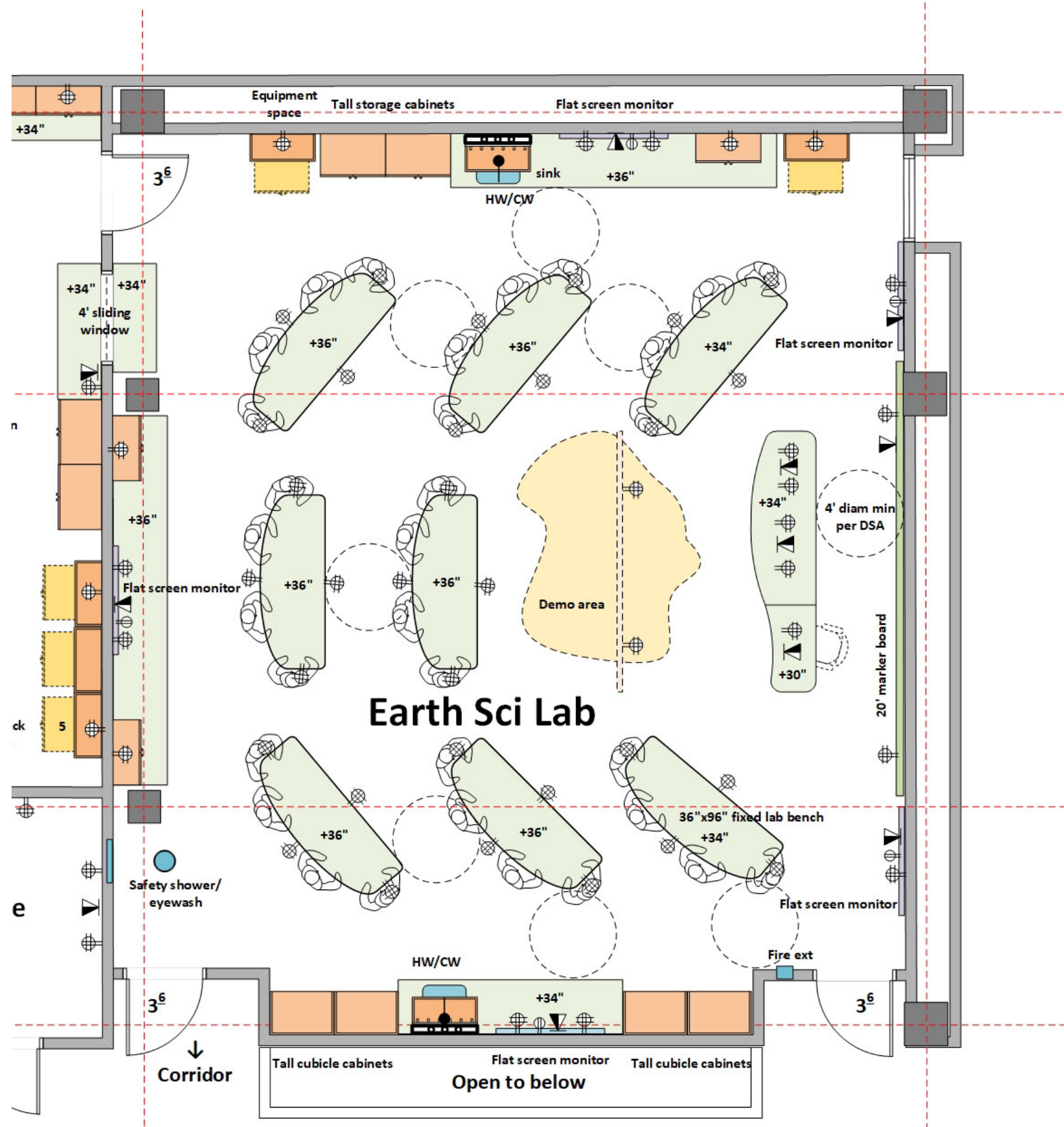
## CONTRACTOR FURNISHED EQUIPMENT

Wood casework- base cabinets, wall cabinets, tall cabinets  
 Resin tops and sinks; Faucets & fittings  
 Safety Shower/Eyewash  
 Marker board  
 Monitors  
 Fire extinguisher cabinet

## COLLEGE FURNISHED EQUIPMENT

Chairs  
 Benchtap analytical instruments  
 Map storage cabinet- 42" deep x 54" wide x 15 drawers high

# EARTH SCIENCE LABORATORY



## ARCHITECTURAL

Occupancy: B  
 Number of students: up to 32  
 Assignable Program Area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: Blackout light attenuation at windows and doors  
 Accessibility: student island, sink, and instructor bench  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less  
 Unistrut frame at ceiling: 500 lb. point load capacity

## MECHANICAL

Hours of operation: 6 am to 11 pm; Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(6) air changes per hour occupied; -(2) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX f.c. with dimmer  
 Zoned lighting at marker board wall  
 Provide data and power at roof for weather station- data to connect to labs  
 Provide red light at roof weather station for night vision

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Sinks at perimeter bench  
 Domestic water at safety shower/eyewash

## CONTRACTOR FURNISHED EQUIPMENT

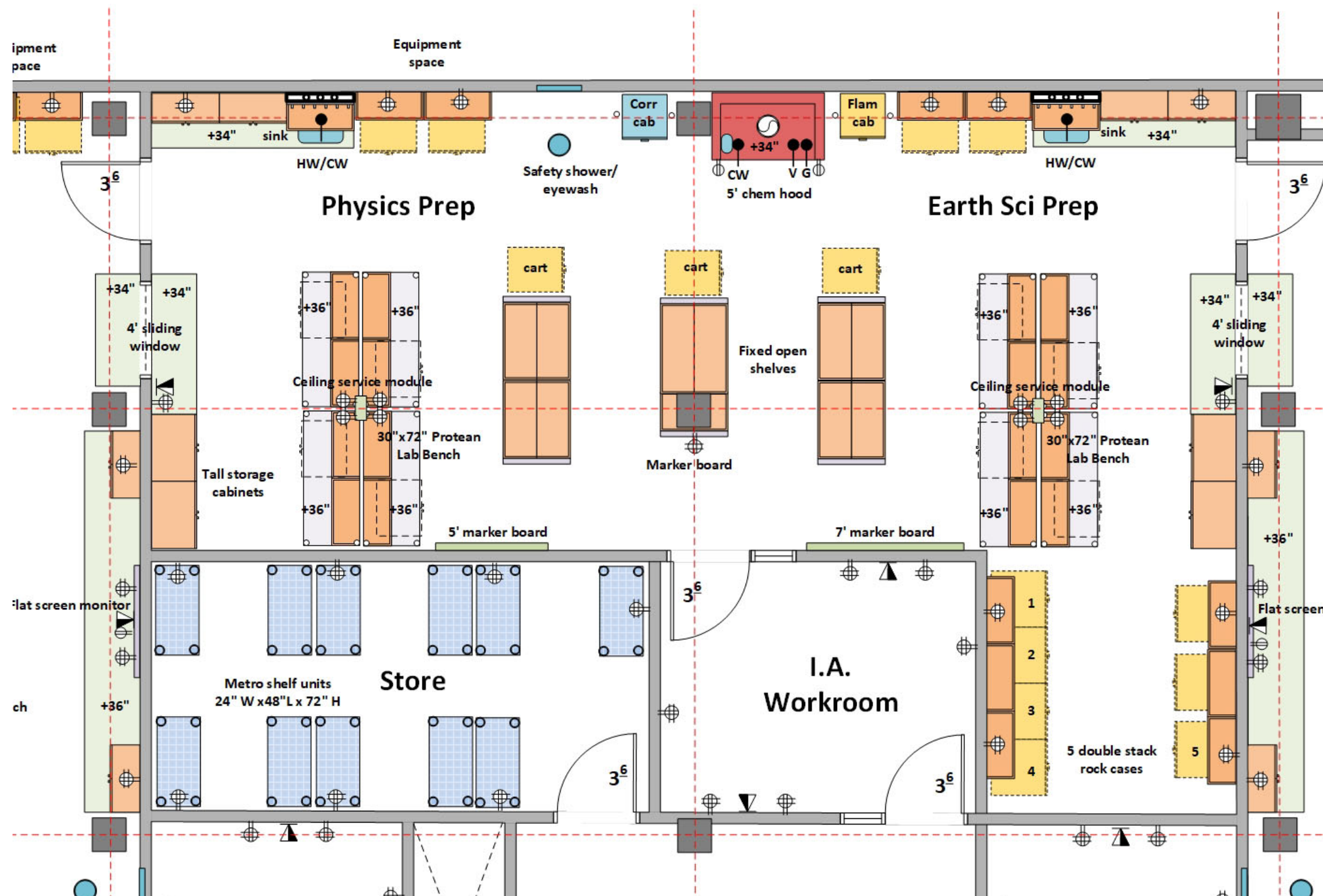
Wood casework- base cabinets, wall cabinets, tall cabinets  
 Resin tops and sinks; Faucets & fittings  
 Safety Shower/Eyewash  
 Marker board  
 Monitors  
 Fire extinguisher cabinet

## COLLEGE FURNISHED EQUIPMENT

Chairs  
 Benchtop analytical instruments



# PHYSICAL SCIENCE PREP



## ARCHITECTURAL

Occupancy: B  
 Assignable Program area: 1250 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 9' acoustic tile;  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows, if any  
 Accessibility: (1) sink, fume hood  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less

## MECHANICAL

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes at perimeter  
 Wireless data  
 Lighting: indirect LED @ 500 LUX

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Domestic water at (1) safety shower/eyewash  
 Natural gas, vacuum, and cold water at fume hood

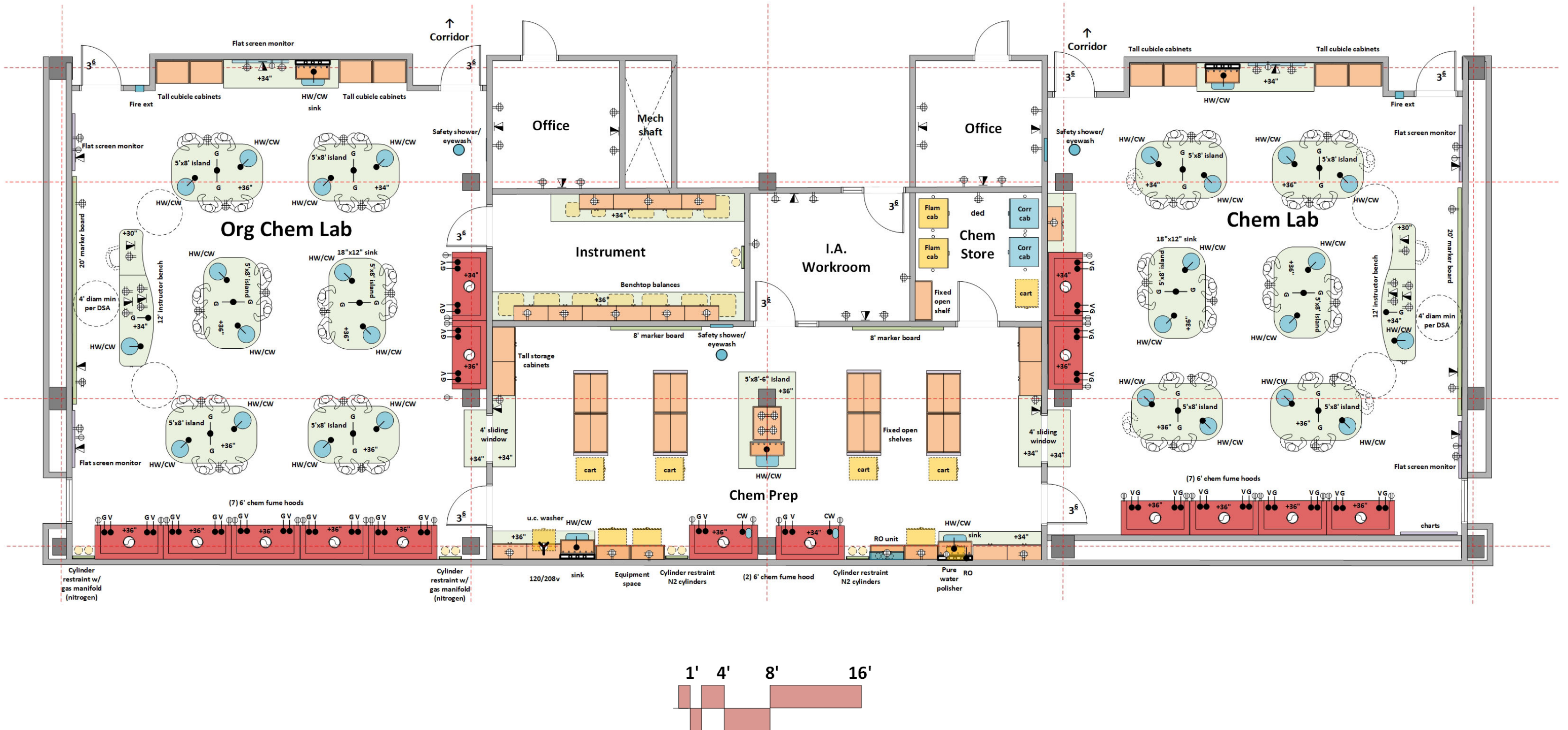
## CONTRACTOR FURNISHED EQUIPMENT

Wood casework- base cabinets, wall cabinets, tall cabinets  
 Resin tops and sinks  
 Faucets & fittings  
 Safety Shower/Eyewash  
 Fire extinguisher cabinet  
 Chemical storage cabinets  
 Chemical fume hood VAV- 800 cfm

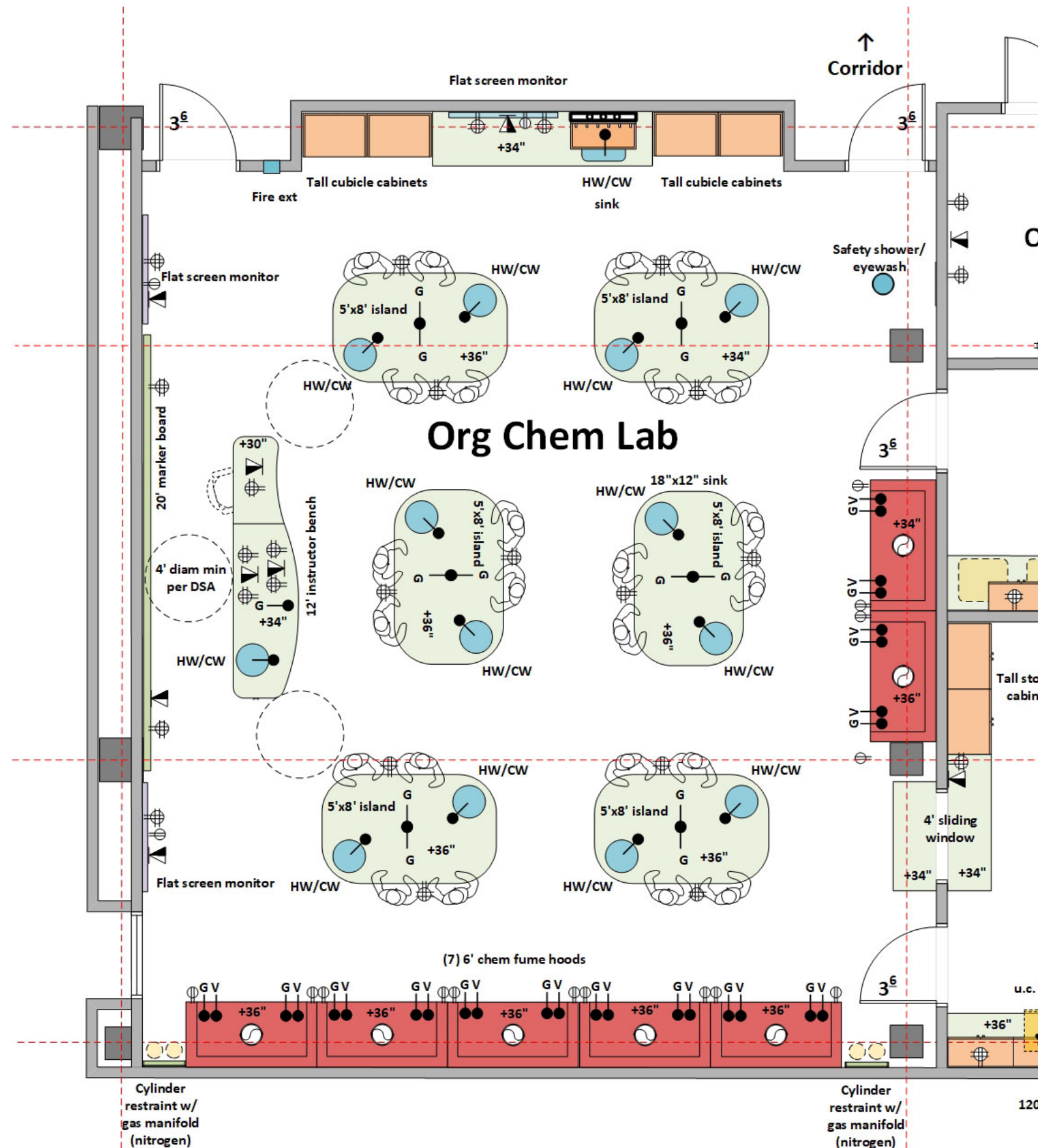
## COLLEGE FURNISHED EQUIPMENT

Benchtop analytical instruments  
 Scientific equipment  
 Rock saw  
 Rock Polisher  
 Rock Storage cabinets- (10) 33" deep x 28" wide x 30" high each; double stack  
 Telescopes

# CHEMISTRY LABORATORIES



# ORGANIC CHEMISTRY LABORATORY



## ARCHITECTURAL

Occupancy: B  
 Number of students: up to 24  
 Assignable Program area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows  
 Accessibility: (1) student island, (1) fume hood, and instructor bench  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less

## MECHANICAL

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer  
 Zoned lighting at marker board wall

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Natural Gas at student islands and instructor bench  
 Natural Gas, vacuum at fume hoods  
 Nitrogen at fume hoods via cylinders  
 Domestic water at safety shower/eyewash  
 Emer. gas shut off

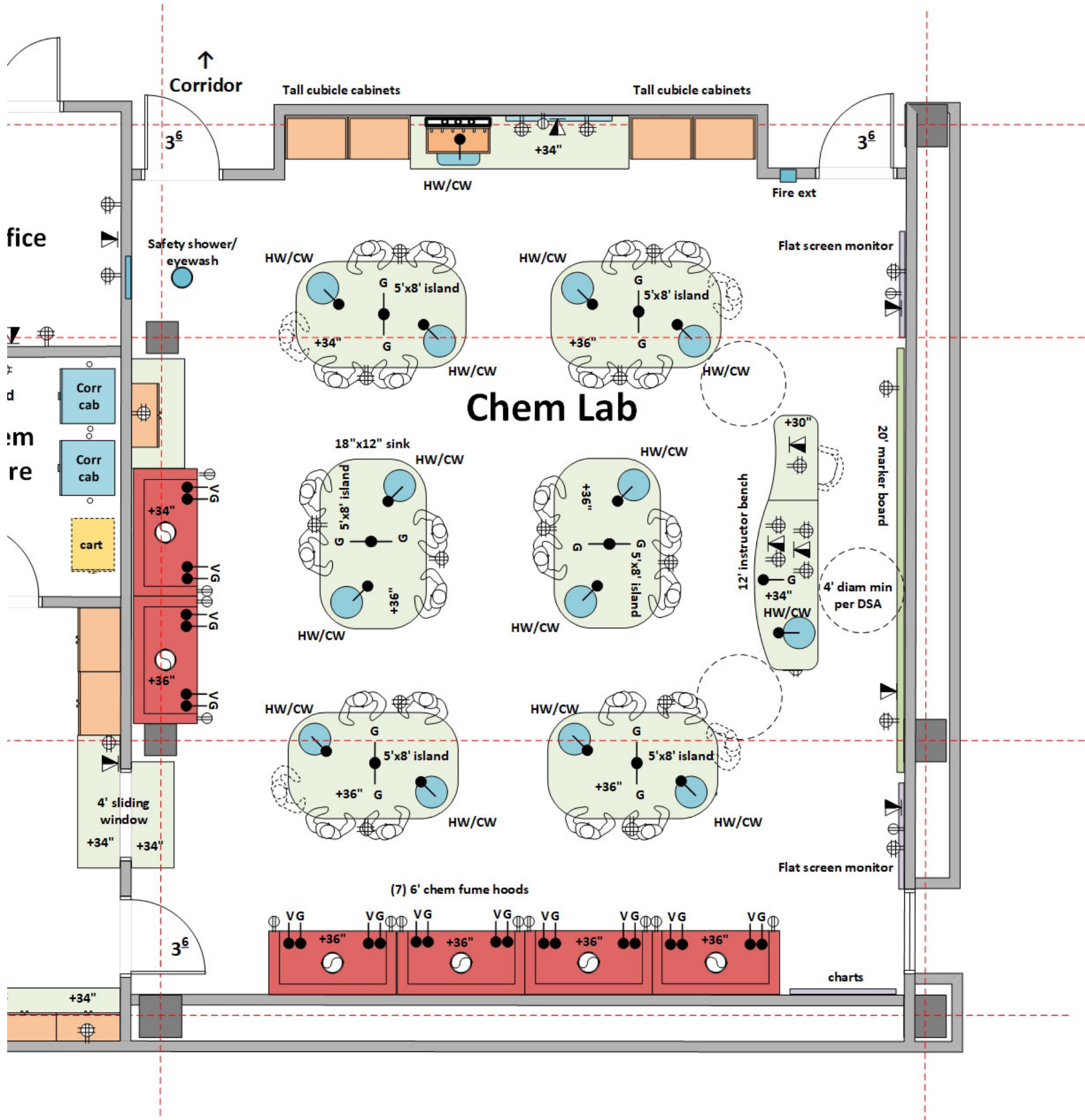
## CONTRACTOR FURNISHED EQUIPMENT

Wood casework- base cabinets, wall cabinets, tall cabinets  
 160 section drawers requested- 18" wide each x 3 high per column  
 Resin tops and sinks  
 Faucets & fittings  
 Chemical Fume Hoods VAV- 1000 c.f.m. at each hood  
 Safety Shower/Eyewash  
 Marker board  
 Monitors  
 Instructor desk/demo bench with media cabinet  
 Fire extinguisher cabinet

## COLLEGE FURNISHED EQUIPMENT

Chairs  
 Benchtop analytical instruments

# GENERAL CHEMISTRY LABORATORY



**ARCHITECTURAL**  
 Occupancy: B  
 Number of students: up to 28  
 Assignable Program area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows  
 Accessibility: (1) student island, (1) fume hood, and instructor bench  
 Security: card key access

**STRUCTURAL**  
 Vibration attenuation: 4,000 micro inches/sec or less

**MECHANICAL**  
 Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

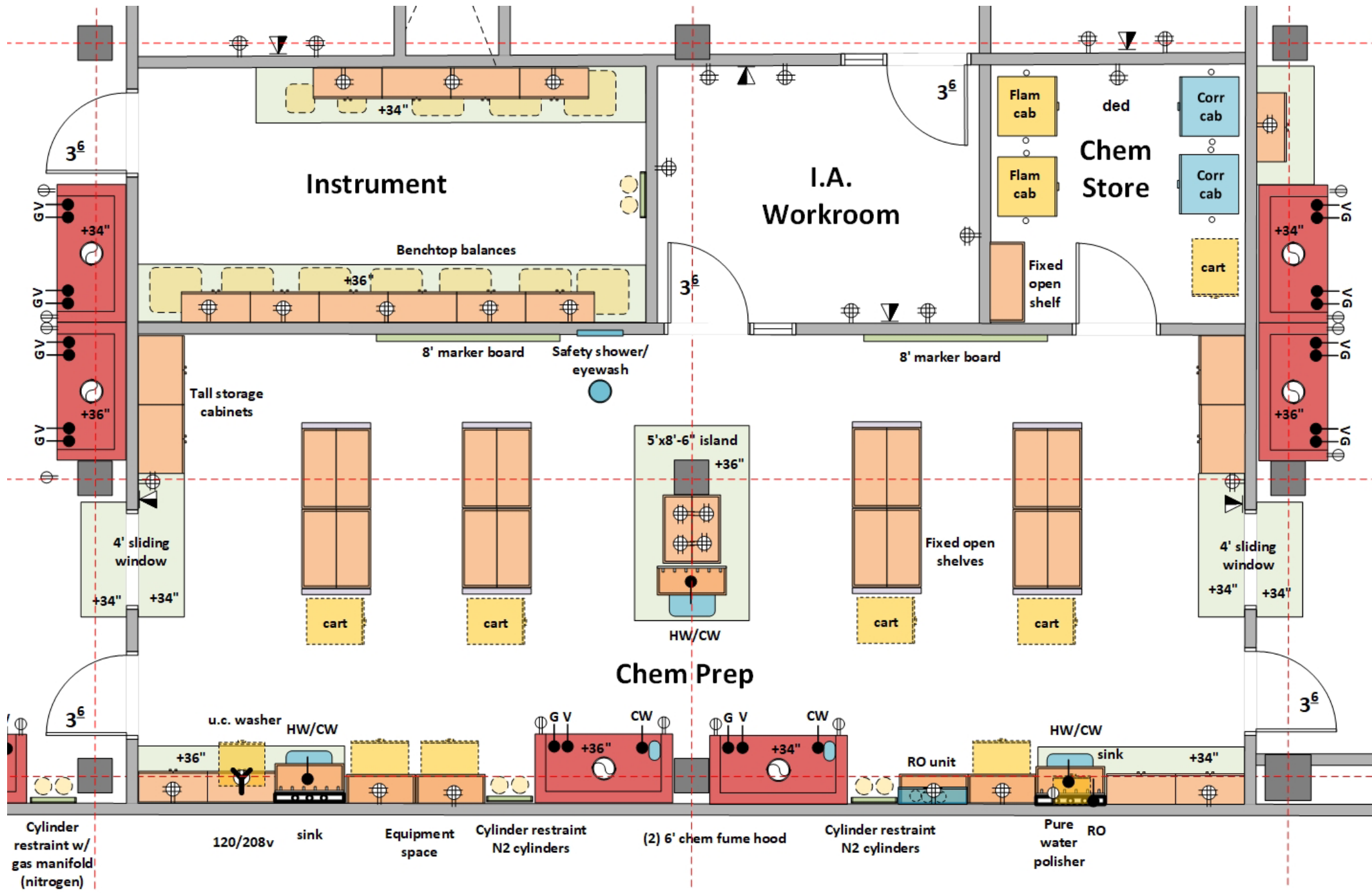
**ELECTRICAL**  
 110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer  
 Zoned lighting at marker board wall

**PLUMBING**  
 Hot/Cold water at sinks with vacuum breakers  
 Natural Gas, vacuum at fume hoods  
 Natural Gas at student islands and instructor bench  
 Domestic water at safety shower/eyewash  
 Emer. gas shut off

**CONTRACTOR FURNISHED EQUIPMENT**  
 Wood casework- base cabinets, wall cabinets, tall cabinets  
 160 section drawers requested- 18" wide each x 3 high per column  
 Resin tops and sinks  
 Faucets & fittings  
 Chemical Fume Hoods VAV- 1000 c.f.m. at each hood  
 Safety Shower/Eyewash  
 Marker board  
 Monitors  
 Instructor desk/demo bench with media cabinet  
 Fire extinguisher cabinet

**COLLEGE FURNISHED EQUIPMENT**  
 Chairs  
 Benchttop analytical instruments

# CHEMISTRY PREP/INSTRUMENT ROOM



**ARCHITECTURAL**

Occupancy: B  
 Assignable Program area: 1250 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 9' acoustic tile;  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows (windows shown may not reflect actual design)  
 Accessibility: (1) sink, (1) fume hood  
 Security: card key access

**STRUCTURAL**

Vibration attenuation: 4,000 micro inches/sec or less

**MECHANICAL**

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 50 btuh/sf

**ELECTRICAL**

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes at perimeter  
 Wireless data  
 Lighting: indirect LED @ 500 LUX

**PLUMBING**

Hot/Cold water at sinks with vacuum breakers  
 Point-of-use water polisher at one sink  
 Natural Gas, vacuum, cold water at fume hoods  
 Domestic water at (1) safety shower/eyewash

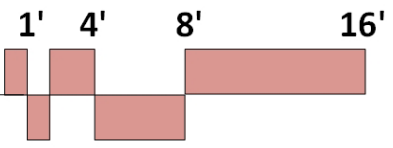
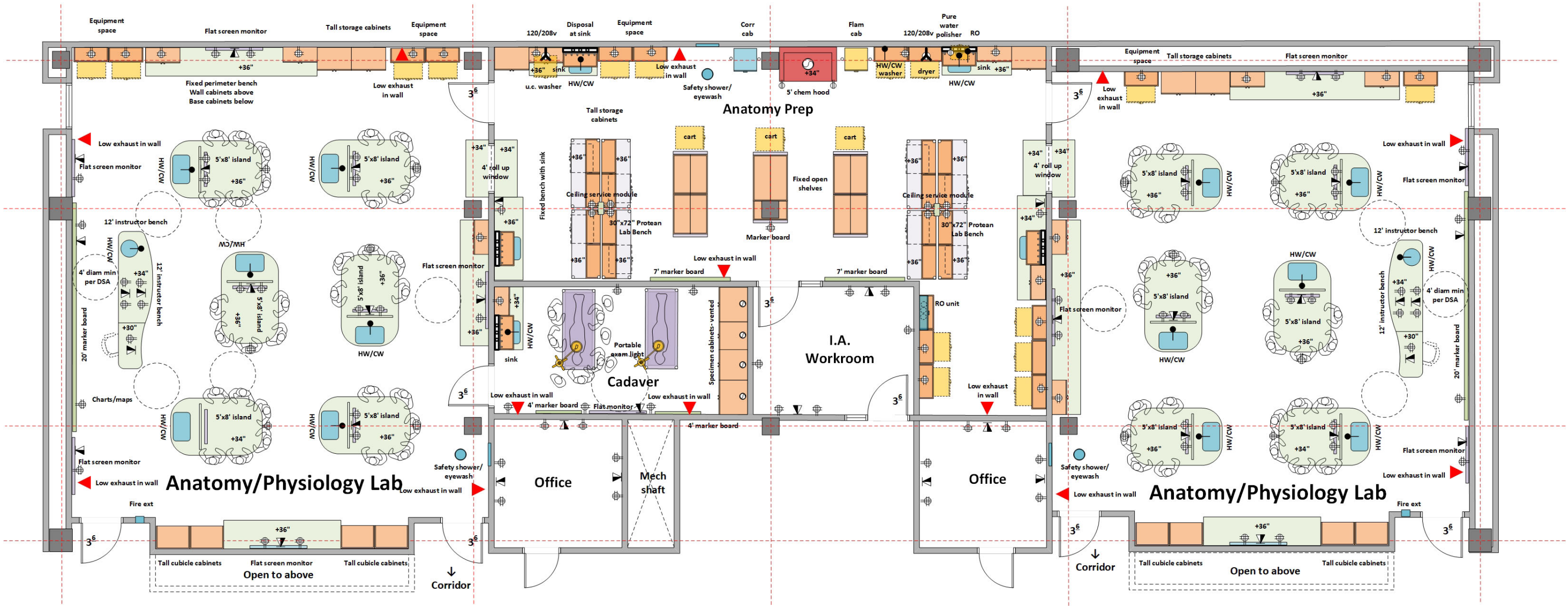
**CONTRACTOR FURNISHED EQUIPMENT**

Wood casework- base cabinets, wall cabinets, tall cabinets  
 Mobile lab benches  
 Resin tops and sinks  
 Faucets & fittings  
 Chemical Fume Hoods VAV- 1000 c.f.m. at each hood  
 Safety Shower/Eyewash  
 Fire extinguisher cabinet  
 Chemical storage cabinets- vented  
 Glassware washer, RO unit for washer  
 Cylinder restraint  
 Undercounter washer

**COLLEGE FURNISHED EQUIPMENT**

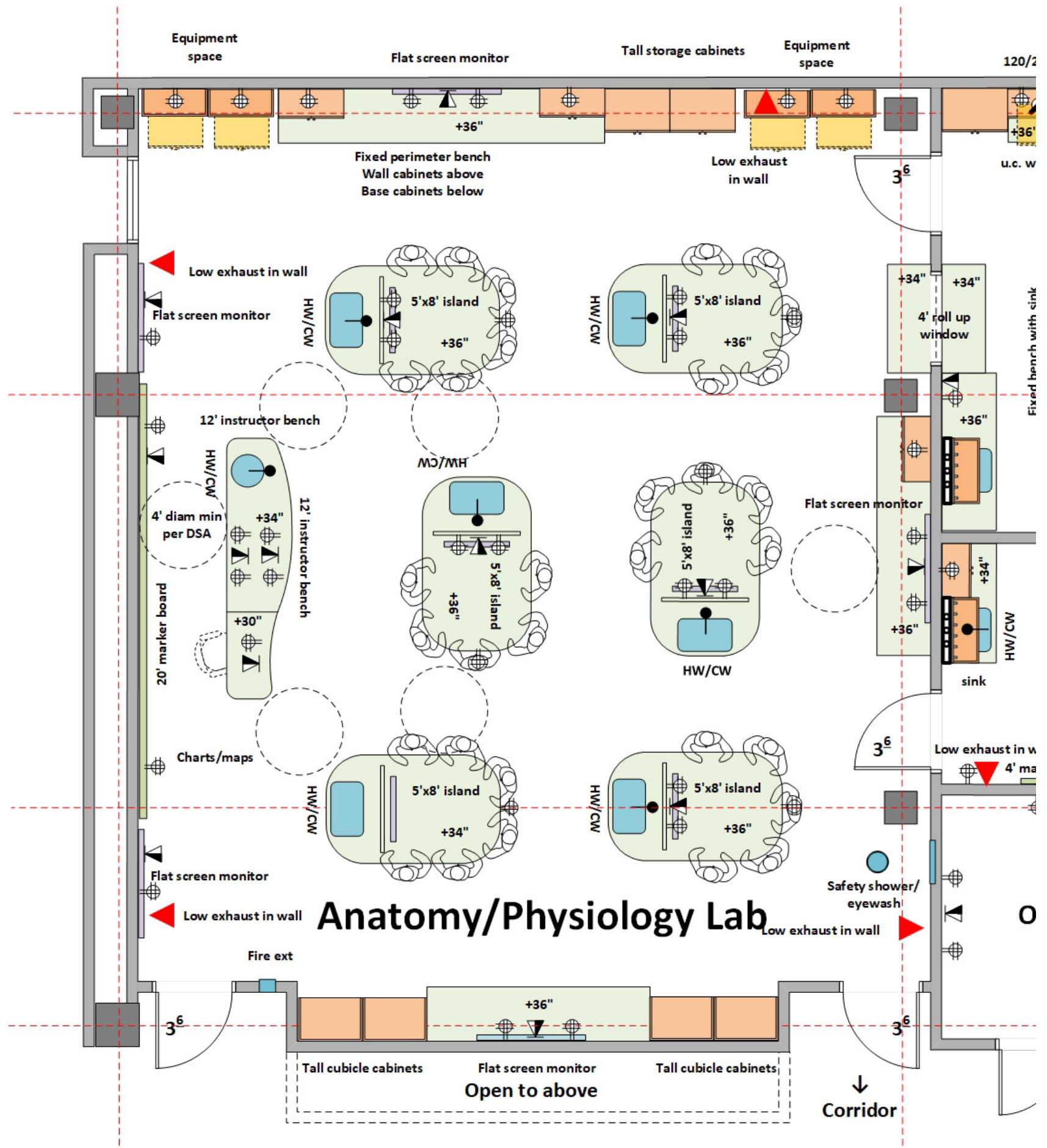
Refrigerators  
 Explosion proof refrigerator  
 Scientific equipment

# ANATOMY/PHYSIOLOGY LABORATORIES



# ANATOMY/PHYSIOLOGY LABORATORY

## West



**ARCHITECTURAL**

Occupancy: B  
 Number of students: up to 32  
 Assignable Program area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows  
 Accessibility: (1) student island, instructor bench  
 Security: card key access

**STRUCTURAL**

Vibration attenuation: 4,000 micro inches/sec or less

**MECHANICAL**

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(15) air changes per hour occupied VAV  
 -(4) air changes per hour unoccupied  
 Provide ¾ exhaust low at perimeter wall, 1/4 at ceiling  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

**ELECTRICAL**

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer  
 Zoned lighting at marker board wall

**PLUMBING**

Hot/Cold water at sinks with vacuum breakers  
 Domestic water at safety shower/eyewash

**CONTRACTOR FURNISHED EQUIPMENT**

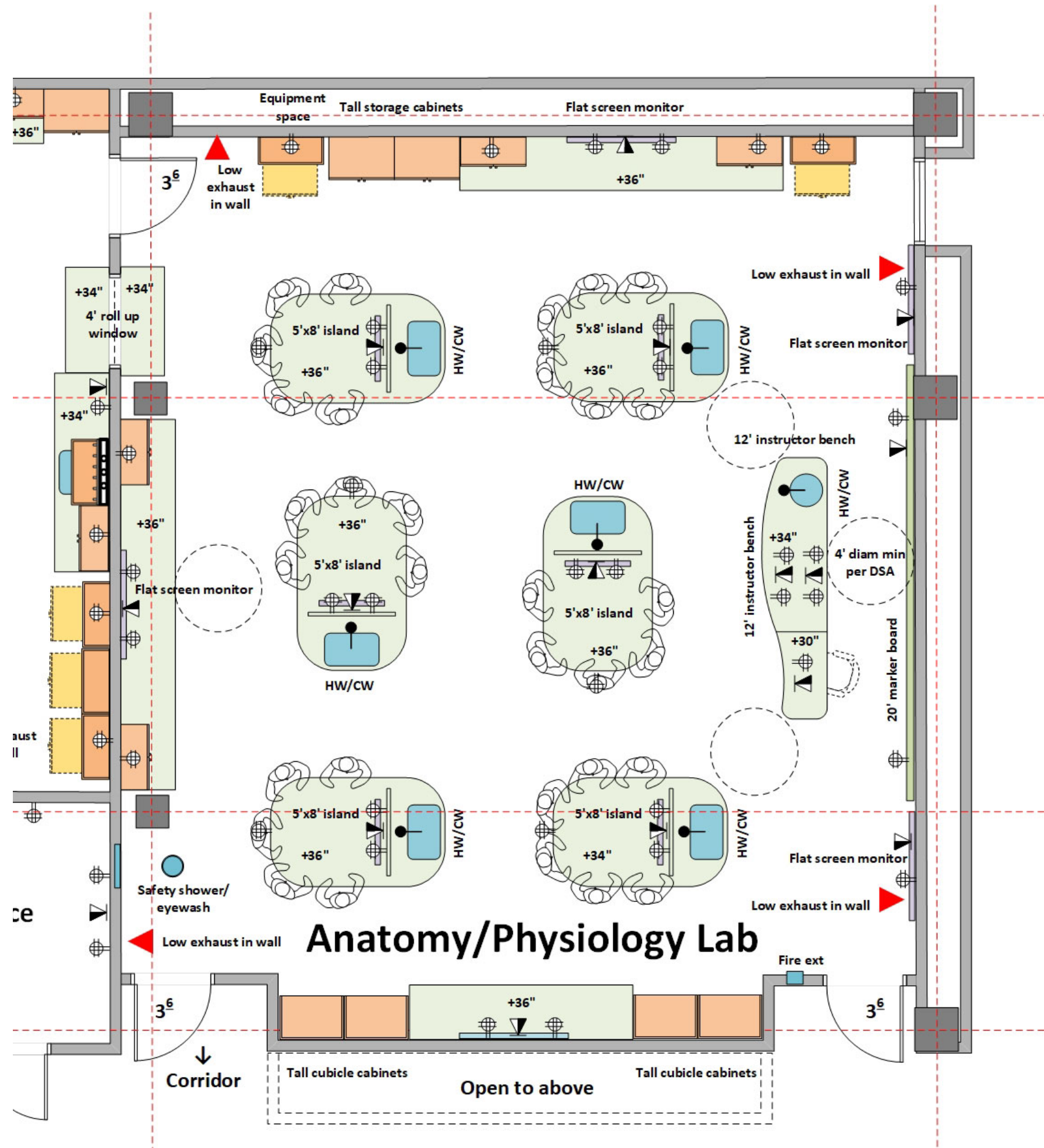
Wood casework- base cabinets, wall cabinets, tall cabinets  
 Microscope cabinets at each island  
 Resin tops and sinks  
 Faucets & fittings  
 Safety Shower/Eyewash  
 Marker board  
 Monitors  
 Instructor desk/demo bench with media cabinet  
 Fire extinguisher cabinet

**COLLEGE FURNISHED EQUIPMENT**

Chairs  
 Benchttop analytical instruments

# ANATOMY/PHYSIOLOGY LABORATORY

## East



### ARCHITECTURAL

Occupancy: B  
 Number of students: up to 32  
 Assignable Program area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows  
 Accessibility: (1) student island, instructor bench  
 Security: card key access

### STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less

### MECHANICAL

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(15) air changes per hour occupied VAV  
 -(4) air changes per hour unoccupied  
 Provide ¾ exhaust low at perimeter wall, 1/4 at ceiling  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

### ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer  
 Zoned lighting at marker board wall

### PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Domestic water at safety shower/eyewash

### CONTRACTOR FURNISHED EQUIPMENT

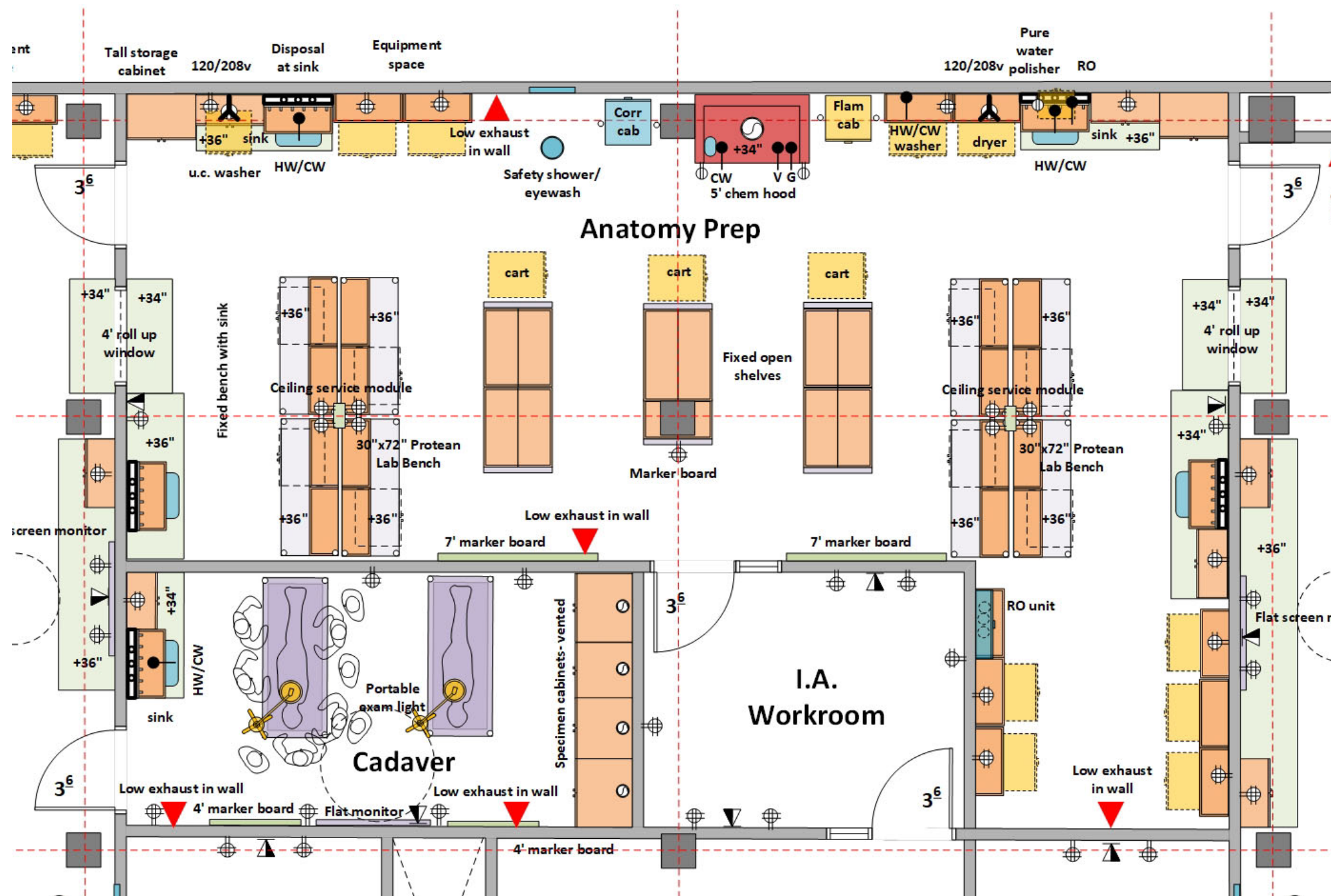
Wood casework- base cabinets, wall cabinets, tall cabinets  
 Microscope cabinets at each island  
 Resin tops and sinks  
 Faucets & fittings  
 Safety Shower/Eyewash  
 Marker board  
 Monitors  
 Instructor desk/demo bench with media cabinet  
 Fire extinguisher cabinet

### COLLEGE FURNISHED EQUIPMENT

Chairs  
 Benchtop analytical instruments



# ANATOMY PREP



## ARCHITECTURAL

Occupancy: B  
 Assignable Program area: 1250 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 9' acoustic tile;  
 Doors: 3<sup>6</sup>/<sub>8</sub> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows, if any  
 Accessibility: (1) sink, (1) fume hood  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less

## MECHANICAL

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(12) air changes per hour occupied  
 -(4) air changes per hour unoccupied  
 Provide ¾ exhaust low at wall, 1/4 at ceiling  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 50 btuh/sf

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes at perimeter  
 Wireless data  
 Lighting: indirect LED@ 500 LUX

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Point-of-use water polisher at one sink  
 Hot/Cold water and pure water at glassware washer  
 Hot/cold water at washer  
 Cold water at ice machine  
 Natural gas, vacuum, and cold water at fume hood  
 Domestic water at (1) safety shower/eyewash  
 Floor drain at ice machine  
 Floor sink at autoclave

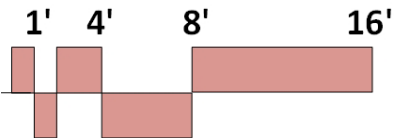
## CONTRACTOR FURNISHED EQUIPMENT

Wood casework- base cabinets, wall cabinets, tall cabinets  
 Resin tops and sinks  
 Faucets & fittings  
 Chemical Fume Hood VAV- 800 cfm  
 Chemical storage cabinets  
 Autoclave, RO unit for Autoclave  
 Glassware washer, RO Unit for washer  
 Fire extinguisher cabinet  
 Washer and dryer

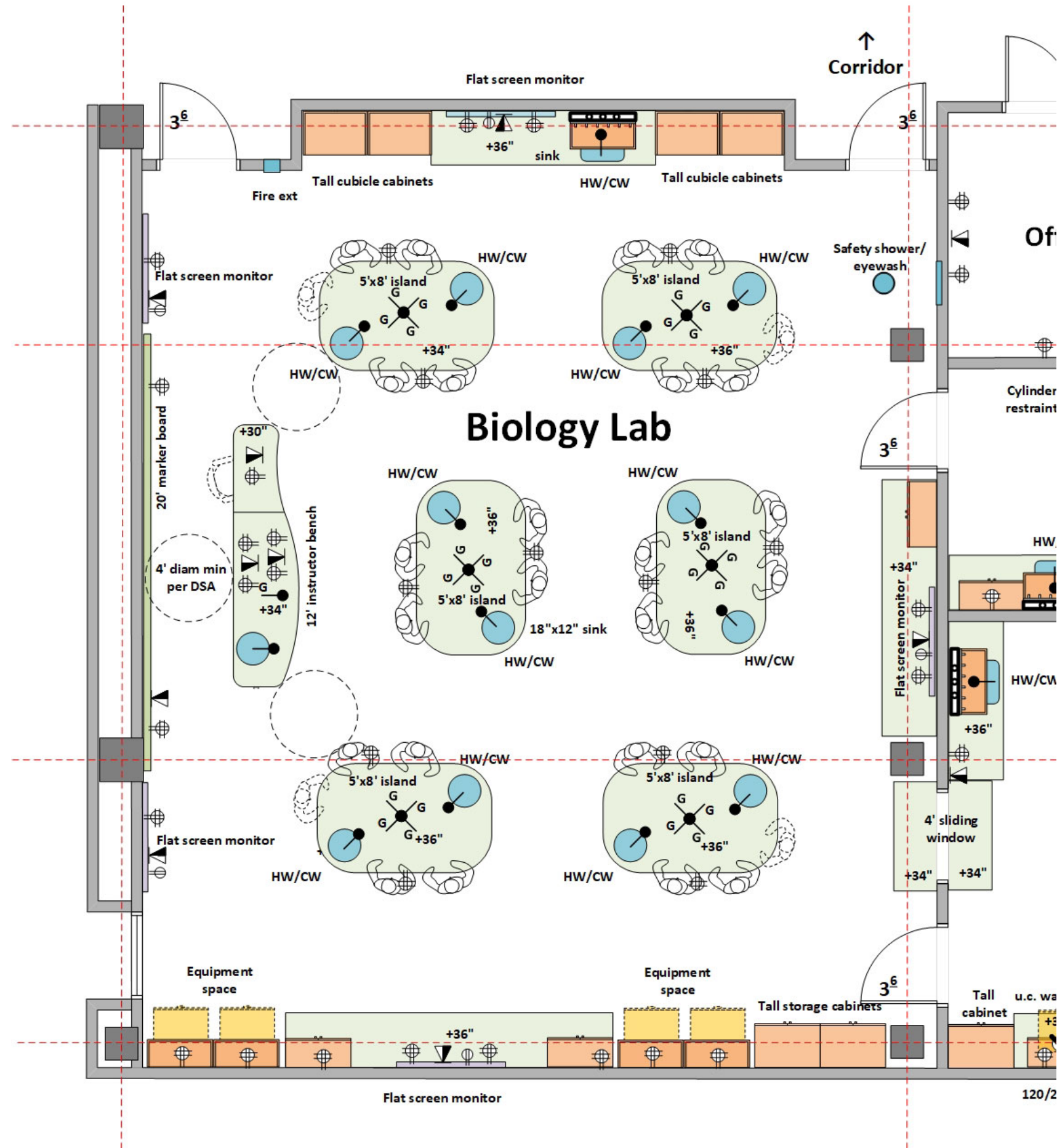
## COLLEGE FURNISHED EQUIPMENT

Benchtop analytical instruments  
 Scientific equipment  
 Refrigerators; Incubators; Ice machine

# BIOLOGY/MICROBIOLOGY LABORATORIES



# BIOLOGY LABORATORY



## ARCHITECTURAL

Occupancy: B  
 Number of students: 32  
 Assignable area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint; Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows (windows shown may not reflect actual design)  
 Accessibility: student island, sink, and instructor bench  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less

## MECHANICAL

Hours of operation: 6 am to 11 pm; Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per (exhaust at ceiling) hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 -(1) duplex per student at islands  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer  
 Zoned lighting at marker board wall

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Pure water at 1 sink  
 Point-of-use water polisher at one sink  
 Natural Gas at islands and instructor bench  
 Sinks at perimeter bench  
 Domestic water at safety shower/eyewash  
 Emer. gas shutoff

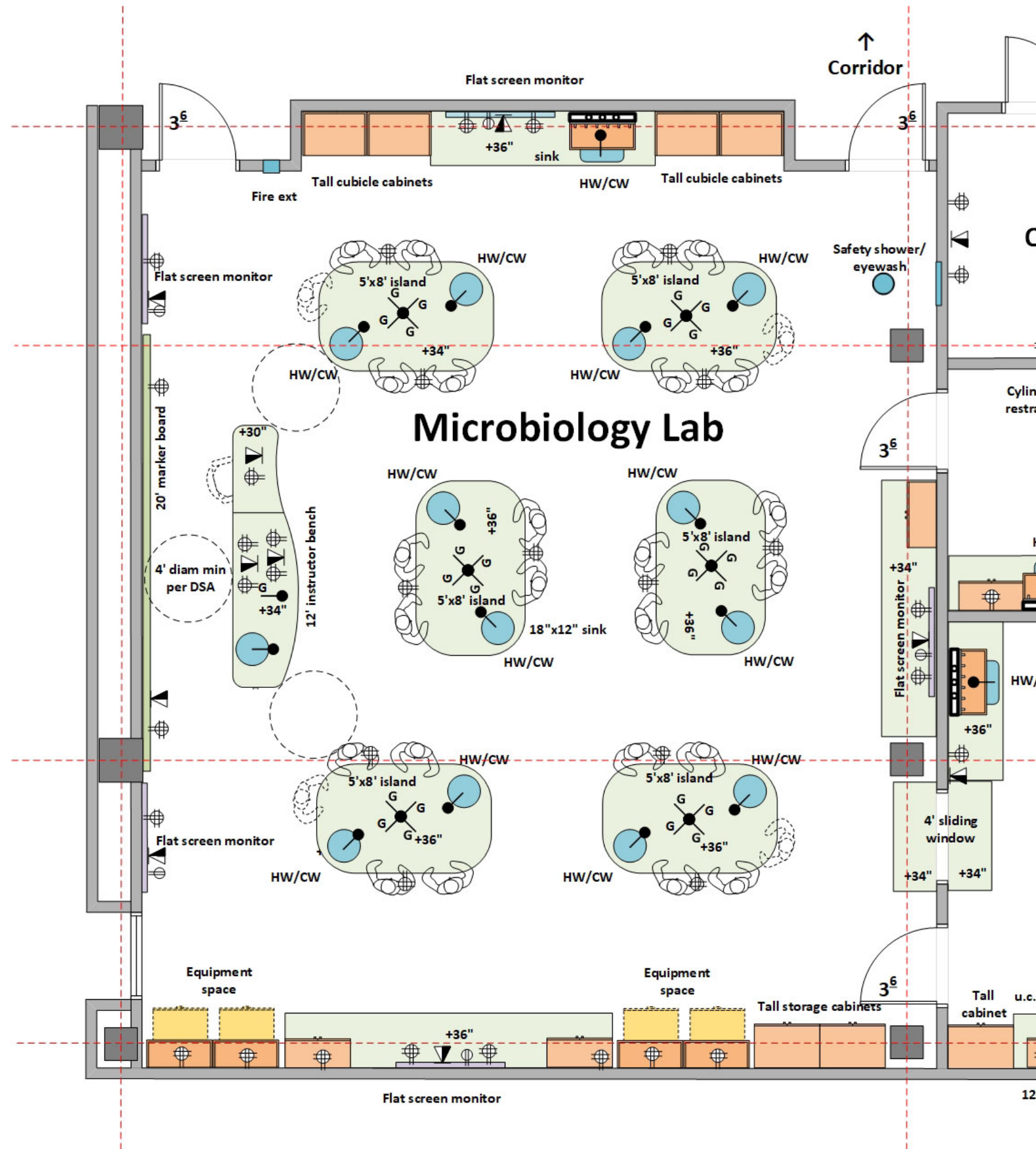
## CONTRACTOR FURNISHED EQUIPMENT

Wood casework- base cabinets, wall cabinets, tall cabinets  
 Microscope cabinets at each island- (4) microscopes/island  
 Resin tops and sinks; Faucets & fittings  
 Marker board  
 Monitors  
 Fire extinguisher cabinet

## COLLEGE FURNISHED EQUIPMENT

Chairs  
 Benchtop analytical instruments  
 Refrigerator

# MICROBIOLOGY LABORATORY



## ARCHITECTURAL

Occupancy: B  
 Number of students: 32  
 Assignable area: 1600 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 10' acoustic tile  
 Doors: 3<sup>6</sup>x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows (windows shown may not reflect actual design)  
 Accessibility: student island, sink, and instructor bench  
 Security: card key access

## STRUCTURAL

Vibration attenuation: 4,000 micro inches/sec or less

## MECHANICAL

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per (exhaust at ceiling) hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 25 btuh/sf

## ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 -(1) duplex per student at islands  
 Data junction boxes islands, perimeter and instructor bench  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer  
 Zoned lighting at marker board wall

## PLUMBING

Hot/Cold water at sinks with vacuum breakers  
 Point-of-use polisher at one sink  
 Natural gas at islands and instructor bench  
 Sinks at student islands  
 Domestic water at safety shower/eyewash  
 Emer. gas shutoff

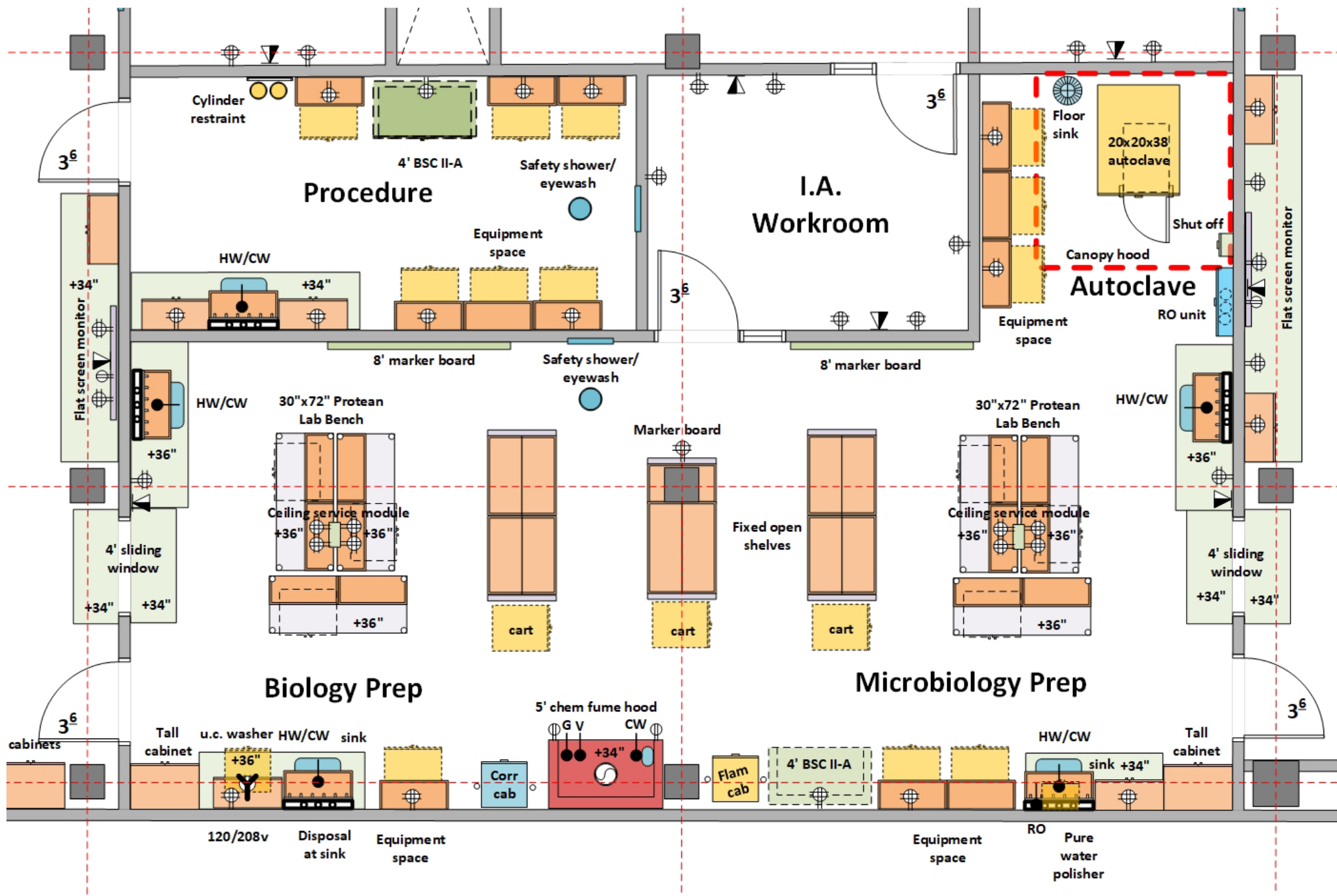
## CONTRACTOR FURNISHED EQUIPMENT

Wood casework- base cabinets, wall cabinets, tall cabinets  
 Microscope cabinets at each island- (8) microscopes/island  
 Resin tops and sinks; Faucets & fittings  
 Writing board (consider integration of smart board)  
 Monitors  
 Instructor desk/demo bench with media cabinet  
 Fire extinguisher cabinet

## COLLEGE FURNISHED EQUIPMENT

Chairs  
 Benchttop analytical instruments  
 refrigerators; incubators

# BIOLOGY PREP/PROCEDURE ROOM



**ARCHITECTURAL**

Occupancy: B  
 Assignable area: 1250 asf  
 Floor: vinyl tile or sealed concrete  
 Walls: gypsum board and enamel paint  
 Ceiling: 9' acoustic tile;  
 Doors: 3<sup>6</sup>/x8<sup>0</sup> with window  
 Acoustic Attenuation: NC 40 or less  
 Light Attenuation: at exterior windows (windows shown may not reflect actual design)  
 Accessibility: (1) sink, (1) fume hood  
 Security: card key access

**STRUCTURAL**

Vibration attenuation: 4,000 micro inches/sec or less

**MECHANICAL**

Hours of operation: 6 am to 11 pm  
 Temperature: 68-72 deg. F, +/- 2 deg. F  
 100% exhaust- no recirculation of air; Exhaust on emergency power supply  
 -(8) air changes per hour occupied  
 -(4) air changes per hour unoccupied  
 Provide night set back to (4) air changes per hour from 11 pm to 6 am  
 Pressure: Negative; Humidity: Ambient  
 Equipment heat gain: 50 btuh/sf

**ELECTRICAL**

110v fourplex and duplex outlets (maximum of four duplex per circuit)  
 Data junction boxes at perimeter  
 Wireless data  
 Lighting: indirect LED @ 500 LUX with dimmer

**PLUMBING**

Hot/Cold water at sinks with vacuum breakers  
 Point-of-use water polisher at one sink  
 Hot/Cold water and pure water at glassware washer  
 Cold water at ice machine  
 Natural Gas, vacuum, cold water at fume hood  
 Domestic water at (1) safety shower/eyewash  
 Floor drain at ice machine

**CONTRACTOR FURNISHED EQUIPMENT**

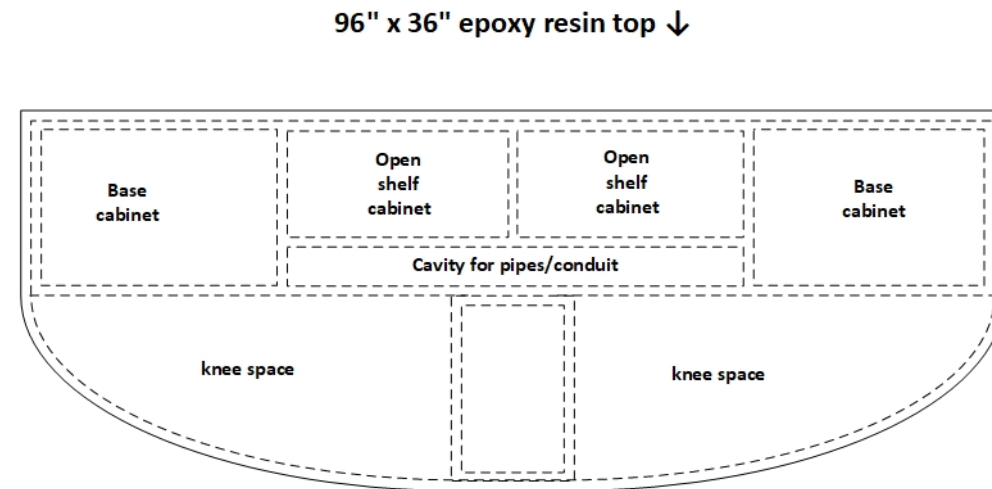
Wood casework- base cabinets, wall cabinets, tall cabinets  
 Mobile lab benches  
 Resin tops and sinks  
 Faucets & fittings  
 Undercounter glassware washers  
 Fire extinguisher cabinet  
 Chemical fume hood VAV- 800 cfm  
 Autoclave

**COLLEGE FURNISHED EQUIPMENT**

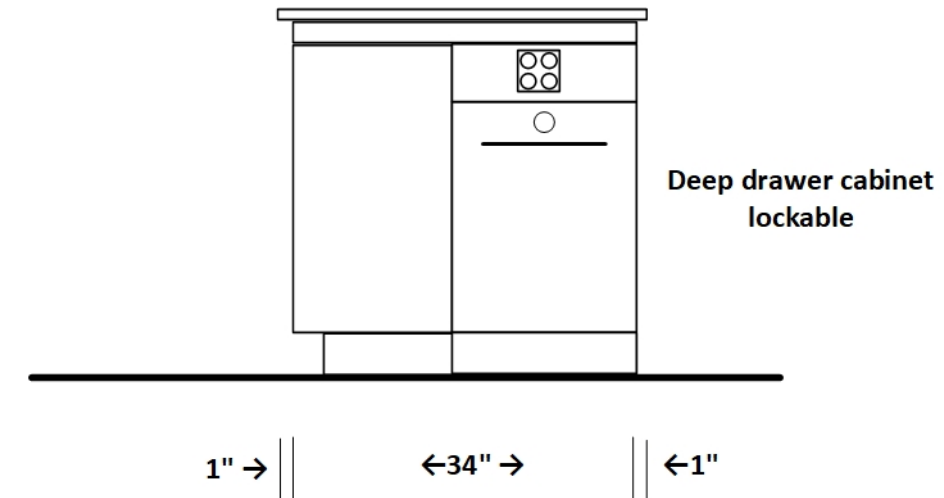
Benchtop analytical instruments  
 Scientific equipment  
 Refrigerators, ice machine

# SECTION DETAILS

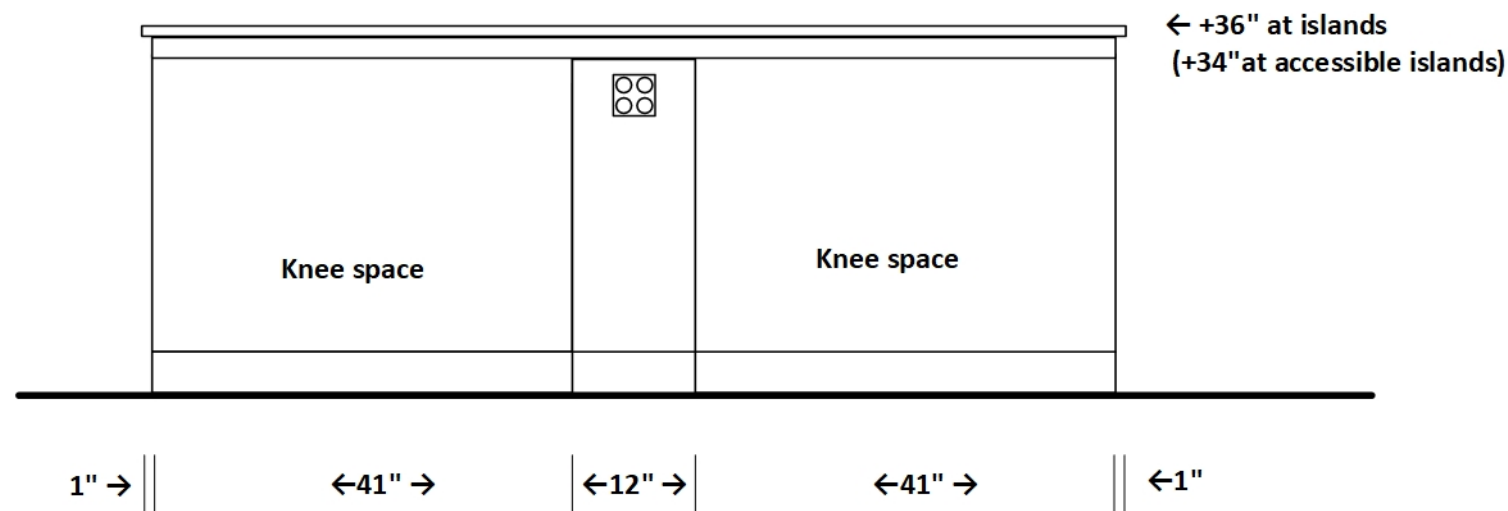
**SECTION DETAIL 01**  
**Student Island Bench- no sink**  
**Physics Lab; Earth Science Lab**



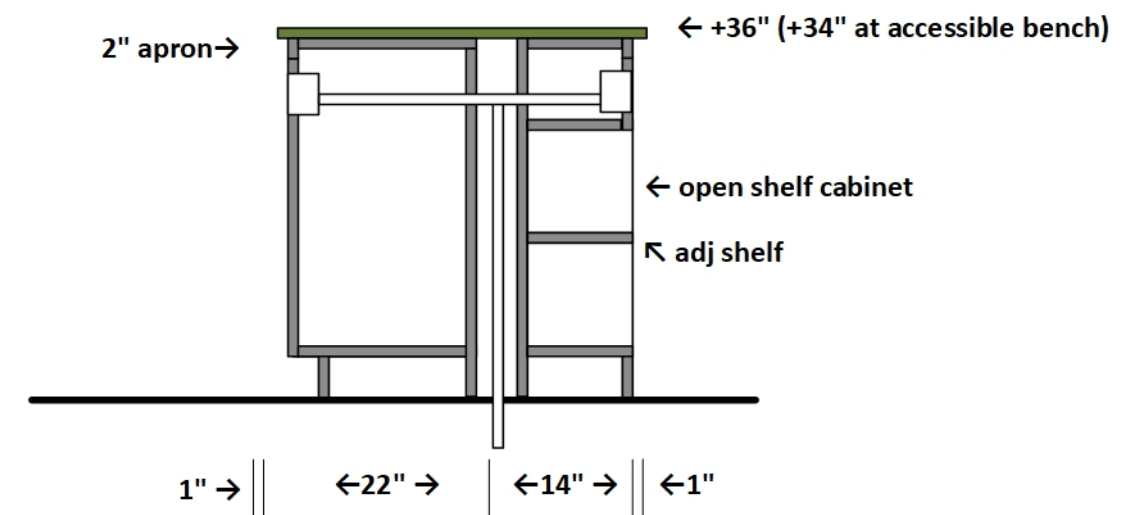
**Top View**



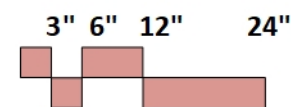
**Side Elevation**



**Front Elevation**

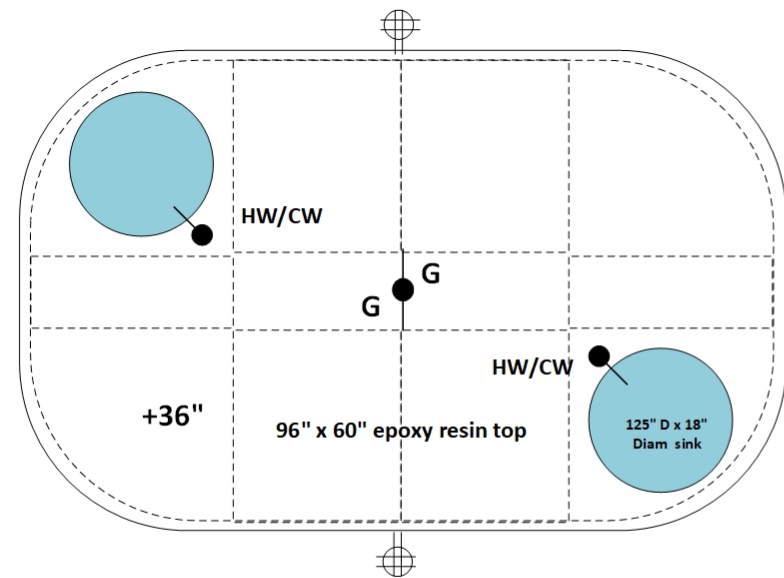


**Section**

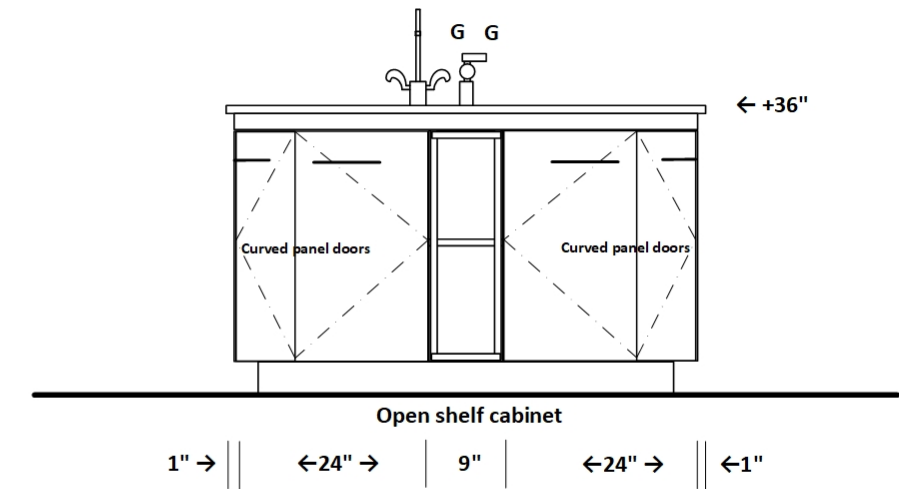


# SECTION DETAIL 02

## Student Island Bench- Double Sink Chemistry Labs

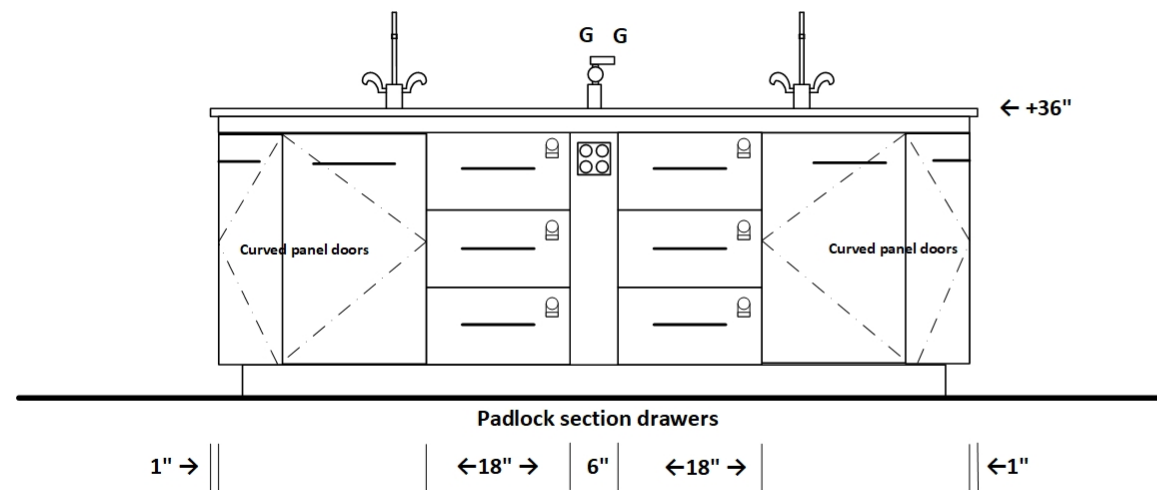


Top View

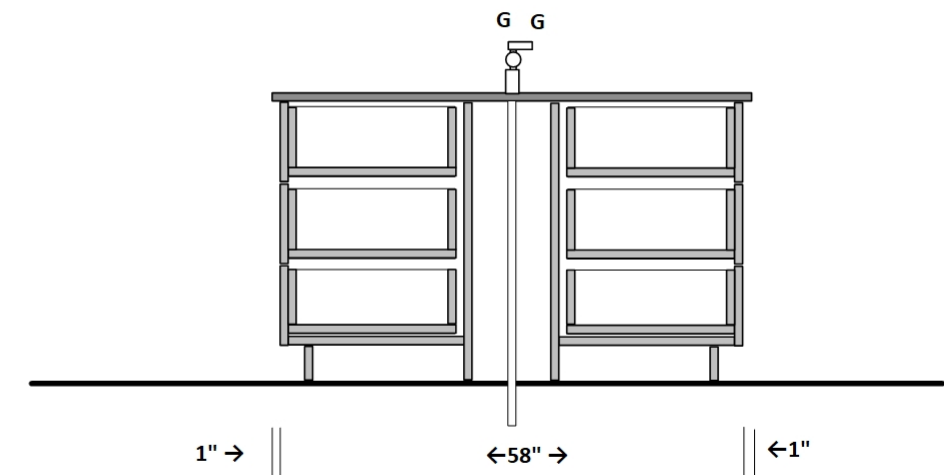


End Elevation

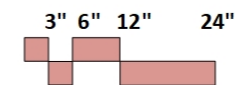
160 section drawers per lab requested



Side Elevation



Section

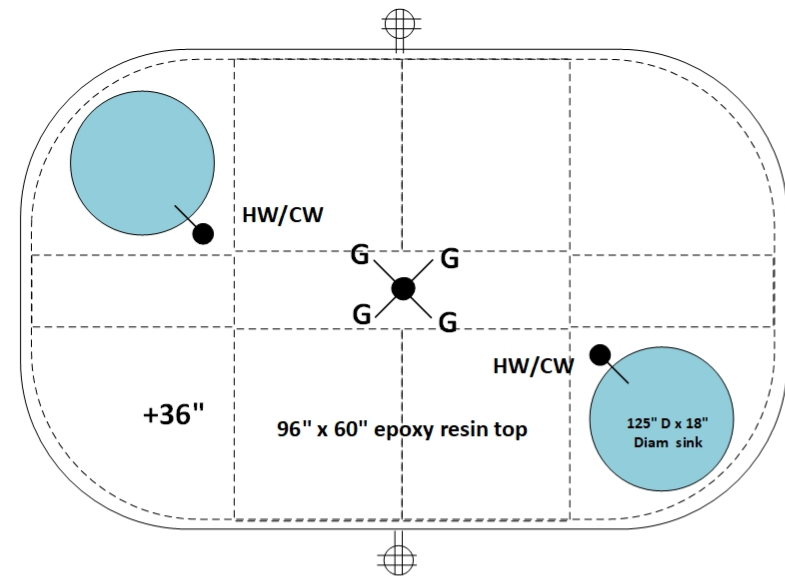




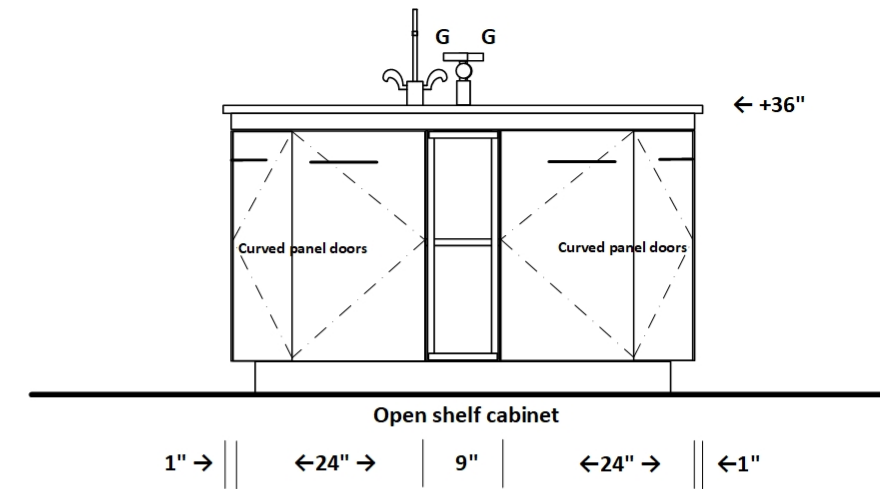
# SECTION DETAIL 03

## Student Island Bench- Double Sink

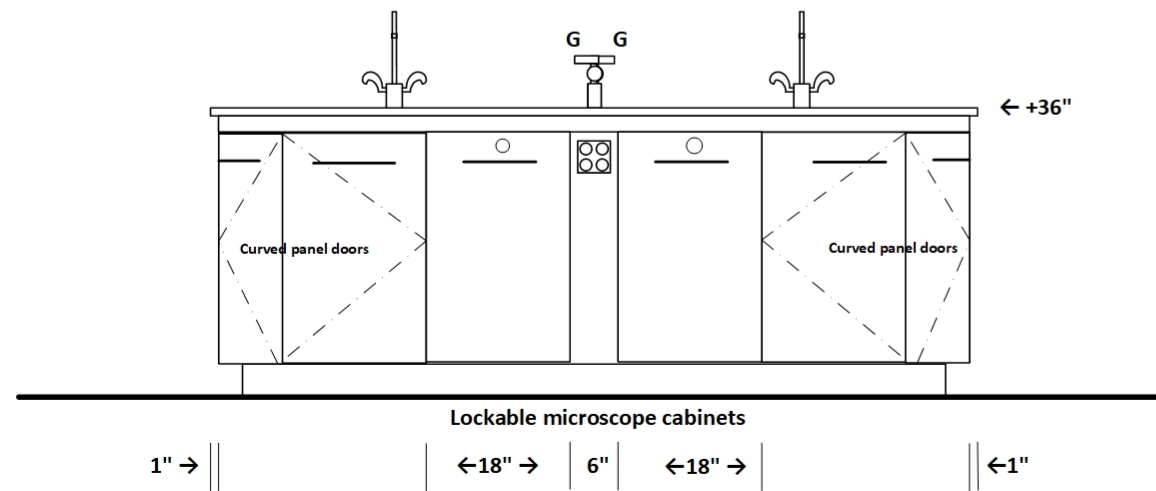
### Microbiology Lab



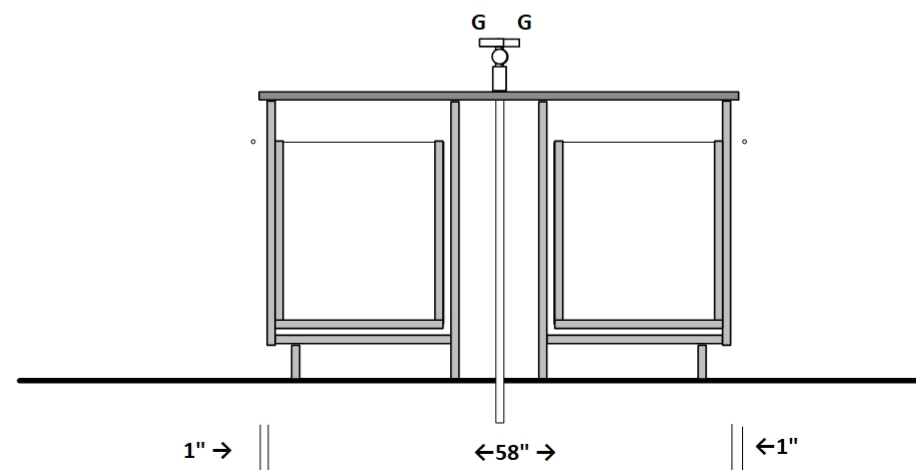
Top View



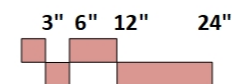
End Elevation



Side Elevation



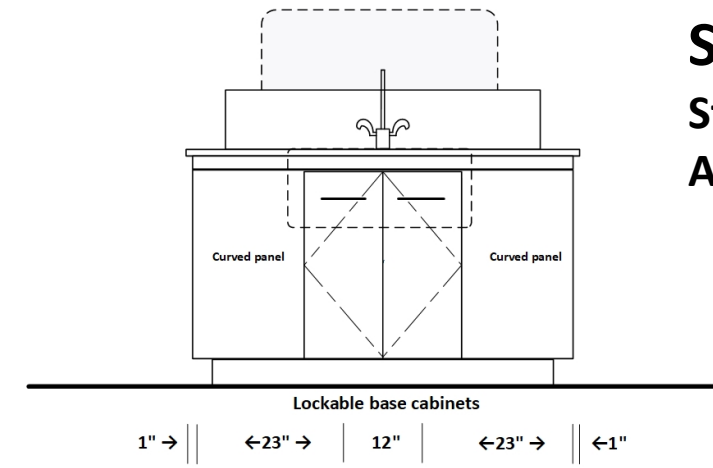
Section



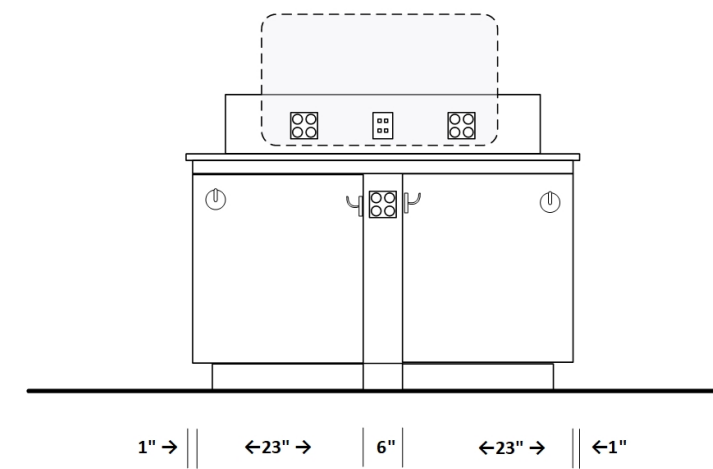
# SECTION DETAIL 04

## Student Island Bench- Single Sink

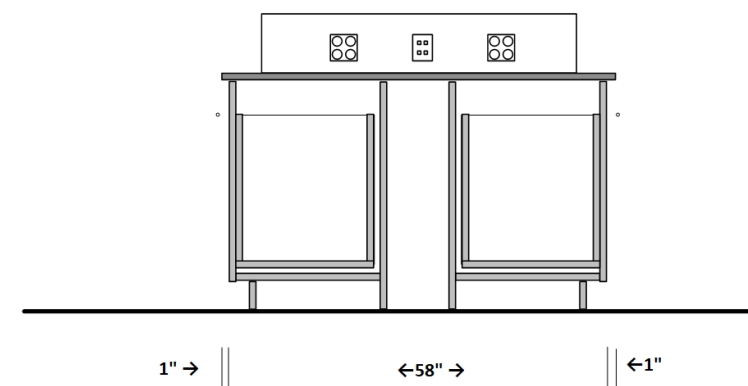
### Anatomy/Physiology Labs



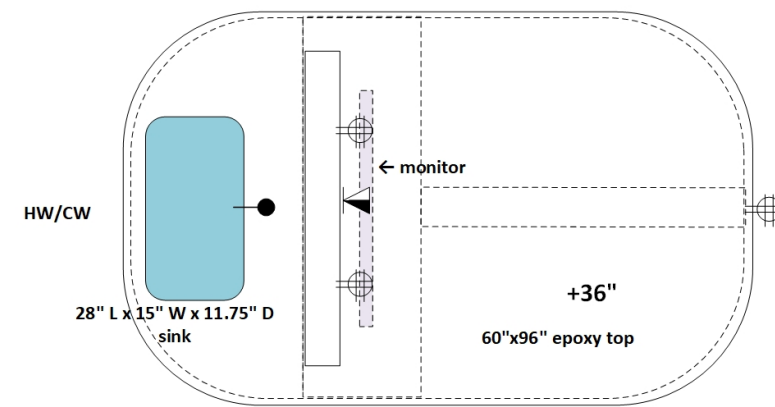
Sink End Elevation



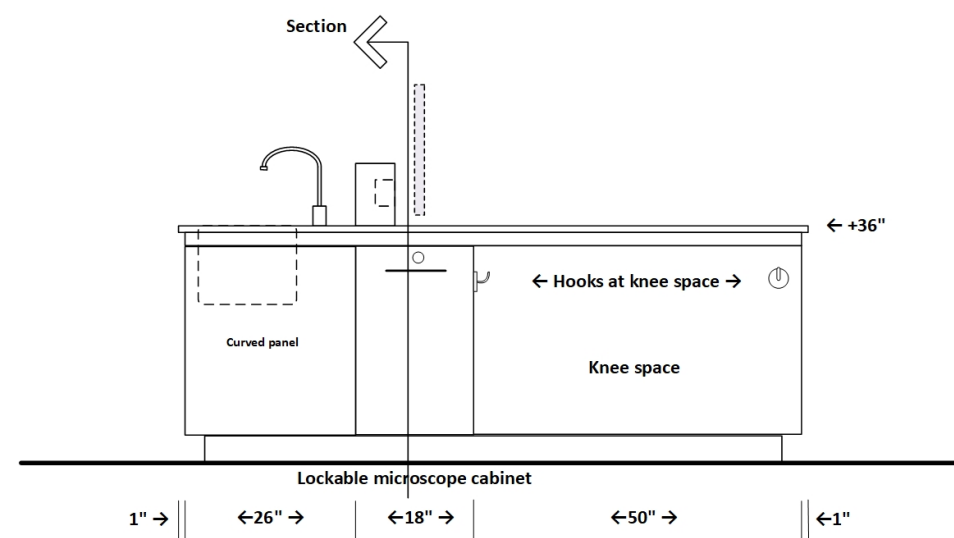
End Elevation



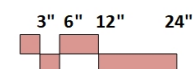
Section



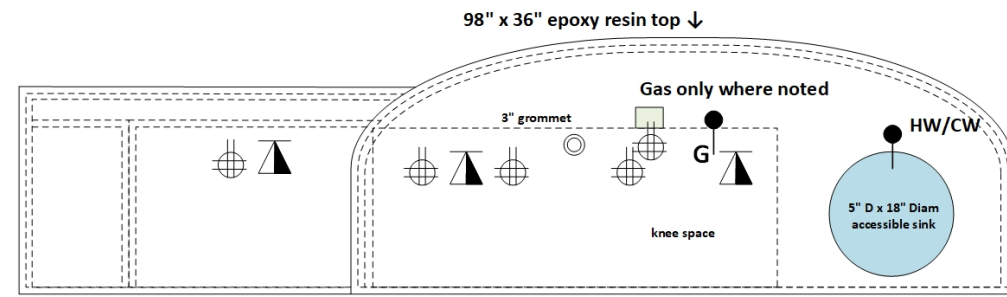
Top View



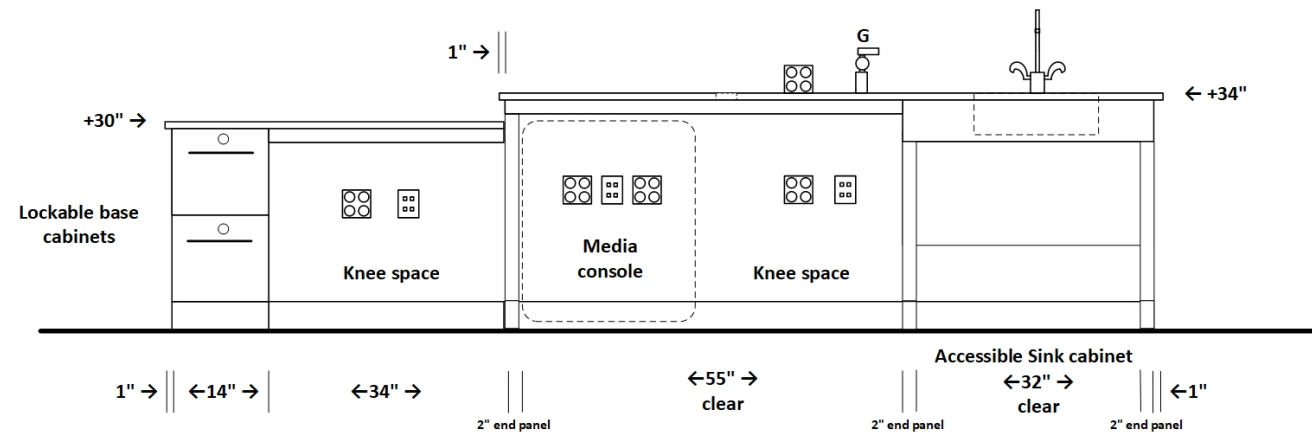
Side Elevation



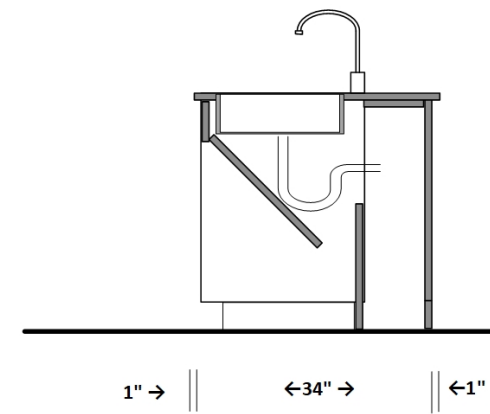
**SECTION DETAIL 05**  
**Instructor Bench with sink**  
**Chemistry Labs**  
**Anatomy/Physiology Labs**  
**Microbiology Lab**



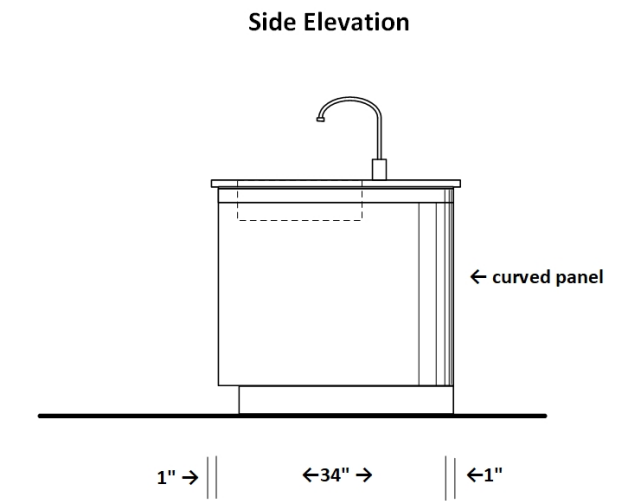
Top View



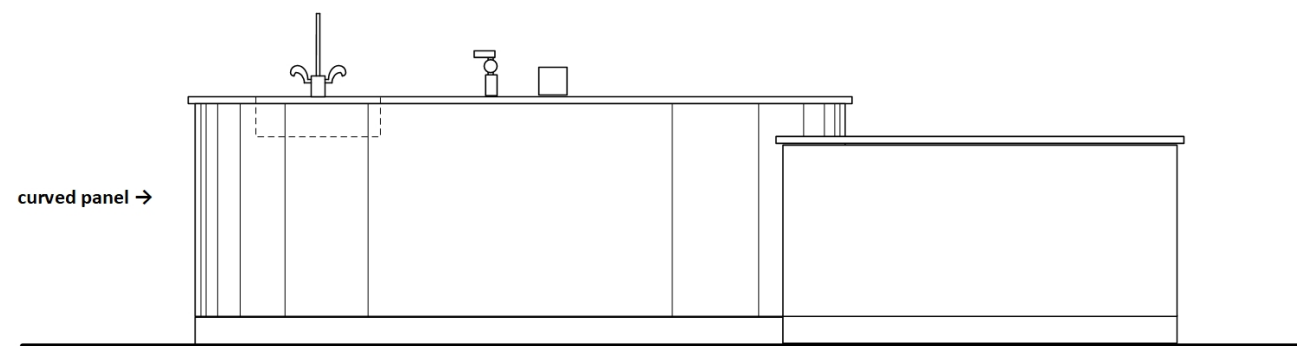
Front Elevation



Section

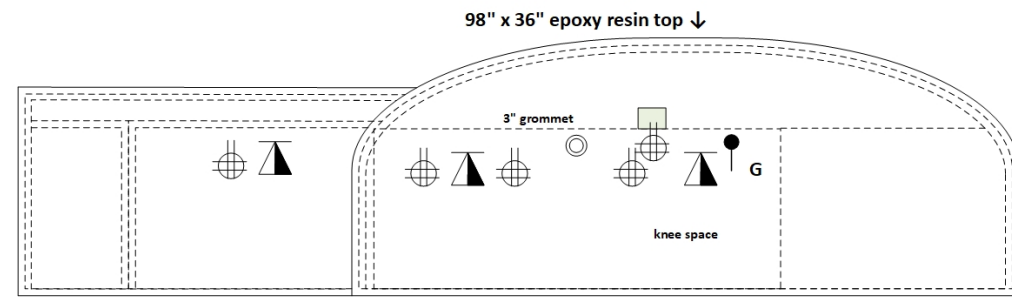


Side Elevation

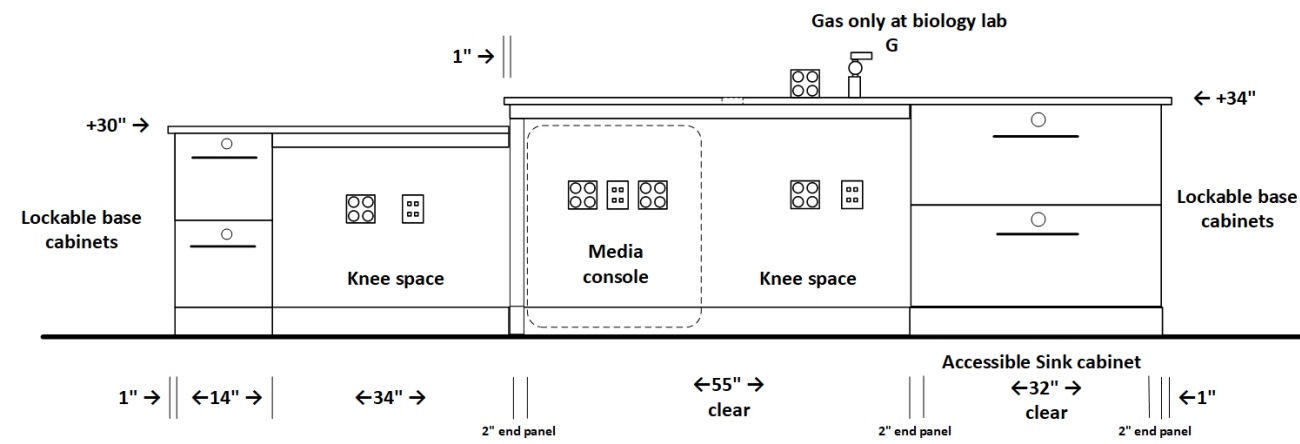


Back Elevation (facing students)

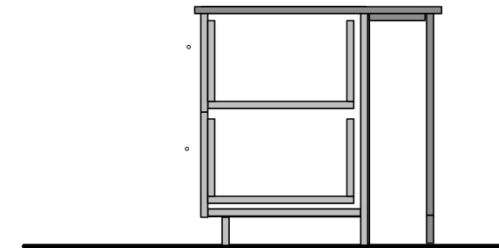
**SECTION DETAIL 06**  
**Instructor Bench no sink**  
**Physics Lab; Earth Science Lab**  
**Biology Lab**



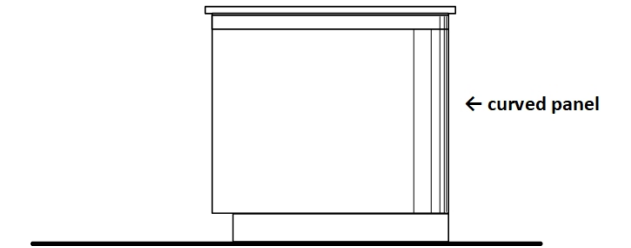
Top View



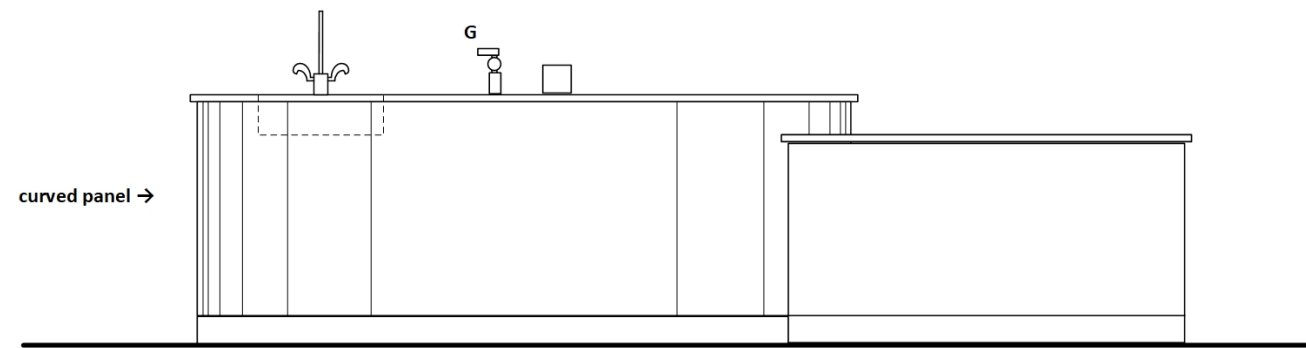
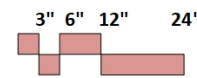
Front Elevation



Section



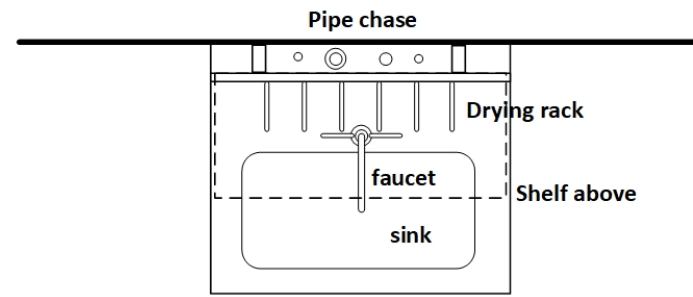
Side Elevation



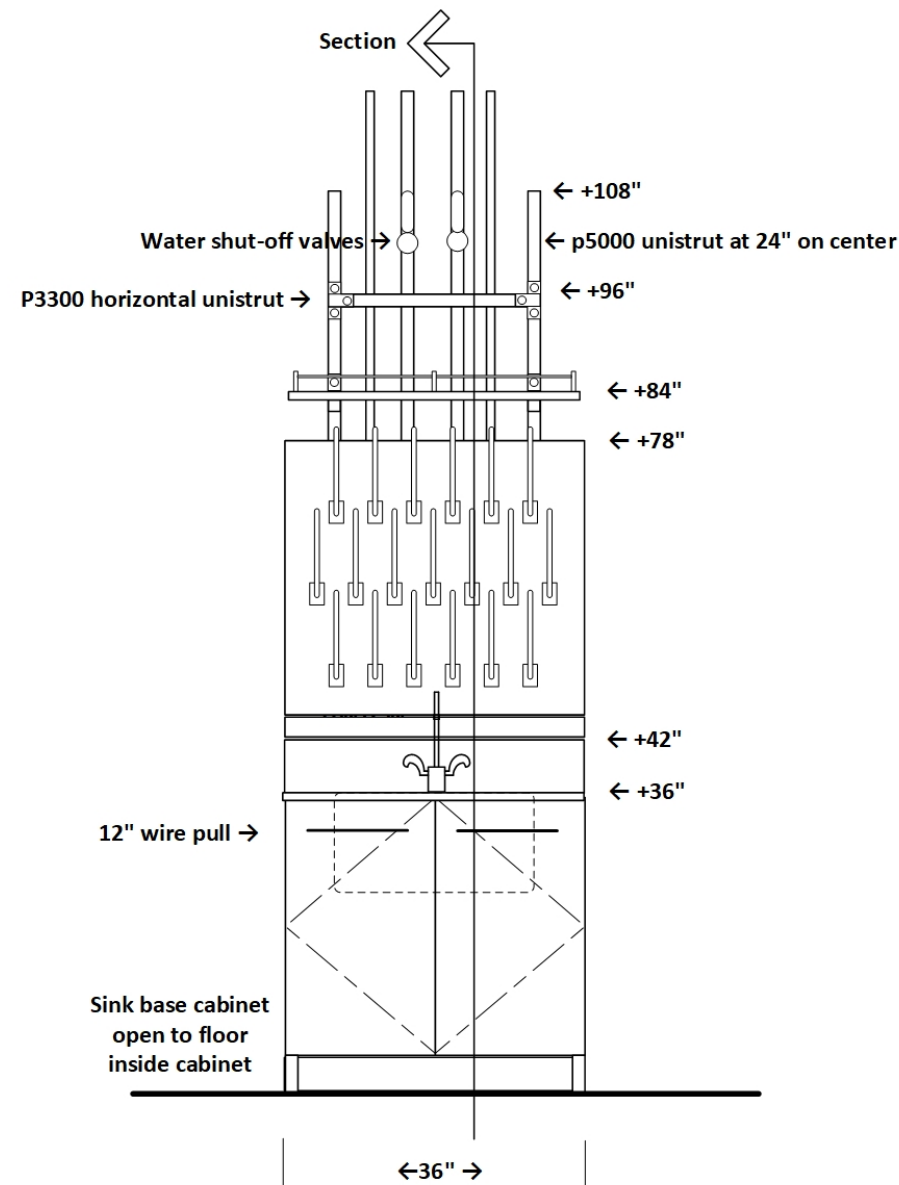
Back Elevation (facing students)

# SECTION DETAIL 07

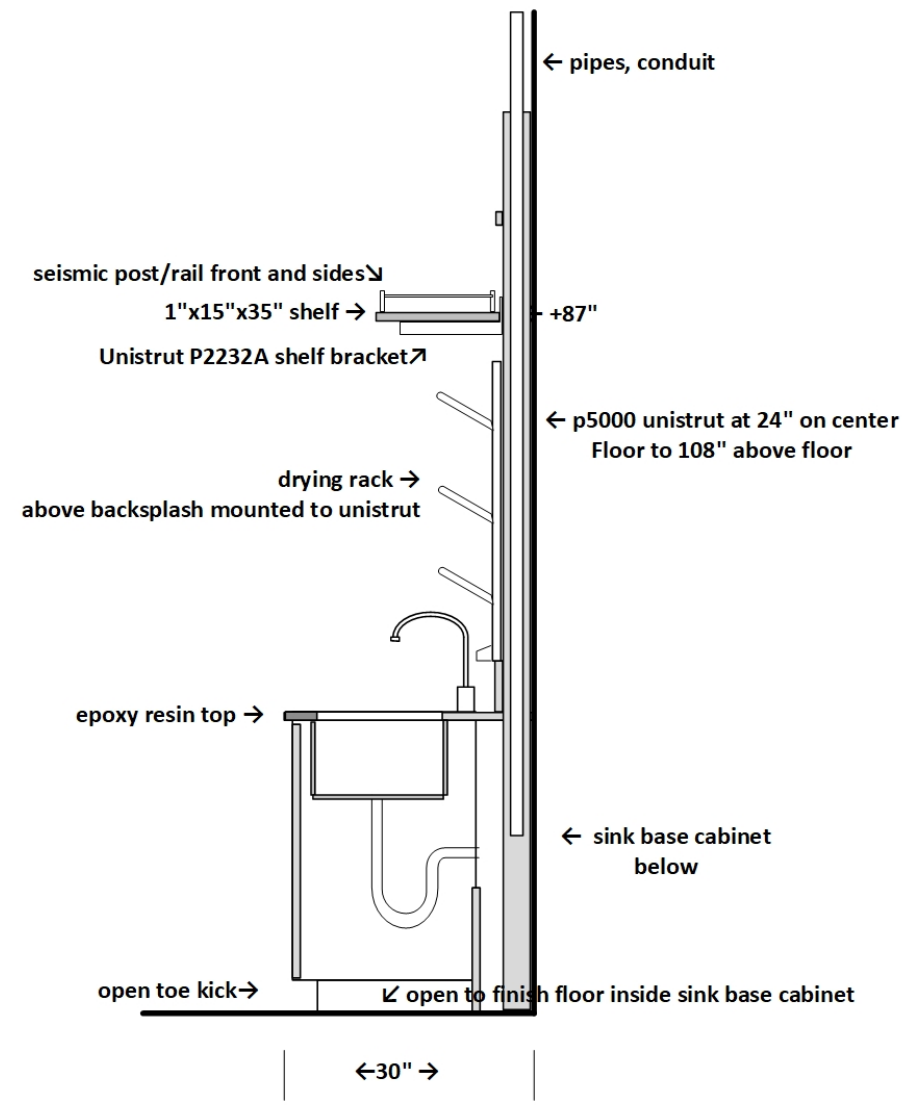
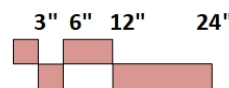
## Wall Sink Non-Accessible Labs and Prep Rooms



Plan

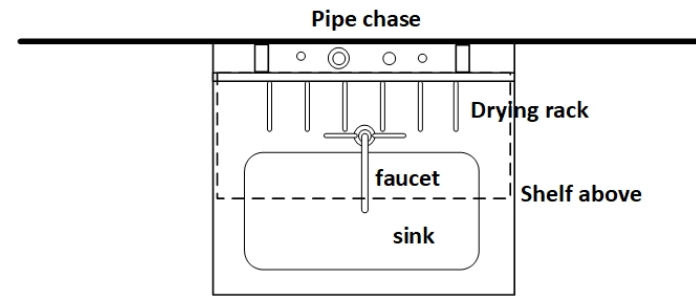


Elevation

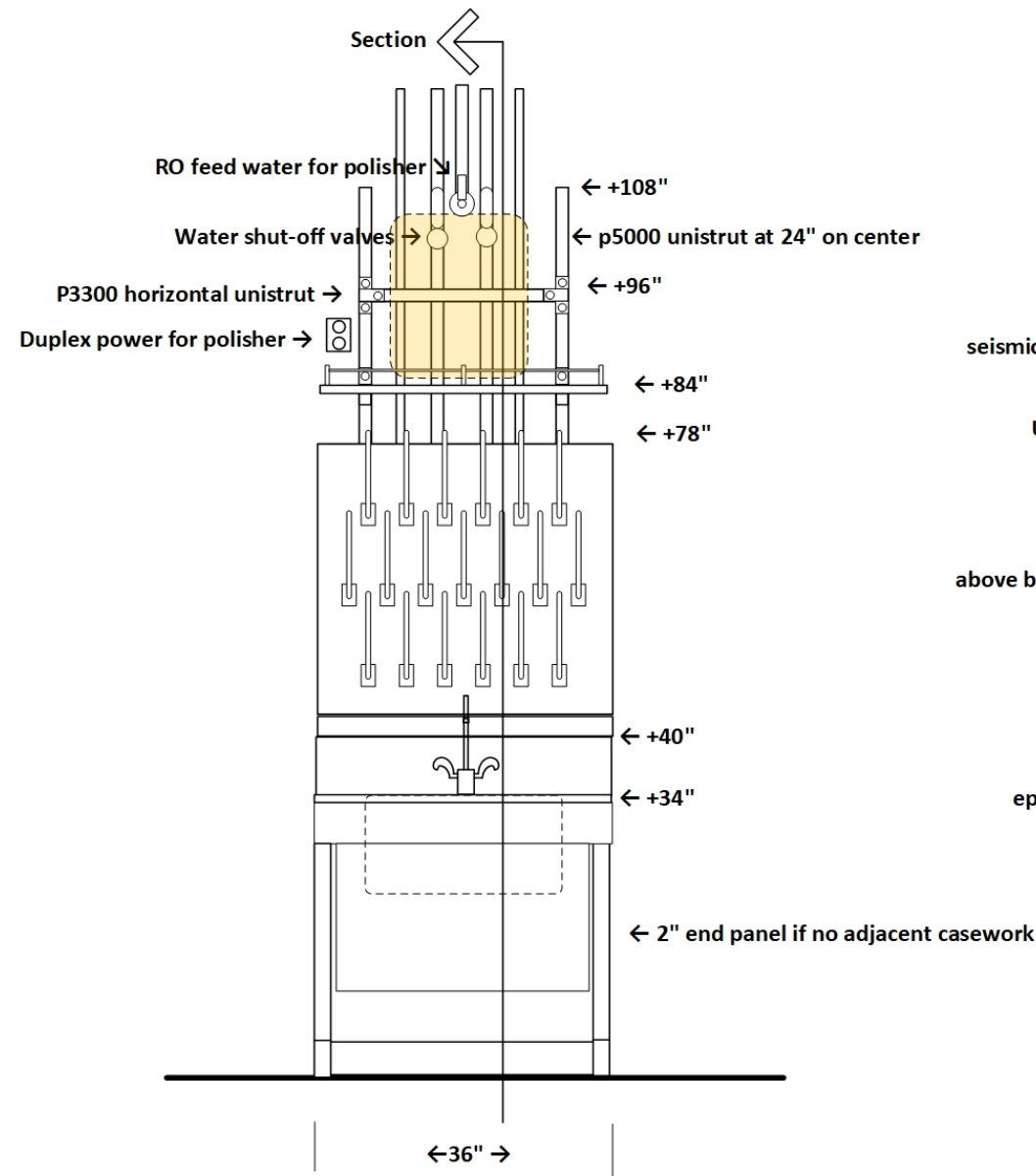


Section

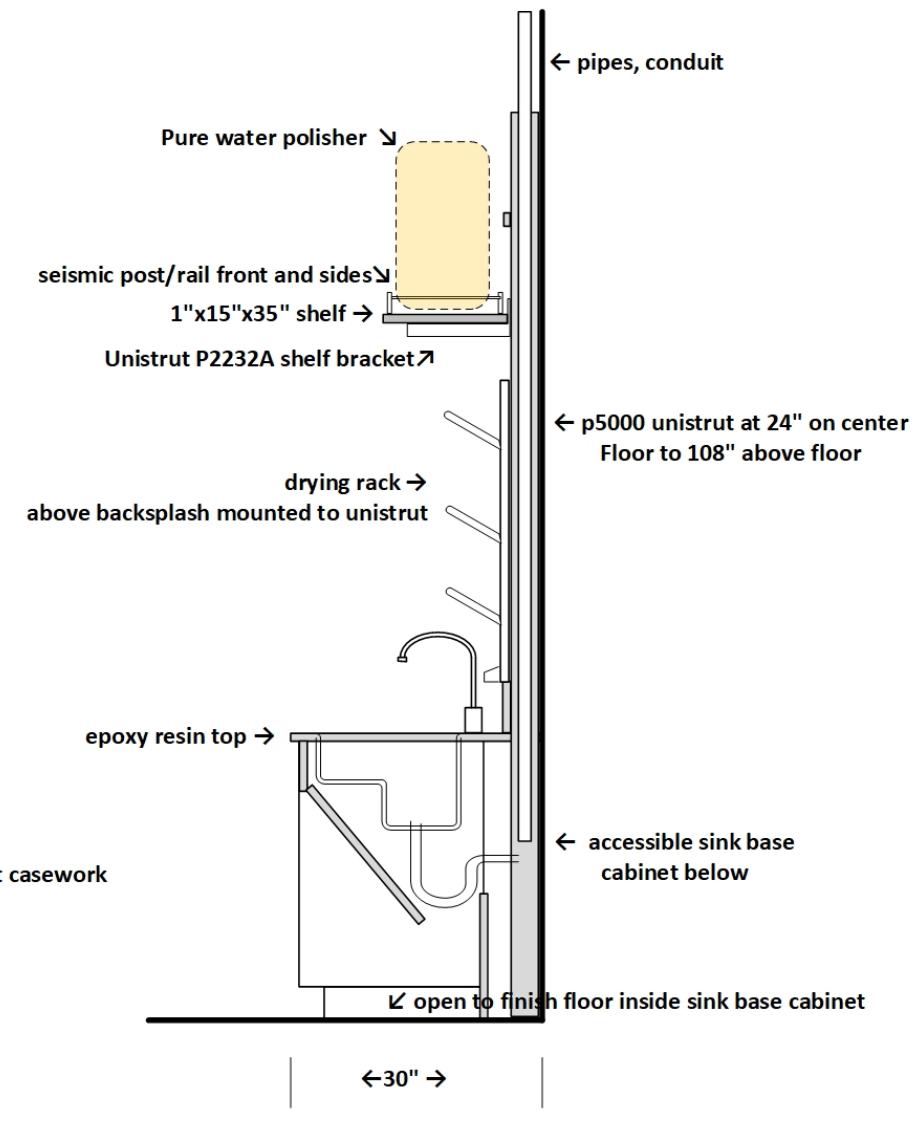
**SECTION DETAIL 08**  
**Wall Sink Accessible**  
**with water polisher**  
**Prep Rooms only**  
**Similar for labs, no polisher**



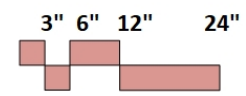
**Plan**



**Elevation**



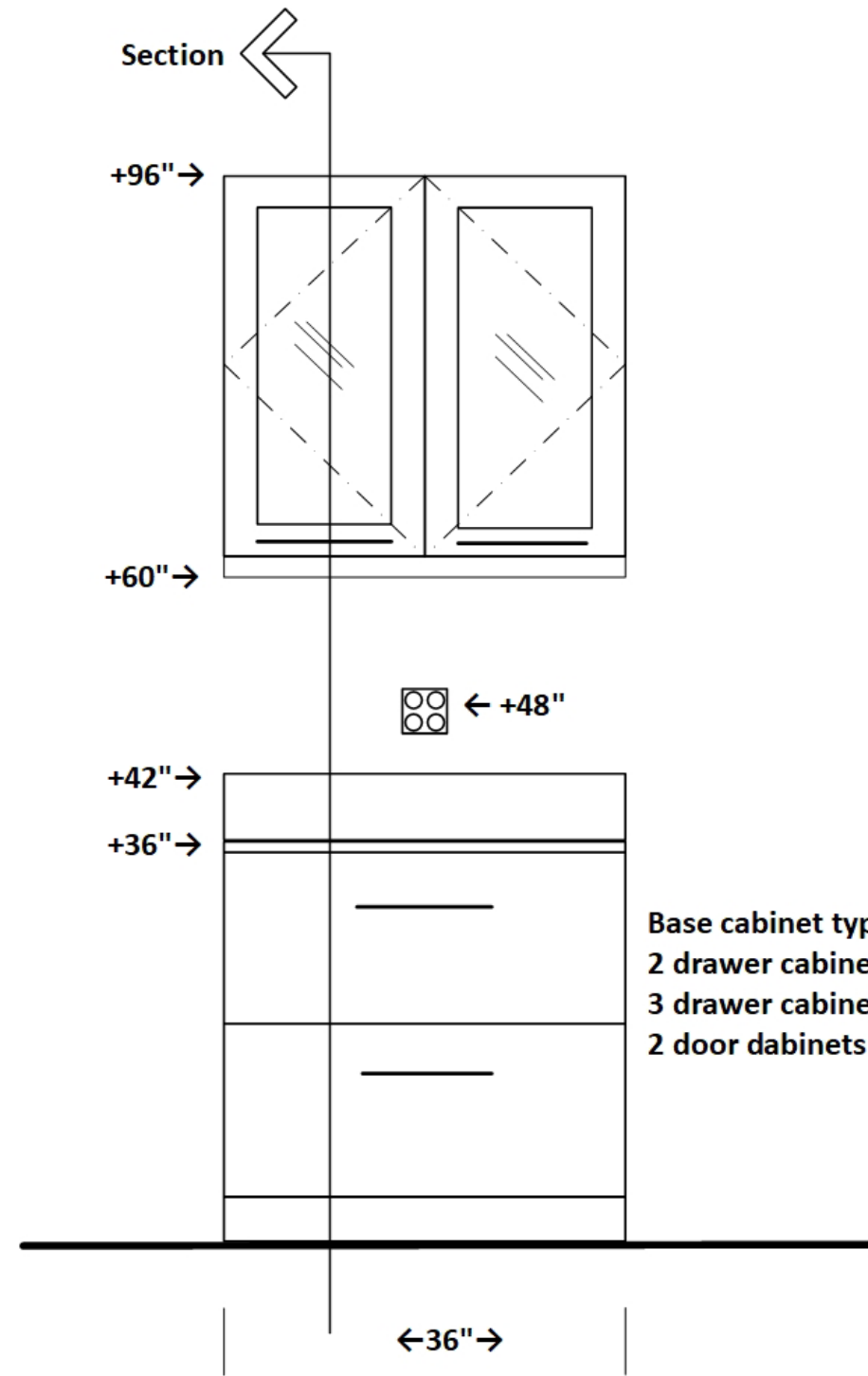
**Section**



# SECTION DETAIL 09

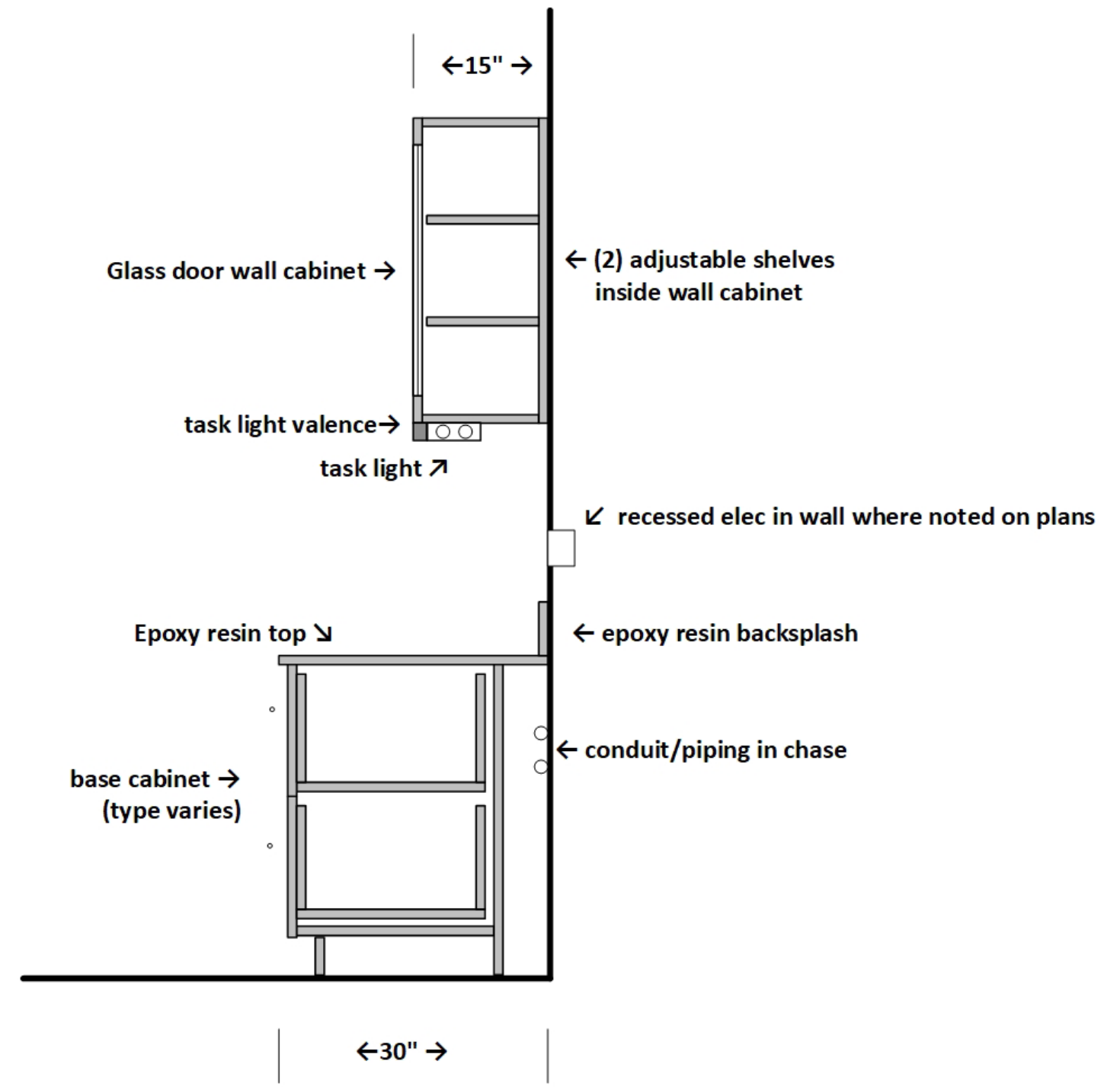
## Wall Bench/Wall Cabinet

### Labs and Prep Rooms

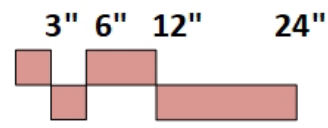


Base cabinet type varies-  
 2 drawer cabinets;  
 3 drawer cabinets;  
 2 door cabinets

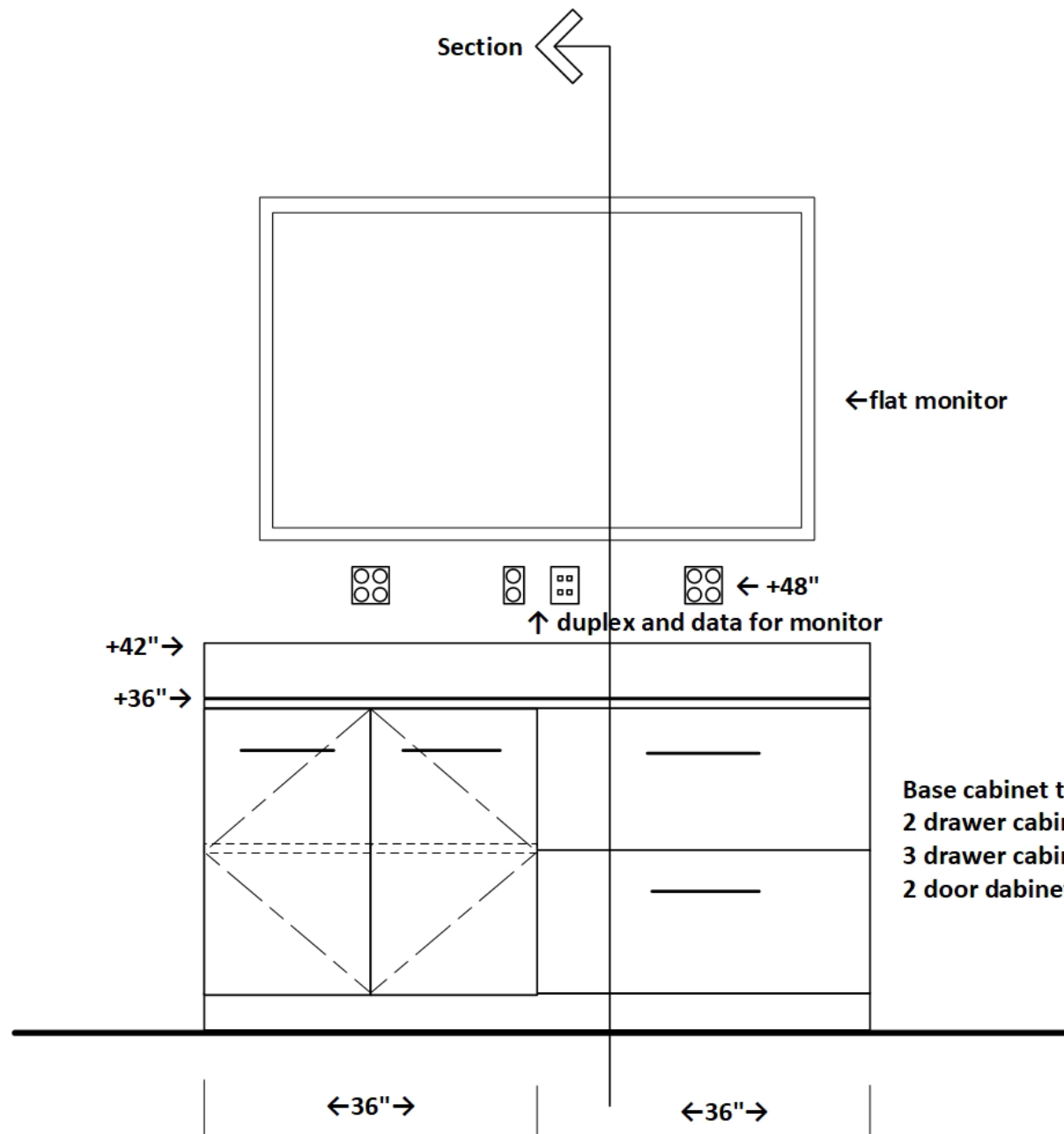
Elevation



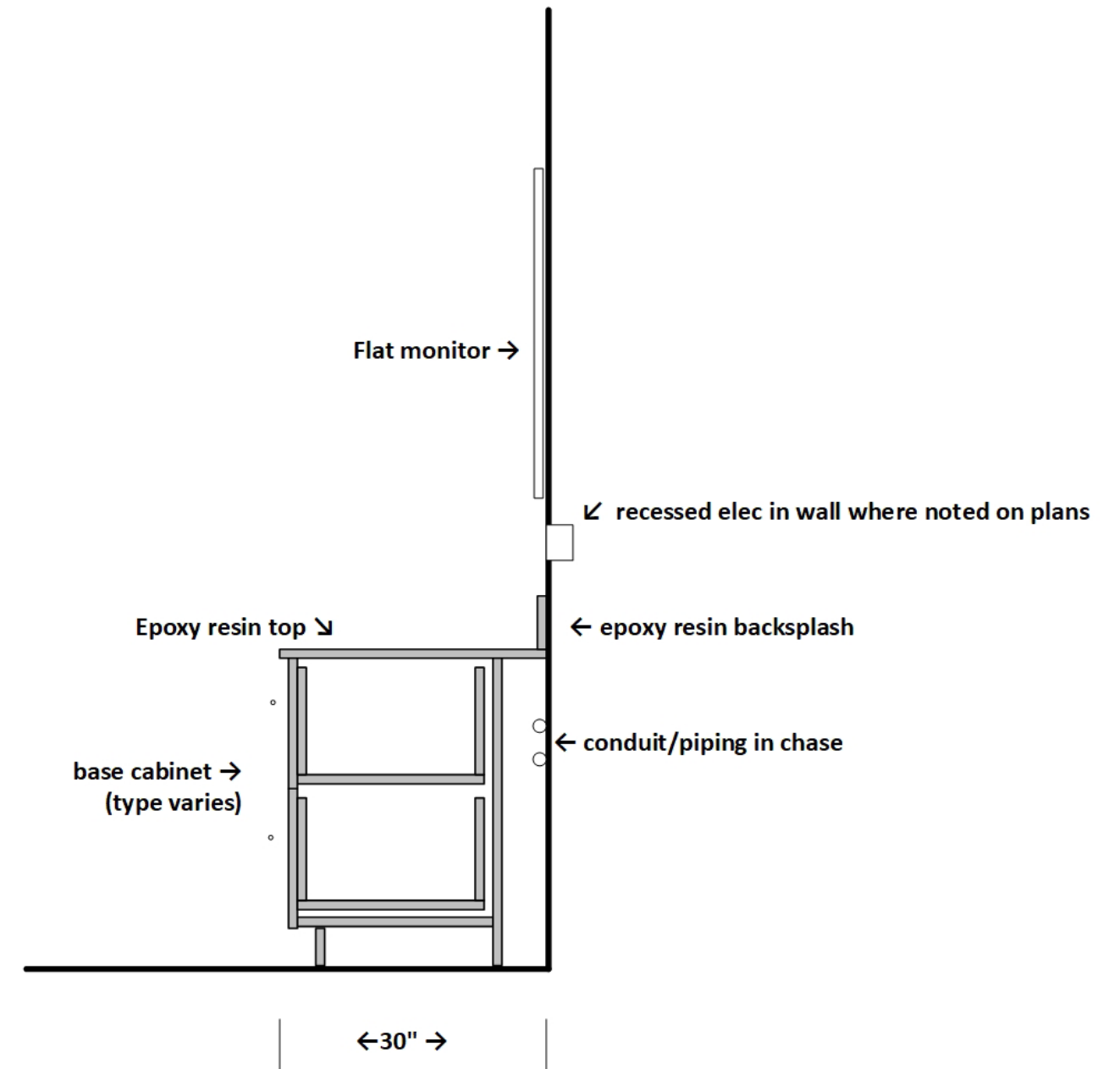
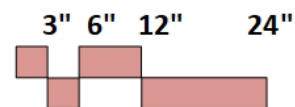
Section



**SECTION DETAIL 10**  
**Wall Bench/Monitor**  
**Labs where noted**



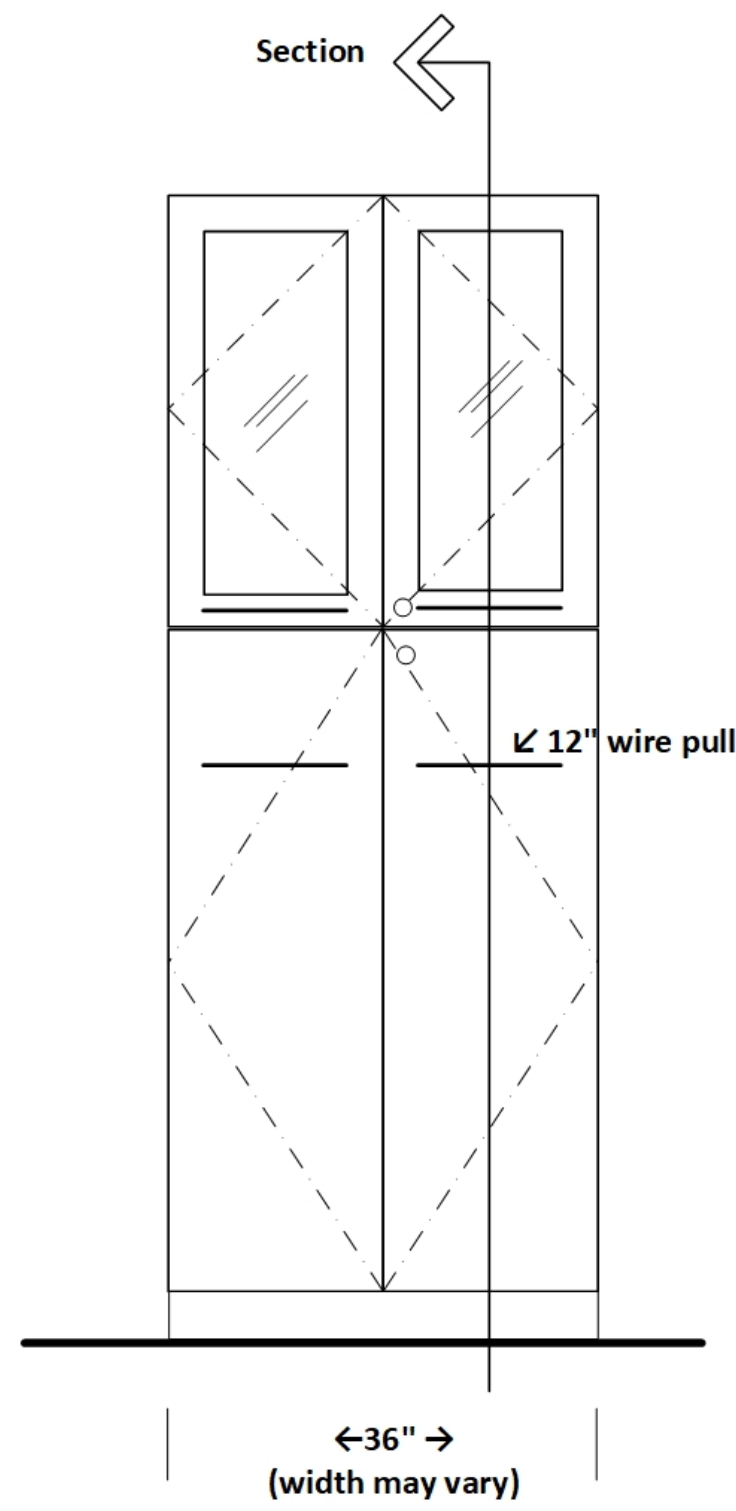
**Elevation**



**Section**



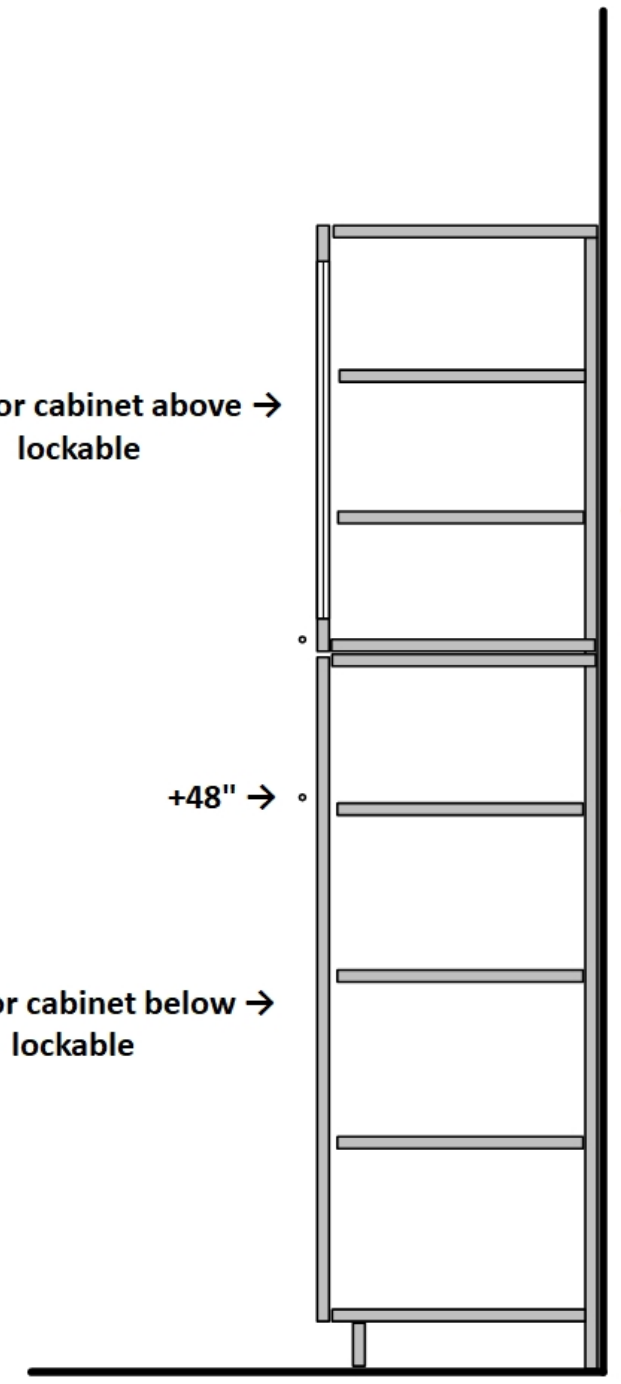
**SECTION DETAIL 11**  
**Tall Cabinet**  
**Labs and Prep Rooms**



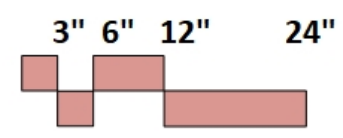
**Elevation**

glass door cabinet above →  
 lockable

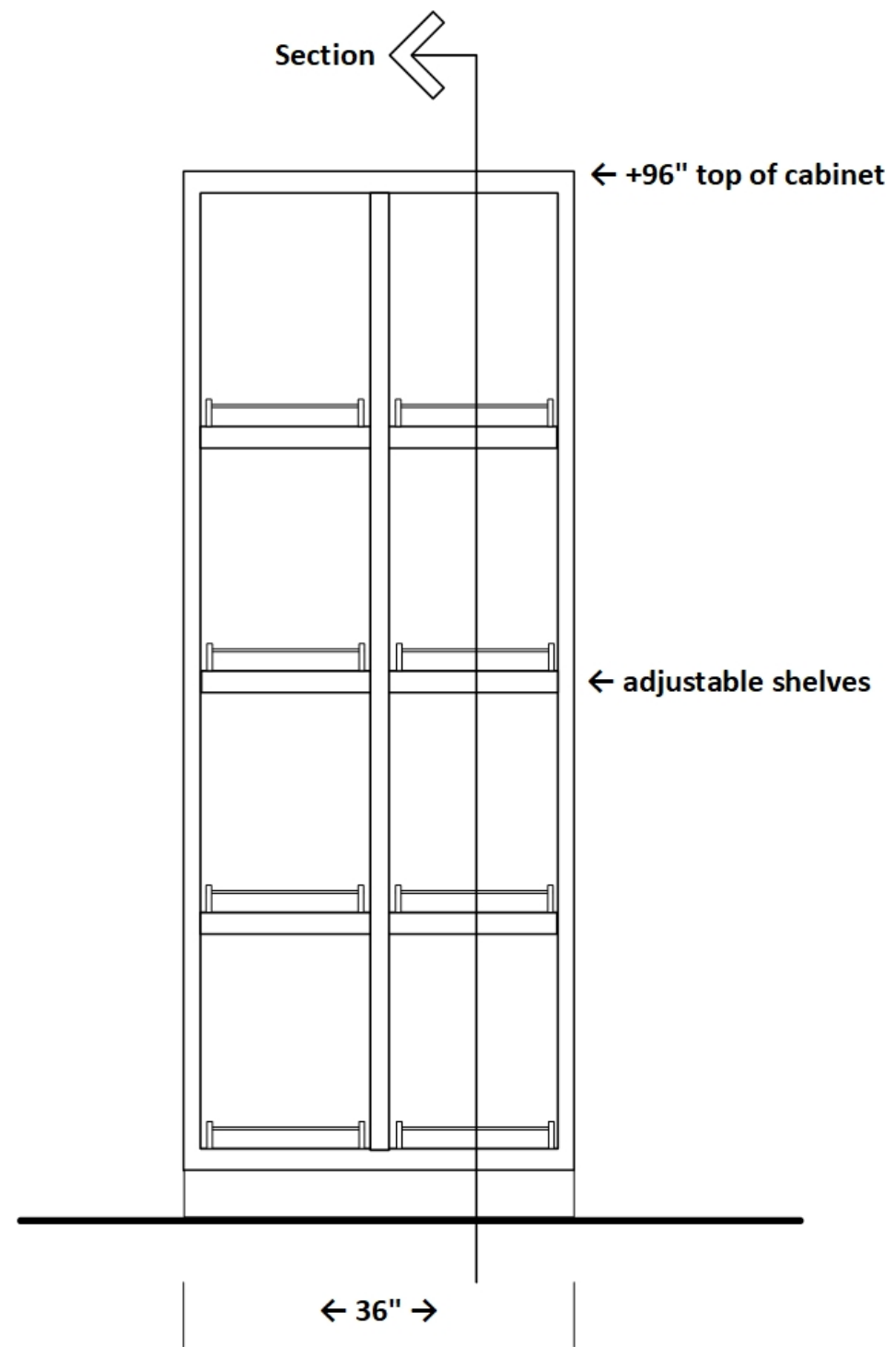
solid door cabinet below →  
 lockable



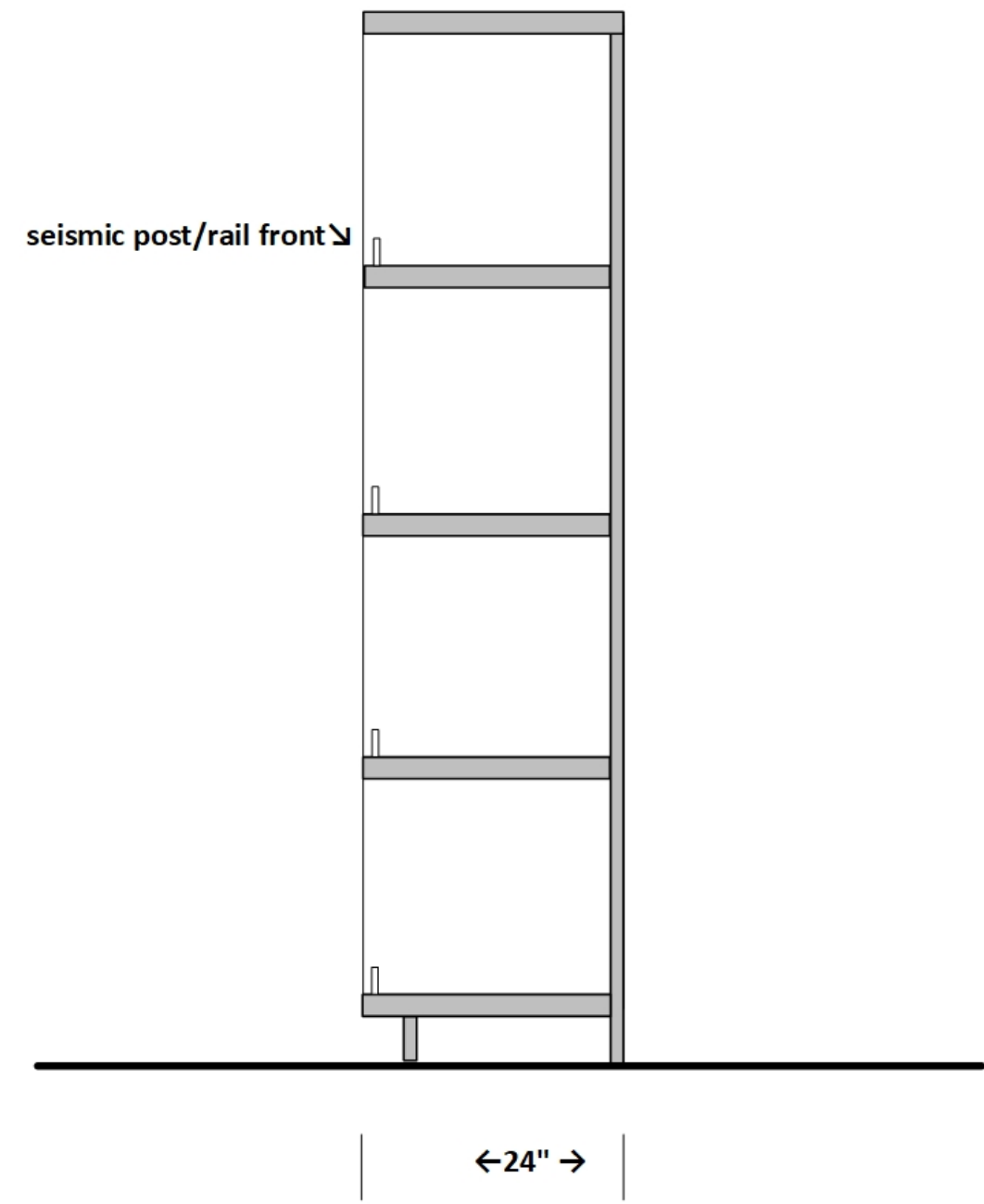
**Section**



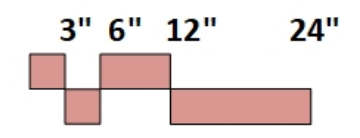
**SECTION DETAIL 12**  
**Tall Cabinet with cubicles**  
**At each lab entry**



**Elevation**

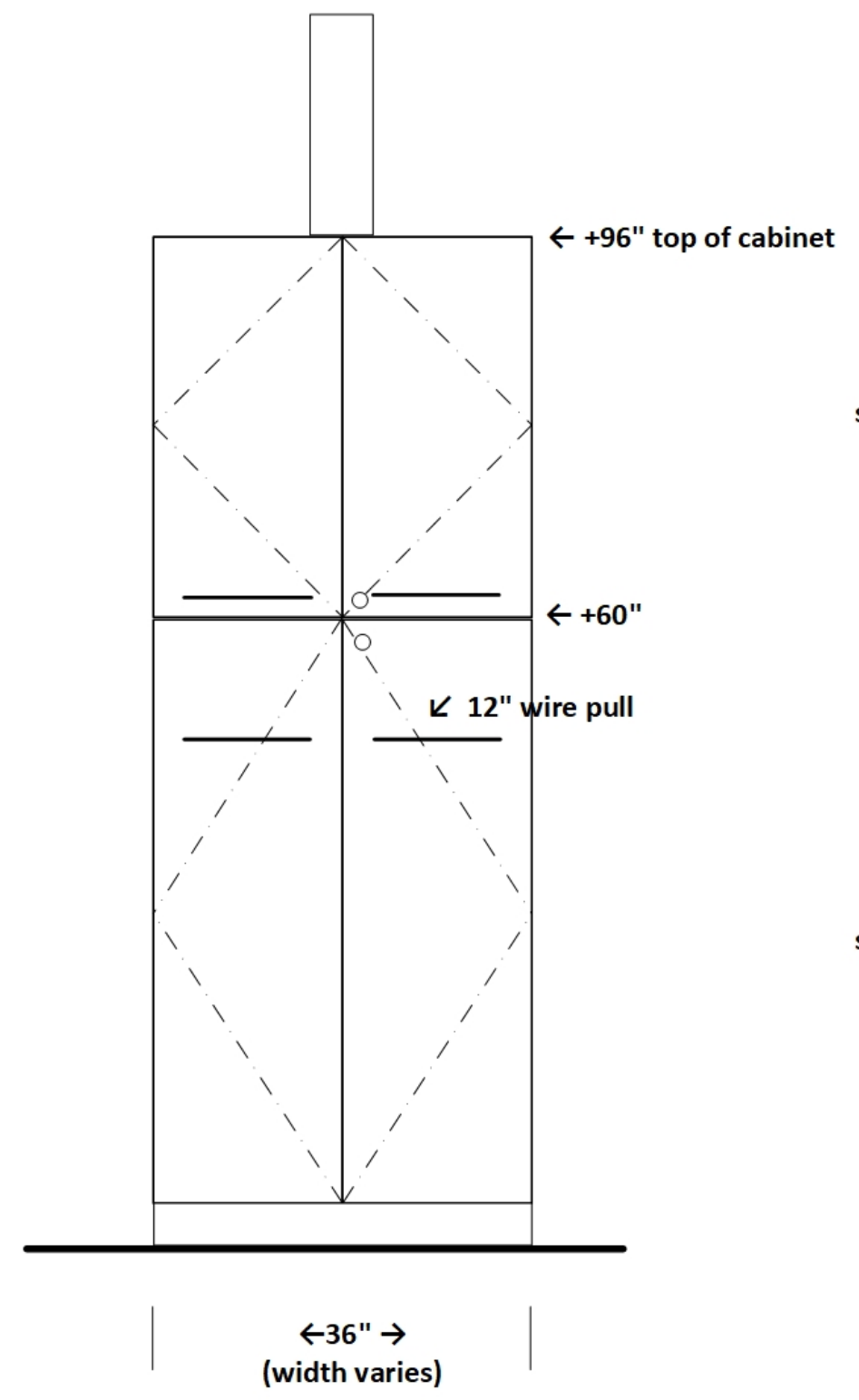


**Section**

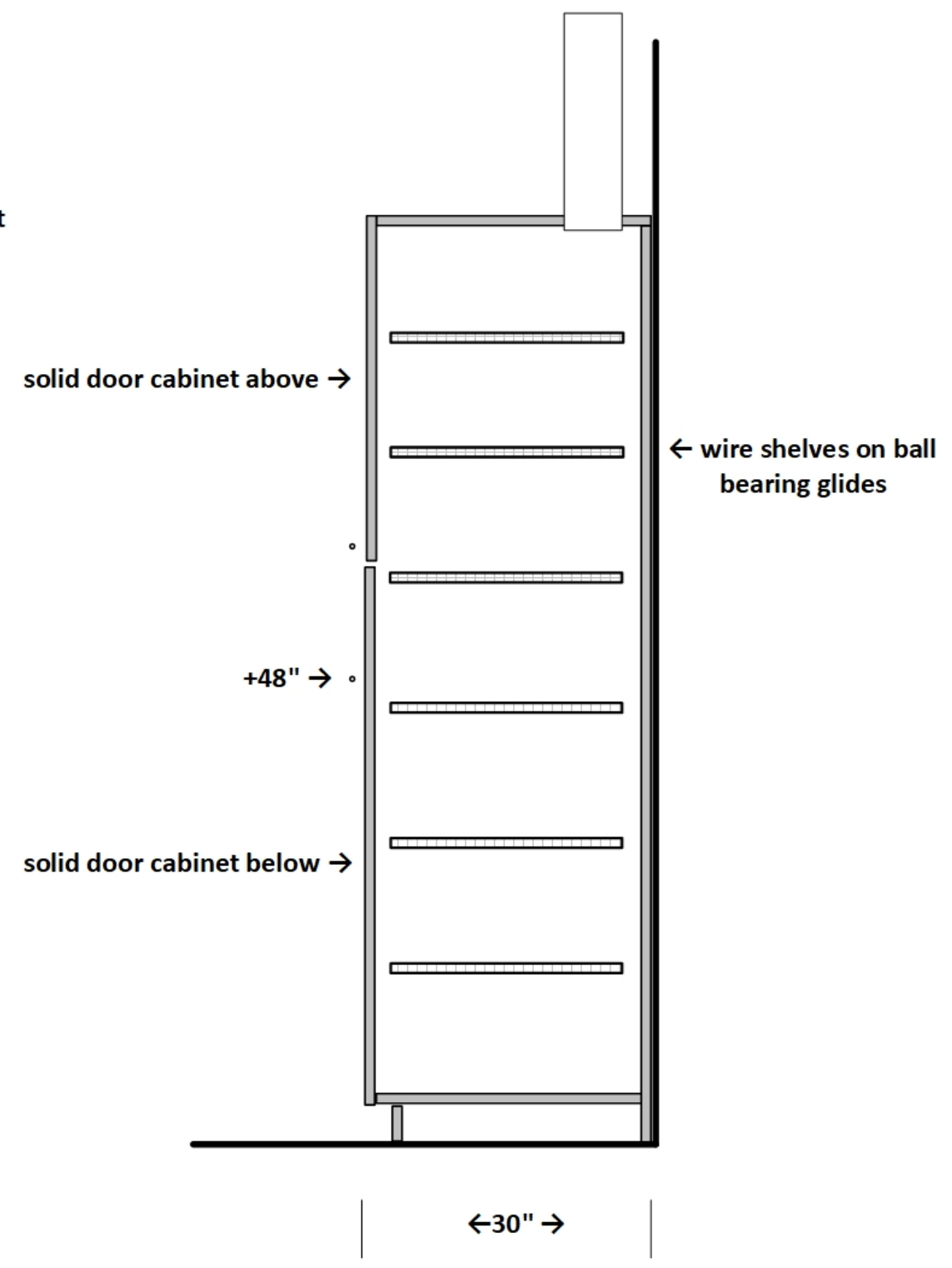
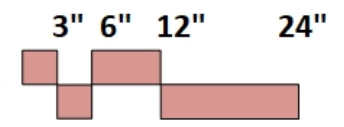


**SECTION DETAIL 13**  
**Tall Cabinet- Vented**  
**Cadaver Room only**

6" diam exhaust at top of cabinet  
 150 cfm ↑



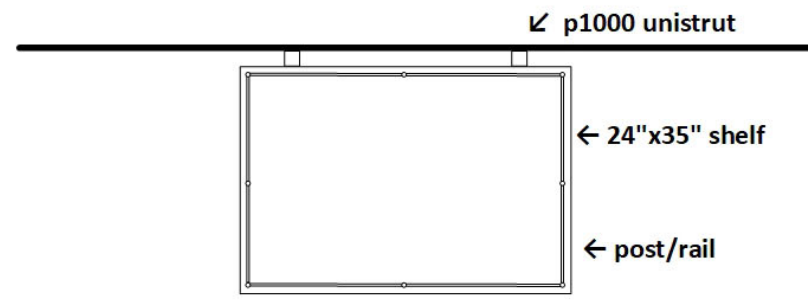
**Elevation**



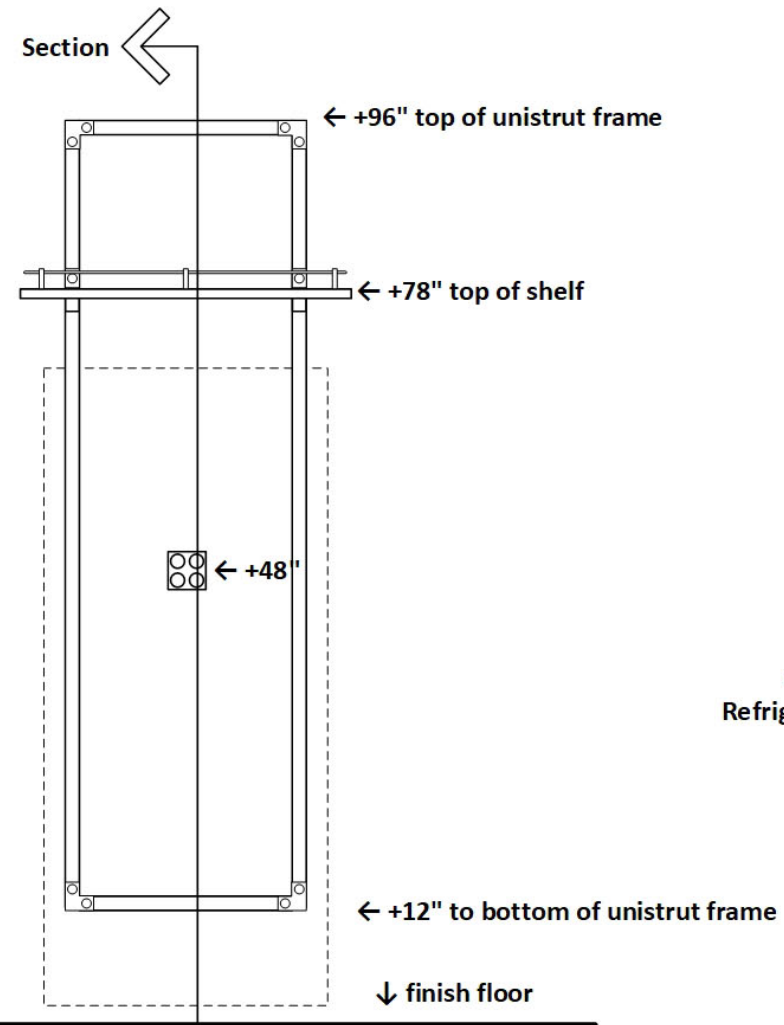
**Section**

# SECTION DETAIL 14

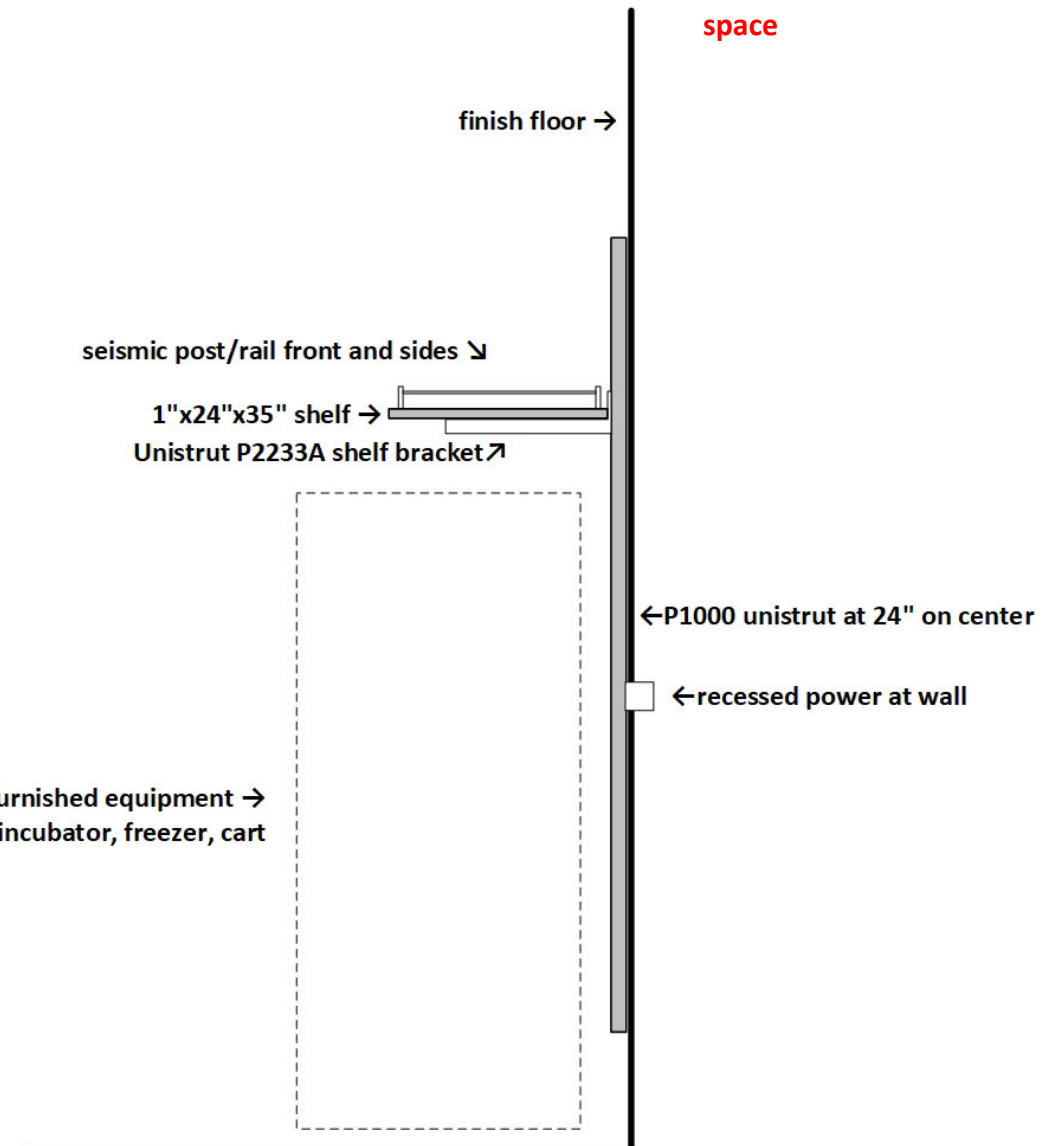
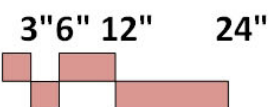
## Equipment Space Labs and Prep Rooms



Plan



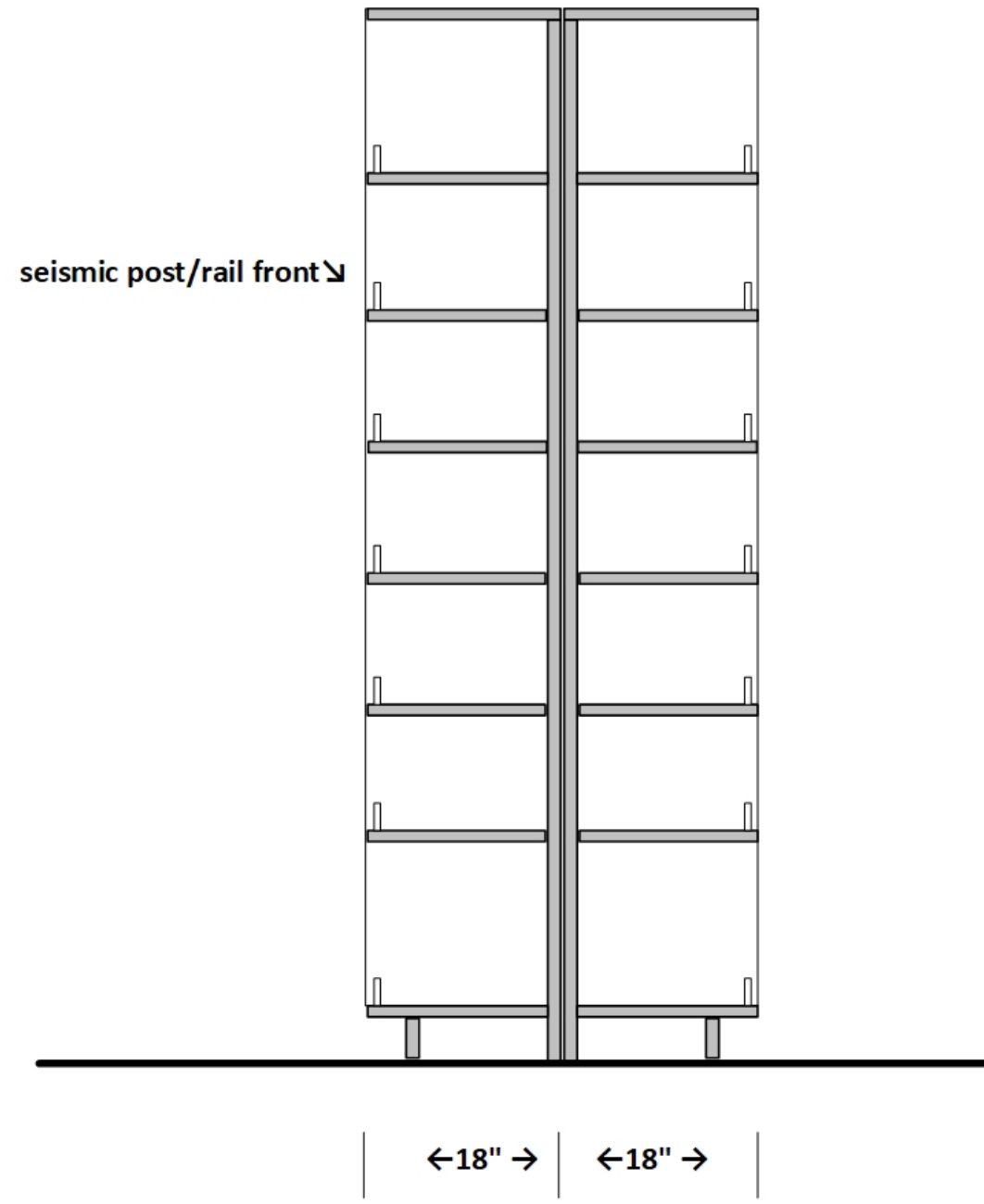
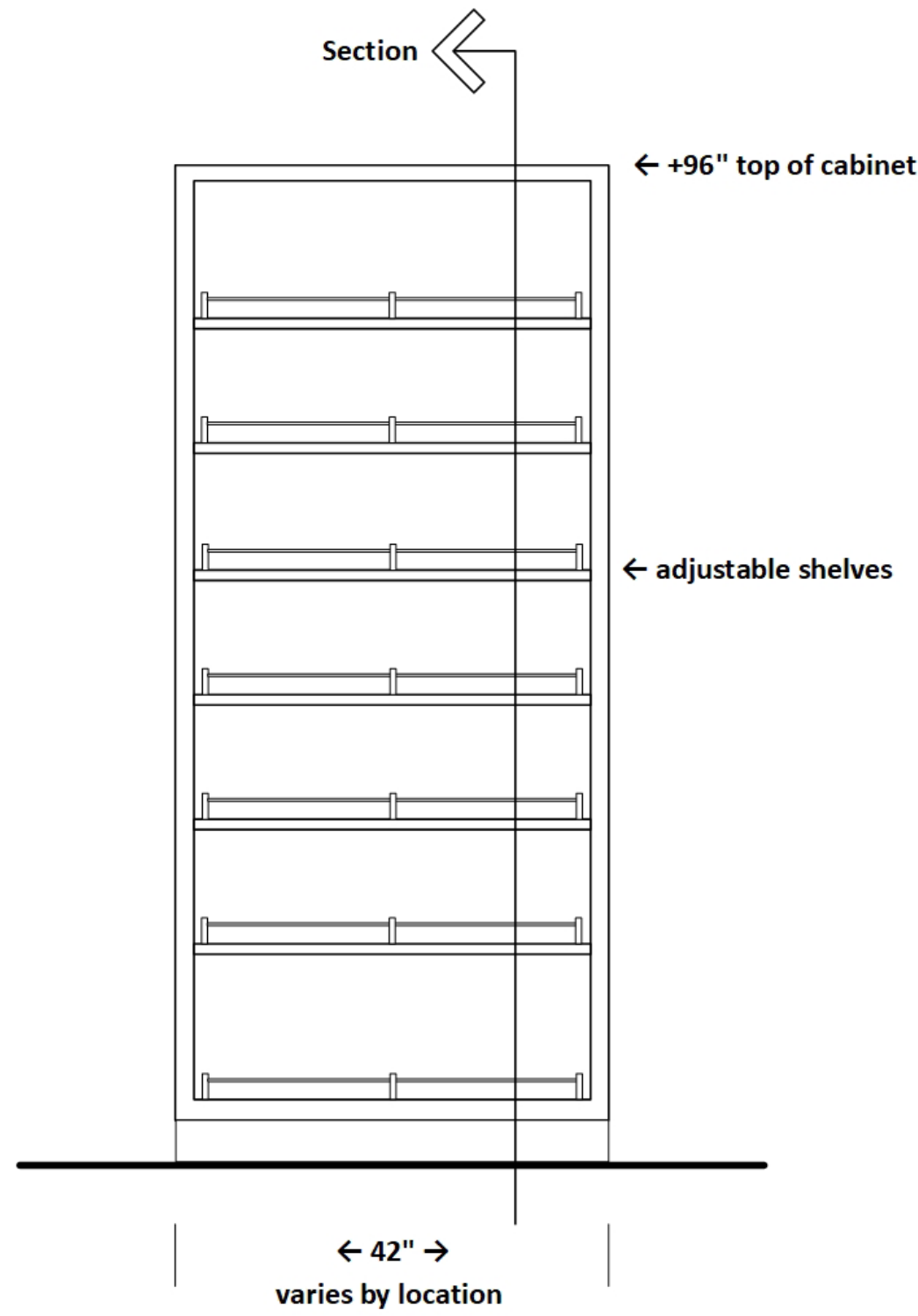
Elevation



Section

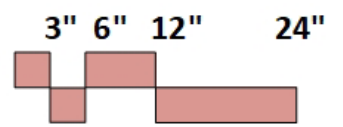
**Note: Dedicated circuits for all power at each equipment space**

**SECTION DETAIL 15**  
**Open Shelf Cabinet**  
**Prep Rooms only**



**Elevation**

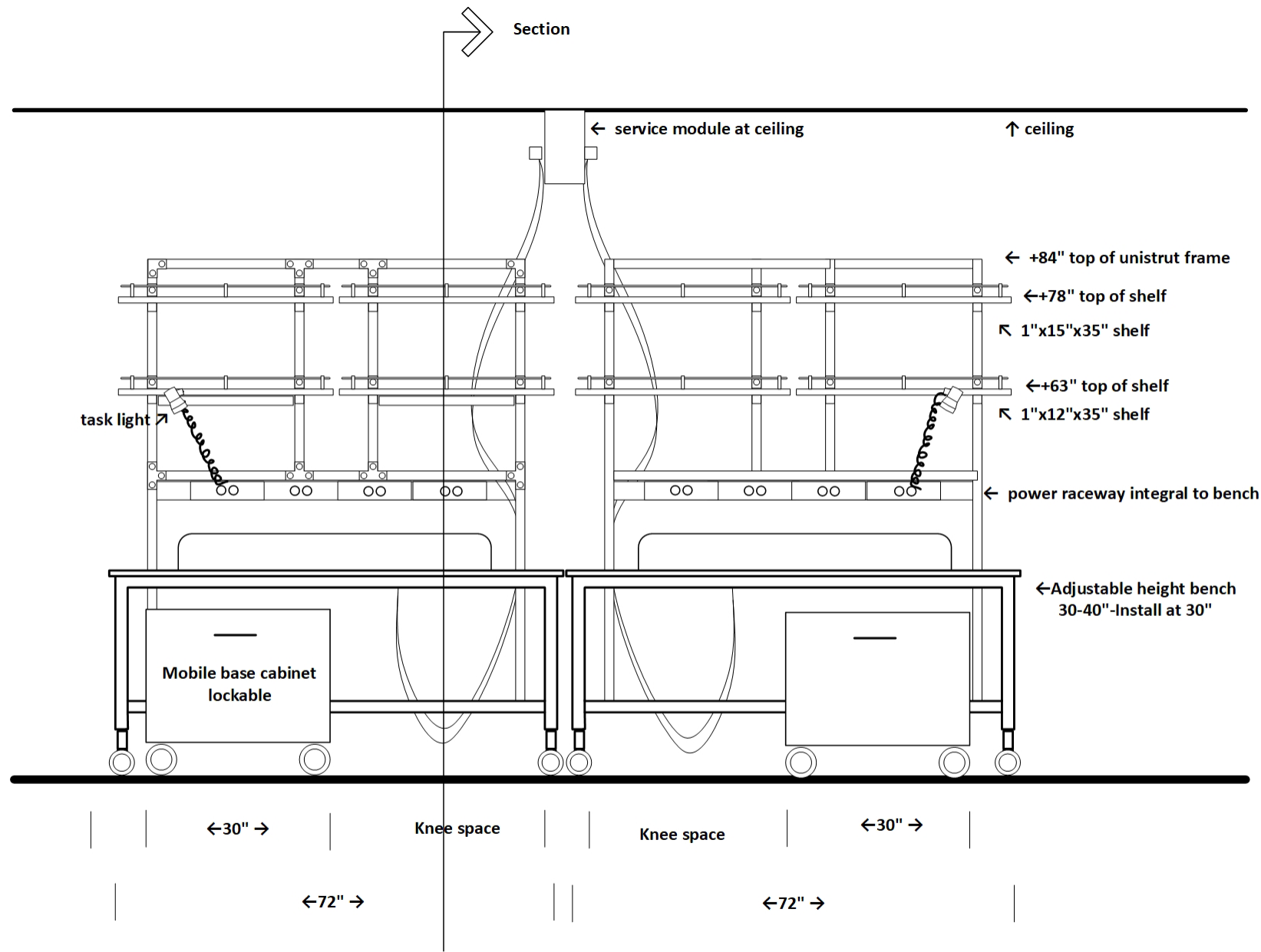
**Section**



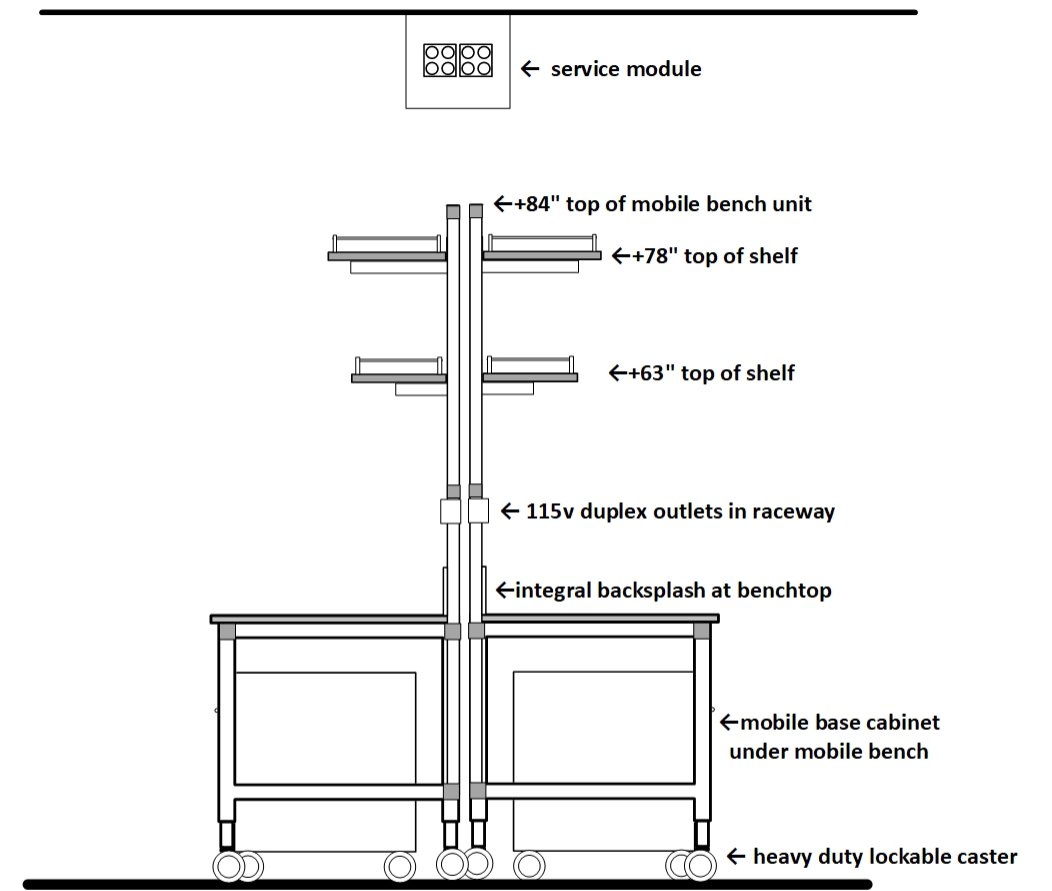
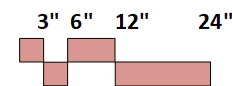
# SECTION DETAIL 16

## Protean Lab Bench

### Prep Rooms only



Elevation

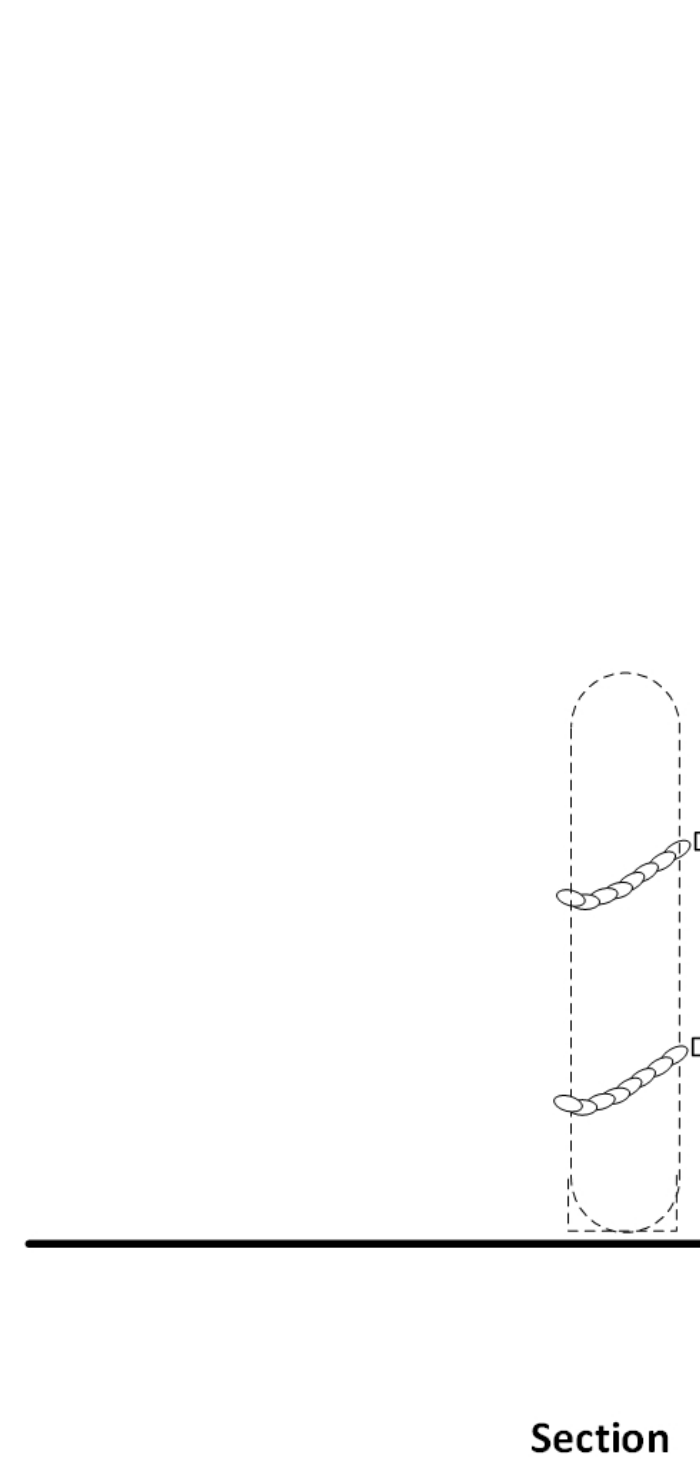
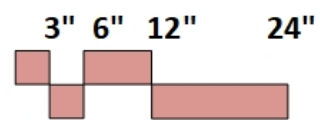
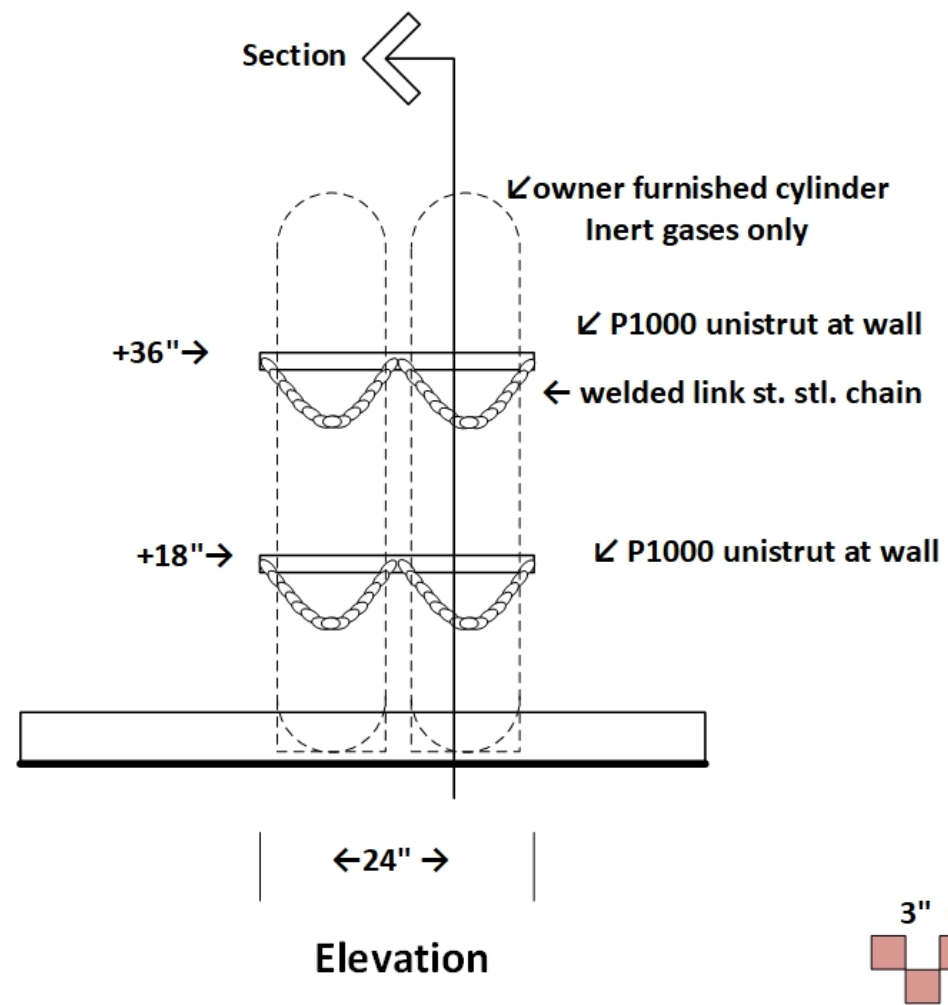


Section

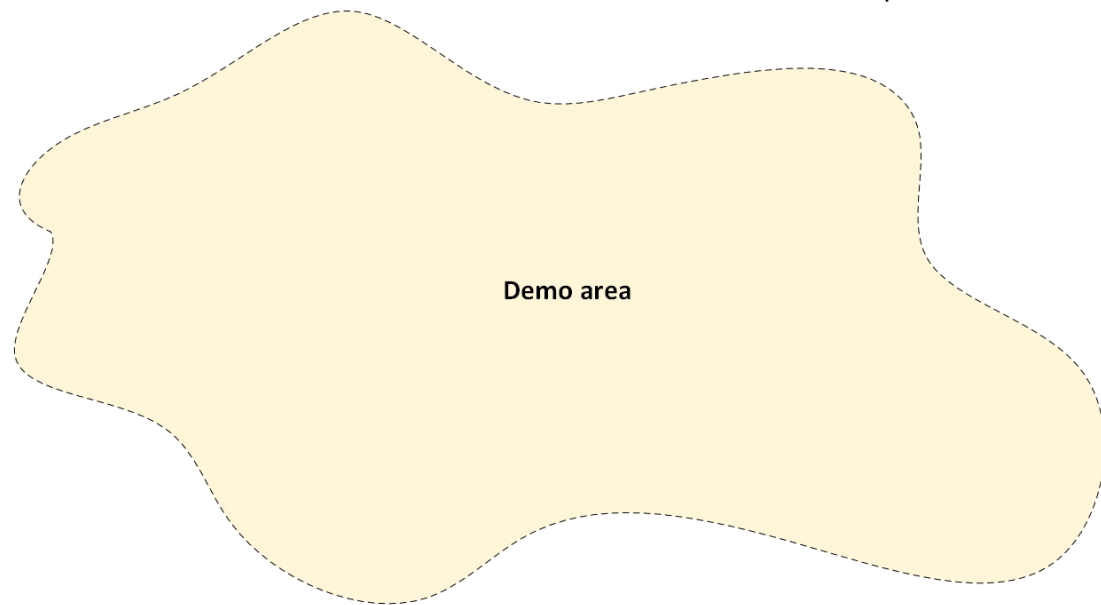
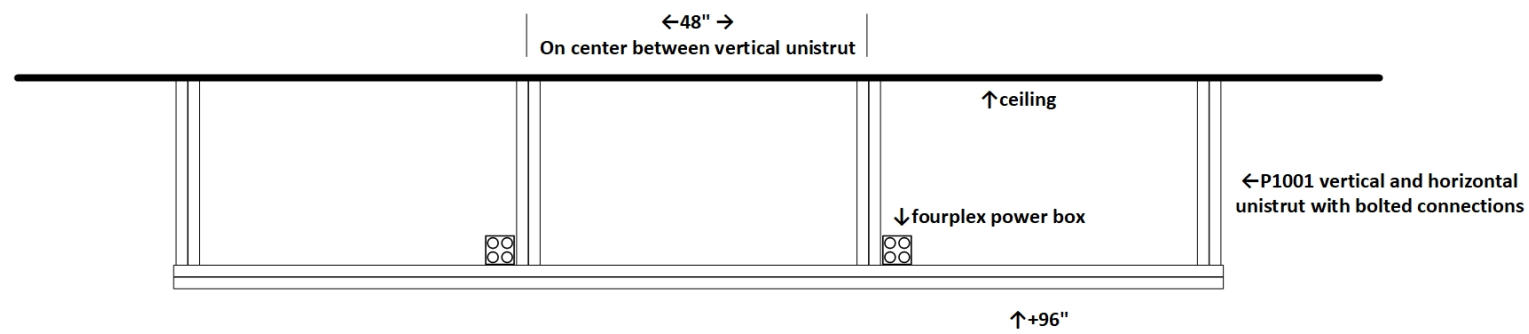
# SECTION DETAIL 17

## Cylinder Restraint

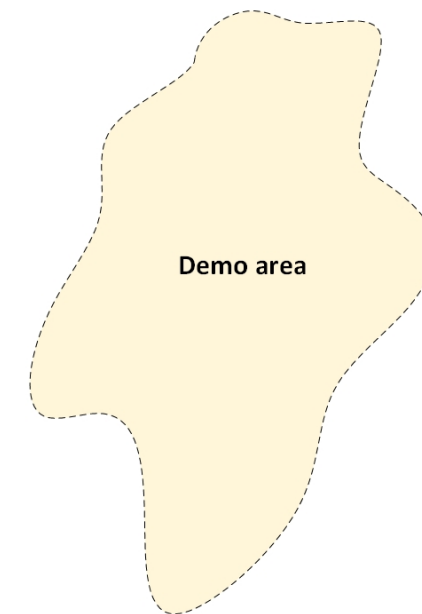
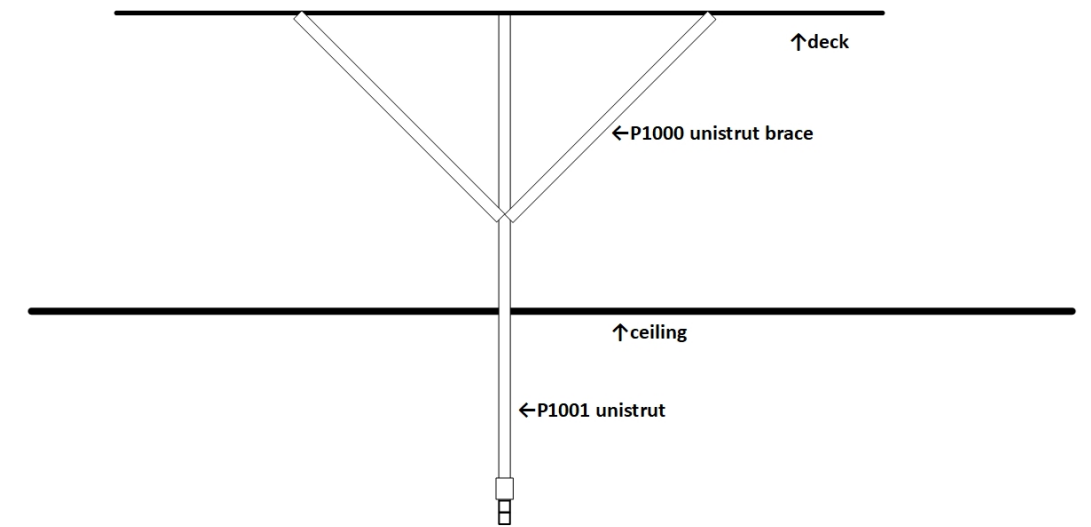
### Labs and Prep Rooms



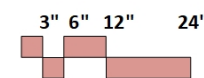
**SECTION DETAIL 18**  
**Unistrut at Ceiling**  
**Physics Lab; Earth Science Lab**



**Elevation**



**Section**

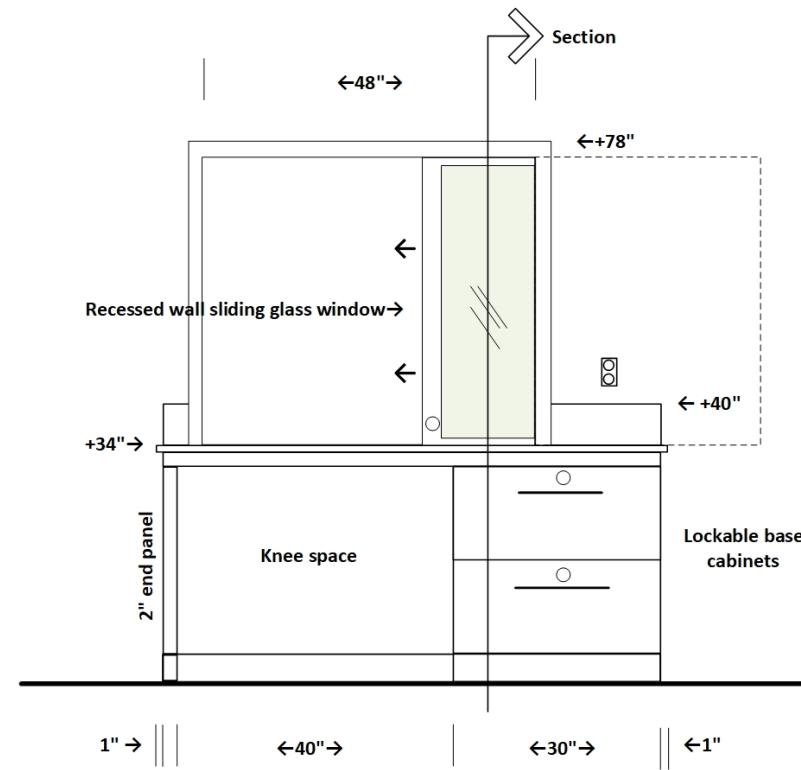




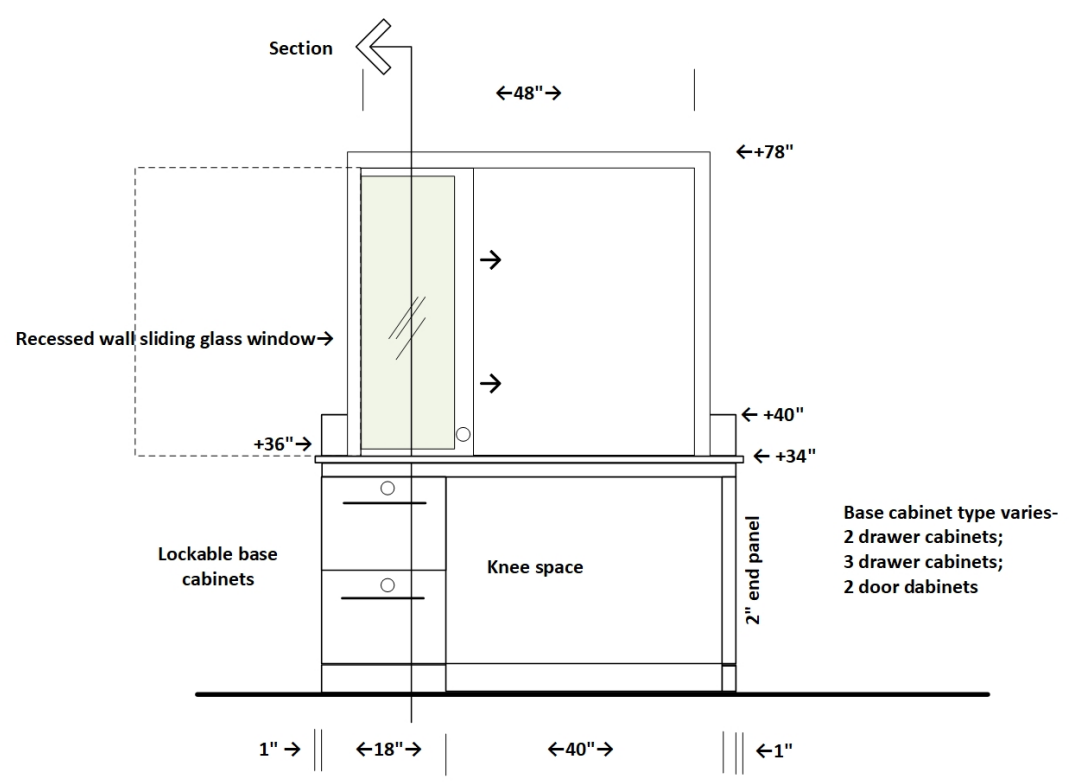
# SECTION DETAIL 19

## Prep Lab Window

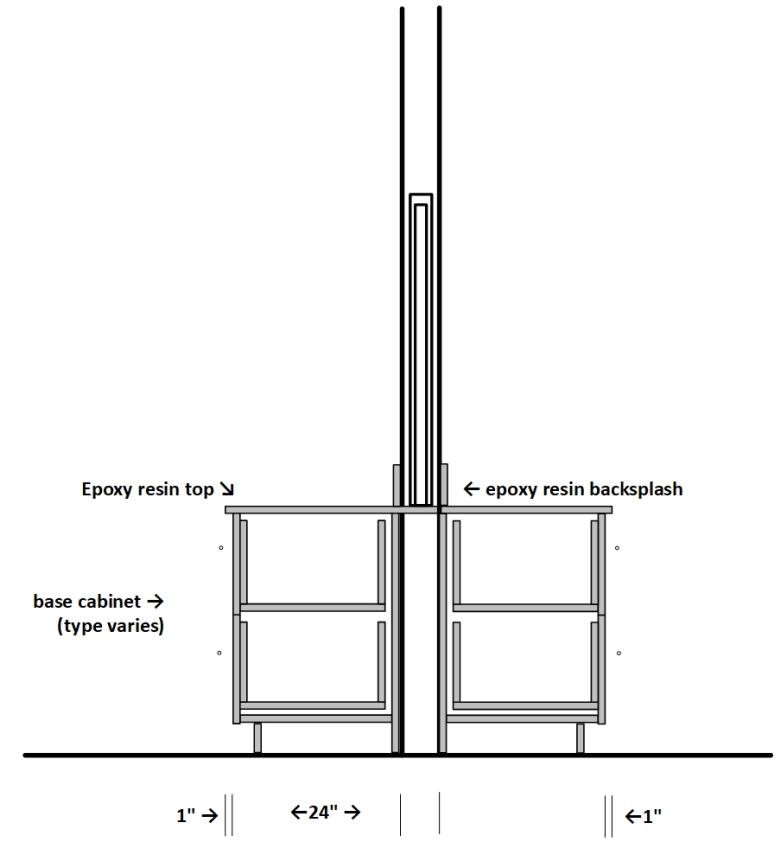
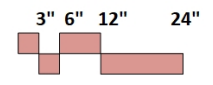
### All labs



Elevation- Prep Side



Elevation- Lab Side



Section

# EQUIPMENT CUT SHEETS

## 6' Protector ClassMate Laboratory Hood



View online: <https://www.labconco.com/product/6-protector-classmate-laboratory-hood-10/6778>



### Overview

The patented Protector ClassMate Laboratory Hood is designed to meet the needs of instructional laboratories. Clear back and sides and taller front viewing window provide enhanced visibility for conducting chemistry demonstrations or observing students using the hood. The clear back also does not obstruct visibility when hoods are placed back-to-back in an island configuration.

Fully-featured with baffle and air foil, this high-performance by-pass hood maintains safe airflow while conserving energy. The Protector ClassMate Hood is benchtop design and offered in 4', 5', and 6' widths. Models with combination style sashes are also available.

Fume hood will be specified with glass side panels, opaque back panel.

Fume hood will be specified with combination sash.

Fume hood requires 800 cfm per division 23.

Catalog Number: 160605102

### Specifications

- **Weight:** 610.0 lbs
- **Weight metric:** 276.7 kg
- **Dimensions:** 72.0" w x 32.7" d x 59.0" h
- **Dimensions metric:** 182.9 x 81.9 x 149.9 cm
- **Electrical:** 100-115V, 50/60 Hz, 10A
- **Product Subcategory:** Educational
- **Nominal Width:** 6'
- **Sash Movement Direction:** Combination (Vertical & Horizontal)
- **Region:** International, U.S. and Canada
- **Blower Requirements:** Remote blower required
- **Conformance:** ANSI Z9.5, ASHRAE 110, ASTM E84, CAN/CSA C22.2, CFR 29, NFPA 45, SEFA 1, SEFA 8 (Cabinet Surface Finish), UL 1805, UL 61010
- **Electrical Duplexes:** 1
- **Lighting:** LED
- **Service Fixtures:** 2
- **Style:** Benchtop



## Recessed Laboratory Units

**Application:** ColorTech recessed laboratory units are recess mounted into a finished wall. They conserve valuable floor space, while eliminating the clutter and obstruction created by conventional eye wash and shower equipment. Units can be installed in either a corridor or a lab room, close to where accidents might occur. In an emergency, units are easily located and activated.

**ADA Compliance:** When installed at recommended mounting heights, units comply with ADA requirements for accessibility

by handicapped persons (maximum height and reach, minimum knee clearance and distance from obstructions).

**Certification:** All ColorTech safety equipment is third-party certified to meet the requirements of ANSI Z358.1 - 1998 ("Emergency Eye Wash and Shower Equipment").

**Finish:** Units are supplied with a powder coated finish on all exposed brass components. Specify finish when ordering: white, gray, tan, polished chrome with clear epoxy or satin chrome with clear epoxy.

**Shower Head:** 8" diameter cast brass. Furnished with vertical supply pipe and ceiling escutcheon for mounting shower head at desired height below finished ceiling.

**Shower Valve:** 1" IPS brass stay-open ball valve with stainless steel "panic bar". Pulling bar down activates shower; shower remains in operation until bar is returned to original closed position. Furnished with stainless steel access panel and 1" IPS unions for valve.

**Cover/Drain Pan:** Eye/face wash section of unit has stainless steel cover. Opening cover pulls outlet head assembly down from vertical to horizontal position and activates water flow. Horizontal grab bar is easily grasped and pulled in an emergency. While unit is in operation, waste water is collected by drain pan and returned into unit for drainage. Unit remains in operation until cover is returned to closed position.

**Outlet Head Assembly:** Two FS-Plus spray heads mounted on supply arms. Each spray head has internal flow control and filter to remove impurities from water.

**Eye/Face Wash Valve:** 1/2" IPS brass stay-open ball valve.

**Mounting:** Entire unit is contained in an 18 gauge stainless steel cabinet with flanged rim for recessed mounting in wall. Combination cover and drain pan is 18 gauge stainless steel. Unit fits in standard 3-1/2" deep wall.

**Pipe and Fittings:** All pipe and fittings are brass.

**Supply:** 1" IPS female inlet.

**Waste:** 1-1/2" OD chrome plated brass tube.

**Sign:** Furnished with ANSI-compliant identification sign.

**Quality Assurance:** Unit is completely assembled and water tested prior to shipment.

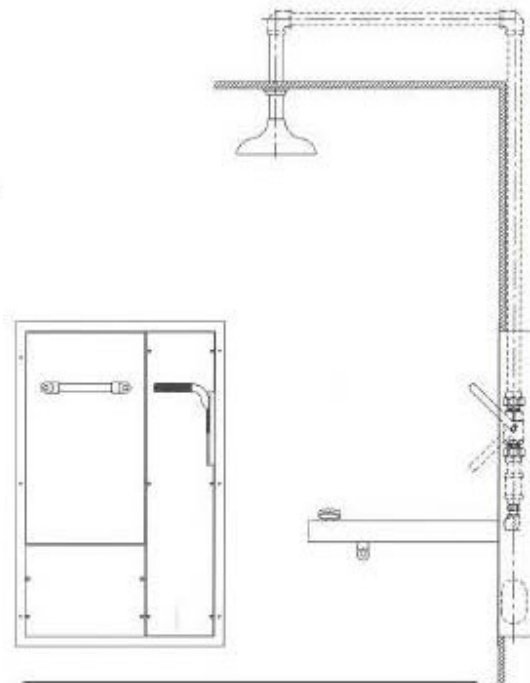
**U.S. Patent:** 5,768,721

**Available Options:**

**AP280-220 Electric Light and Alarm Horn.** Flashing light is mounted on wall above unit. Alarm horn is recess mounted in wall next to light. Light is illuminated and horn sounds when either eye/face wash or shower is activated. See page 87 for complete information.

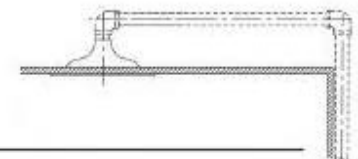
**AP3800 Thermostatic Mixing Valve.** Mixing valve precisely blends hot and cold water to deliver warm (tepid) water to eye/face wash and shower station as required by ANSI Z358.1 - 1998. Warm water prevents possibility of thermal shock. See page 86 for complete information.

**CTSSBF2150**  
Recessed Safety Station  
with Drain Pan



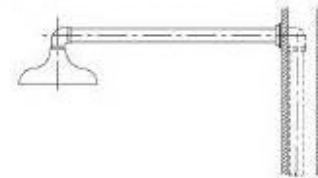
**CTSSBF2160**

Same as above except with recess mounted shower head.



**CTSSBF2170**

Same as above except with wall mounted shower head.



Unit 2150 will be specified.

Requires drain inside wall cavity for eyewash per Division 22.

Provide drain at floor for shower.



## Consolidated Sterilizers Designed to Transform Your Laboratory

Models	
SSR-2A (16" x 16" x 26")	
SSR-3A (20" x 20" x 36")	
SR-24A (24" x 24" x 36")	
SR-24B (24" x 24" x 48")	
SR-26A (26" x 26" x 39")	

### Small Lab Series Steam Sterilizers General Specifications

#### General Specification

Steam Sterilizer, Radial-Arm Door(s), Hinged, Single Chamber, Double Wall

Consolidated Small Lab Series Sterilizers are designed to sterilize at temperatures between 212° F and 275° F (100° C and 135° C) through the use of steam. Choose from a variety of sizes and programmable control options for pre-vacuum or gravity operation. Consolidated sterilizers offer a range of performance options to meet the most demanding applications in clinical, animal and life science, biotechnology, pharmaceutical, and commercial/industrial applications.

#### Table of Contents

- Model Sizes and Weights.....2
- Sterilizer Construction.....2
- X1 Controller.....5
- Sterilization Cycles.....6
- Options & Accessories.....8
- Validation.....9
- Site Preparation and Utilities.....10
- Installation.....10
- Footprint Drawings.....11
- Utility Information.....13

#### Features and Benefits

**Simplified Maintenance, Low Cost of Ownership.**  
All Consolidated sterilizers are manufactured in the USA and built from commonly available parts to allow quick and cost effective field-level service and maintenance.

**Serviceability.**  
Easy access to replaceable components, local component availability and common electrical and plumbing parts permit qualified facility or area service companies to maintain the sterilizer.

**Control Flexibility.**  
A choice of programmable controllers allows a broad range of performance functions, complete with alarm, monitoring and communications required for internal or third-party compliance.

**Performance Cycles—Basic to Advanced.**  
The fully-jacketed sterilizer design permits vacuum and pressure control when configured for pre-vacuum, post-vacuum, and more sophisticated functions such as air-over-pressure. Consolidated sterilizers are ideal for sterilizing wrapped and unwrapped goods, liquids, waste, and other applications.

**Green and Environmentally Friendly.**  
Unique, new technologies reduce water and energy consumption without compromising performance.

**Cloud-Enabled.**  
Consolidated sterilizers can be connected to the internet and can be pre-configured for cloud-based monitoring, alerting and data collection.



Consolidated Small Lab Series Sterilizers are available in single door, pass-thru and dual tower models. A versatile control system offers a range of performance options to meet the most demanding applications in life science, biotechnology, pharmaceutical, and commercial/industrial applications. Model FT-SR-24A-X1 shown with X1™ control system.

**Table 3. Power and Steam Usage**

Model	Chamber Dimensions (w x h x f-b)	Air Removal Method	Electrically Heated				Steam Heated			
			Generator Size (kW) <sup>2</sup>	Generator Current (amps) <sup>3</sup>			Steam Consumption			
				208V	240V	380V	480V	Peak (lb/hr)	Per Cycle <sup>1</sup> (lb/cycle)	Idle (lb/hr)
SSR-2A	16" x 16" x 26" 40.6 x 40.6 x 66 cm	Gravity	25	69	60	37	30	180	17	5
		Vacuum	25	69	60	37	30	180	25	5
SSR-3A	20" x 20" x 36" 50.8 x 50.8 x 96.5 cm	Gravity	25	69	60	37	30	180	20	7
		Vacuum	25	69	60	37	30	180	35	7
SR-24A	24" x 24" x 36" 61 x 61 x 91.4 cm	Gravity	25	69	60	37	30	180	30	7
		Vacuum	30	83	72	46	36	180	50	7
SR-24B	24" x 24" x 48" 61 x 61 x 122 cm	Gravity	25	69	60	37	30	180	35	9
		Vacuum	30	83	72	46	36	180	55	9
SR-26A	26" x 26" x 39" 66 x 66 x 99 cm	Gravity	25	69	60	37	30	180	35	9
		Vacuum	30	83	72	46	36	180	55	9

<sup>1</sup> Assuming 30 minute sterilizing time at 250° F (121° C) and 20 minute drying time.

<sup>2</sup> If current draw for 25kW is too high contact Consolidated for 20kW generator.

<sup>3</sup> Current drawn by generator. Local codes and regulations may affect breaker size.

Note: For dual (tower) models contact Consolidated for additional information.

**Table 4. Water Feed Requirements, Carbon-Steel Steam Generators<sup>4</sup>**

Characteristic	Recommended Condition	Maximum Condition
Temperature	As Supplied	140° F (60° C)
Total Hardness	0–17 mg/L	85 mg/L
Alkalinity	50–180 mg/L	350 mg/L
Total Dissolved Solids	0–150 mg/L	250 mg/L
pH	7.5–8.5	7.5–9.0
Total Silica	0.1–1.0 mg/L	2.5 mg/L
Resistivity	2,000–6,000 ohms/cm	26,000 ohms/cm <sup>5</sup>

<sup>4</sup> Stainless-steel generators require deionized water >1 MQ/cm.

<sup>5</sup> If water supplied is greater than 26,000 Q/cm contact Consolidated for recommendation.

### Typical Utility Requirements

#### General.

- Steam (S): ¾" NPT, 50-80 psi dynamic.
- Electrical (E1, E3): 110V, AC or 220V, AC, 1-phase, 15 amps—dedicated and isolated.
- Water (W2): ½" NPT, 45 psi dynamic minimum.
- Drain (D): open drain to funnel connection in floor, diameter 3" minimum.
- Backflow preventer not provided.

#### Optional Vacuum Systems (maximum one per unit).

- Economy, Post-Vac (W3): ½" NPT, 45 psi minimum.
- Hi-Vacuum with Water Ejector (W3): 1¼" NPT, 45 psi minimum.
- Hi-Vacuum with Vacuum Pump (W3): ½" NPT, 45 psi minimum.

#### Electric Steam Generator Utilities:

- Power Supply (E2): available in 208/240/380/480V, single or three phase.
- Generator Feedwater (W1): hot/treated water, ½" NPT, 60 psi dynamic minimum.

**Model: SSR-24A**

**Pre Vacuum**

**Chamber dimensions: 24" W x 24" H x 36" D**

**Exterior dimensions: 43" W x 73" H x 58" D**

**480v power with disconnect**

**Integral electric steam generator**

**Steam canopy above**

**Floor sink**

**Requires RO water feed**

# RO UNIT FOR BIOLOGY PREP ROOM for Autoclave, Washer, Water Polisher



**WPS-1200**  
Water Purification Systems

## WPS-1200 Water Purification Systems

Consolidated offers two water systems as part of the WPS-1200 line. The WPS-1200-RO reverse osmosis water purification system produces Type IV laboratory-grade water ideal for steam sterilizers and glassware washers per ASTM D1193-06. This robust system includes an RO module and a reservoir tank. Each module consists of two pre-treatment filters and a reverse osmosis filter. The pre-treatment filters remove particles larger than 5 microns, free chlorine, chloramines, and other undesirable traits. The reverse osmosis membrane filter removes greater than 90% of inorganic ions, hardness, and dissolved solids, as well as other particles and microorganisms.

If deionized water is required, the WPS-1200-DI system incorporates extra filtration to produce deionized water with >1 megohm-cm resistivity for clean steam or other high purity applications.

### WPS-1200 Benefits

- Improves equipment life and performance by removing at least 90% of all dissolved solids that cause scale build-up.
- Designed specifically for autoclaves and glassware washers.
- Reduction of scale build up translates to increased uptime as well as reduced maintenance and energy costs.
- Designed to be very low maintenance and easy to use with a low cost of ownership.
- System includes a pressurized storage tank.
- Tank is floor standing and can be mounted remotely.
- 100% seamless composite construction with durable, high density polyethylene inner liner.

### WPS-1200 Features

- Filters have a special 1/4 turn quick change design that allows simple, quick and clean filter replacement. Filters can be easily changed in minutes without the use of tools or the need for a service call.
- Flexible design allows system to be installed integral to the sterilizer<sup>1</sup> or on a nearby wall.
- Pressurized storage allows purified water to be used for general lab use.
- Environmentally safe; 100% lead-free.
- Color indicator on DI filter signals when to change the filter.

<sup>1</sup> Increases the footprint of the sterilizer.

**Quick, Clean, Hassle-Free  
Filter Replacement.**  
NO Service Calls,  
NO Tools!

### Why Purify Your Water?

Many steam sterilizers use an electric steam generator to create the required steam. When the steam is created, salts and minerals from the feed water are left behind. If hard tap water is used to generate the steam, over time these mineral deposits will accumulate and coat the generator heating elements, continually decreasing the functionality of the generator until it stops working. Consolidated's Water Purification Systems will remove these contaminants and help ensure maximum uptime.

### Product Summary

Specifications	Model WPS-1200-RO	Model WPS-1200-DI
Production Water Quality	Type IV (ASTM D1193-06)	DI >1 megohm-cm
Application	For steam sterilizers with carbon steel steam generators	For steam sterilizers with stainless steel steam generators (i.e. clean steam)
Sterilizer Size (volumetric)	up to 42.4 cu.ft. 1200 liters	up to 42.4 cu.ft. 1200 liters



Model WPS-1200-RO System with RO module and 11 gallon tank shown.



**WPS-1200**  
Water Purification Systems

Specifications	Model WPS-1200-RO	Model WPS-1200-DI
Dimensions	38" H x 20.5" W x 8" D 96.5 x 52.1 x 20.3 cm	38" H x 30.5" W x 8" D 96.5 x 77.5 x 20.3 cm
Required Clearance	Add 6" (15.25 cm) on all sides for cover removal and service access.	
Operating Weight (not including storage tank)	40 lbs 18 kg	65 lbs 30 kg
Daily Production Rate*	350 gpd / 14.5 gph nominal 1,325 lpd / 55.2 lph	350 gpd / 14.5 gph nominal 1,325 lpd / 55.2 lph
Sterilizer Size (volumetric)	up to 42.4 cu.ft. 1200 liters	up to 42.4 cu.ft. 1200 liters
<b>Tank</b>		
Tank Dimensions	37-57" H x 16" D 94-144.8 cm x 40.6 cm	
Tank Weight (fully loaded)	110-210 lbs 50-95 kg	
Tank Volume	11-22 gallons 42-83 liters	
<b>Water</b>		
Facility Supplied Connection	1/2" NPT Ball Valve; 25-80 PSIG Dynamic; 1 GPM; 40-100°F (4.4-37.8°C)	
Drain Connection	1/4" (6.4 cm) OD tube connection; Floor drain or Floor Sink, Gravity Flow	
<b>Electrical</b>		
115VAC/60Hz; NEMA 5-15P Plug Branch Circuit Protection 15 or 20 Amp Ground Fault		

\* Feed water temperature, feed water quality and age of filters affects production rate. Incoming water must meet water quality requirements.

### Water Feed Requirements, Carbon-Steel Steam Generators

The table below shows the recommended feed water requirements for a standard steel boiler. If water quality fails to meet maximum condition requirements listed below, then your water will require purification by the WPS-1200-RO. If you are unsure of your facility's water quality, please contact Consolidated to arrange for an initial assessment.

Characteristic	Recommended Condition	Maximum Condition
Temperature	As Supplied	140° F (60° C)
Total Hardness	0-17 mg/L	85 mg/L
Alkalinity	50-180 mg/L	350 mg/L
Total Dissolved Solids	0-150 mg/L	250 mg/L
pH	7.5-8.5	7.5-9.0
Total Silica	0.1-1.0 mg/L	2.5 mg/L
Resistivity	2,000-6,000 megohm-cm	26,000 megohm-cm*

\* If water supplied is greater than 26,000 megohm-cm contact Consolidated for recommendation.

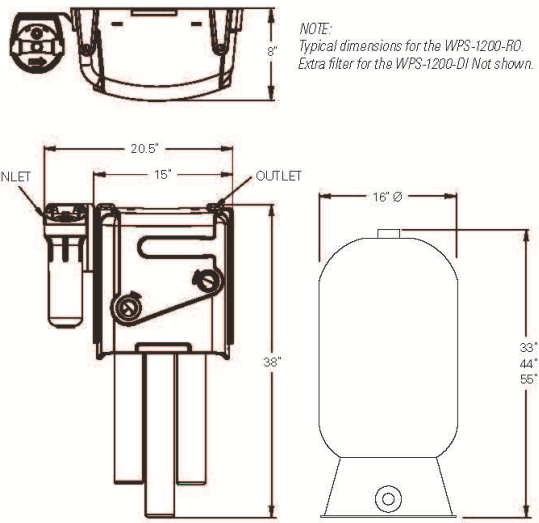
### Water Feed Requirements, Stainless Steel Generators

Stainless-steel generators require deionized water >1 megohm-cm.

### WPS-1200 Maintenance

- Proper pre-treatment is required to control scale formation and/or fouling (recommended preventive maintenance involves pre-treatment filter cartridge changes every 6 months<sup>2</sup>).
- Change RO cartridges regularly (recommended 2-3 year preventive maintenance program<sup>2</sup>).

<sup>2</sup> Feed water quality and usage affects filter life and replacement frequency.



NOTE:  
Typical dimensions for the WPS-1200-RO.  
Extra filter for the WPS-1200-DI Not shown.



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Featuring Green Technology for Energy Savings and Minimal Environmental Impact



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# WASHER CUT SHEET

## SteamScrubber® Laboratory Glassware Washers

### FEATURES & BENEFITS

For washing and drying primarily beakers and other wide-mouth or specialized glassware.

**Steam generator.** Produces hot vapor to penetrate and soften dried contaminants for more effective cleaning.

**Forced air drying system.** Hot air is blown into the tank to dry glassware. No separate dryer or oven is needed.

**Dual pumps,** one for washing and one for draining, reduce the potential for cross contamination.

**Powerful pump recirculates water at a high rate** to dislodge dried contaminants for thorough cleaning. Water recirculates at 96 gal/min (363 liters/min) on 115 Volt, 60 Hz and 230 Volt, 50 Hz models and 112 gal/min (424 liters/min) on 230 Volt, 60 Hz models.

**Versatile rack options.** The standard open racks are interchangeable with optional upper and lower spindle racks. Additional racks are sold separately. See page 18.

**Full two year warranty.** Is provided against defects in materials and workmanship.

**User-set delayed start (up to 8 hours)** may be programmed so that the washer operates during off-peak hours when electricity may be less expensive and more plentiful.

**Up to 6 pure water rinses may be programmed.** A built-in purified water pump draws from a storage tank or pressurized source for final rinses.

**360° rotating upper, middle and lower wash arms** distribute water and detergent.

**Attractive and durable Type 304 stainless steel door and tank.** Free-standing models also have stainless steel sides and top.

**Detergent dispenser for powder or liquid detergent.** Releases a manually premeasured amount ensuring clean labware.

**Quiet, energy-efficient operation at 58 decibels.** Aluminum-backed, sound-deadening insulation and fiberglass blanket absorb noise and optimize internal tank temperature to conserve energy.



**INCLUDES Upper and lower stainless steel standard open racks.** Accommodate a variety of accessory inserts holding the broadest range of glassware. Inserts are sold separately. See pages 18 and 19.

**Sanitizing high heat.** Water temperature reaches 93° C (199° F) on 230 Volt models to sanitize glassware and for enhanced washing, rinsing and faster drying.

**Rinse solution dispenser.** Allows manual addition of mildly acidic rinse to alter pH and eliminate alkaline detergent carry-over. The dispenser holds approximately 170 milliliters, enough for 40 or more cycles.

**Alarms sound and/or display on the LCD** to alert the user to abnormal or unsafe events such as HOT GLASS and OVERFLOW.

**Optional clear tempered safety glass viewing window with 25-watt interior light** allows observation of the cycle in progress. Available standard on some models.

**ETL-listed.** Washers carry the ETL mark signifying they are certified to UL Standard 3101-1/61010-1 and CAN/CSA C22.2 No. 1010.1.

**CE Mark.** Washers conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.



Exclusive Labconco feature

## SteamScrubber® Laboratory Glassware Washers

### SPECIFICATIONS & ORDERING INFORMATION



SteamScrubber Laboratory Glassware Washer 4400330 is shown with 48 Pin Insert 4591601, Petri Dish Insert 4589701, Bulk Tube Insert 4542100, Utensil Holder 4542500 and BOD Bottle Insert 4589201.



- Type 304 stainless steel top, door, tank, upper, middle and lower wash arms. Freestanding models also have stainless steel exterior sides and top.
- One-piece, stainless steel, fine mesh particle drain filter
- Four leveling feet
- 3/8" Female NPT inlet fitting for hot tap water connection
- Factory-installed drain hose and band clamp
- Two year warranty on parts and labor
- Made in the U.S.A.
- IQ/OQ available. Visit [www.labconco.com](http://www.labconco.com) or call 800-821-5525.

#### All models conform to:

- UL 3101-1/61010-1
- CAN/CSA C22.2 No. 1010-1
- CE Conformity Marking (208/230 Volt models only)

#### All models require:

- Minimum inlet water temperature 49° C (120° F)
- Recommended inlet water temperature 60° C (140° F)
- Minimum purified water pressure 0 psi
- Water consumption per fill 3.4 gallons (13 liters)
- Hot tap water pressure at the washer 20-120 psi (138-827 KPa)
- Hot tap water flow rate 1.25 gallons (4.7 liters) per minute
- 3/8" OD copper tubing for connection to the water inlet valve
- Purified water with supply piping minimum 3/8" ID to permit at least 0.9 gallon (3.4 liters) per minute flow

#### Options include:

- Freestanding and undercounter styles
- Water temperature to 82° C (180° F) on 115 Volt models and 93° C (199° F) on 230 Volt models
- Clear tempered safety glass viewing window and 25-watt interior light that illuminates when door is latched

#### Optional accessories and companion products on pages 18 - 22 include:

- Base Stand
- Upper and Lower Spindle Racks
- Baskets and Inserts
- Freestanding-to-Mobile Conversion Kits
- Drain Water Cooling Kit
- LabSolutions Detergents and Rinse
- ScrubberMate Cart, Glassware Carts and Carboy Caddy
- WaterPro RO Stations and accessories

#### All models feature:

- Upper and lower standard open racks of Type 304 stainless steel
- LCD information center, Display button, Run/Cancel button, scroll buttons and selection buttons to program and monitor cycles
- Pump to recirculate 96 gal/min (363 liters) when operated on 115 Volts, 60 Hz and 230 Volts, 50 Hz and 112 gal/min (424 liters/min) on 230 Volts, 60 Hz
- Drain pump to evacuate over 7 gal/min (26 liters/min)
- Purified water pump to bring non-pressurized or pressurized purified water into the tank for up to six pure water rinses
- Steam generator that produces hot vapor before the WASH 2 cycle (RINSE ONLY and PLASTIC programs excluded)
- Aluminum-backed insulation and fiberglass blanket for thermal and sound insulation
- Operation at 58 decibels
- Manual-fill detergent dispenser for powder or liquid detergent
- Manual-fill rinse aid solution dispenser
- Forced air drying programmable up to 99 minutes and from 38-70°C (100-158° F)
- Seven factory-set cycle programs: RINSE ONLY, PLASTIC, GLASS, GLASS PLUS, SCIENCE, SCIENCE PLUS, and DRY ONLY. All 208/230 Volt models have three additional programs for a total of ten: INTENSE, INTENSE PLUS and EXTREME.
- Two user-set cycle programs
- Alarms with display for HOT GLASS, PLEASE WAIT, WATER LOW, WATER HIGH, OVERFLOW, LIQ DETER, RINSE AID DRAIN FAIL and LOW TEMP. Audible alarms self cancel after one minute.
- User-set delayed start (up to 8 hours)

Catalog #	Style	Electrical Requirements	Maximum Internal Water Temperature	Viewing Window and Light	Overall Dimensions with Door Closed	Shipping Weight
4400320	Undercounter	115 Volts, 60 Hz, 16 Amps	82° C (180° F)	No	24.1" w x 27.4" d x 34.1-36.1" h	206 lbs. (93 kg)
4400321	Undercounter	208/230 Volts, 50/60 Hz, 12 Amps	93° C (199° F)	No	24.1" w x 27.4" d x 34.1-36.1" h	206 lbs. (93 kg)
4400330	Undercounter	115 Volts, 60 Hz, 16 Amps	82° C (180° F)	Yes	24.1" w x 27.4" d x 34.1-36.1" h	206 lbs. (93 kg)
4400331	Undercounter	208/230 Volts, 50/60 Hz, 12 Amps	93° C (199° F)	Yes	24.1" w x 27.4" d x 34.1-36.1" h	206 lbs. (93 kg)
4400420	Freestanding	115 Volts, 60 Hz, 16 Amps	82° C (180° F)	No	24.2" w x 27.5" d x 34.2-36.2" h	235 lbs. (107 kg)
4400421	Freestanding	208/230 Volts, 50/60 Hz, 12 Amps	93° C (199° F)	No	24.2" w x 27.5" d x 34.2-36.2" h	235 lbs. (107 kg)
4400430	Freestanding	115 Volts, 60 Hz, 16 Amps	82° C (180° F)	Yes	24.2" w x 27.5" d x 34.2-36.2" h	235 lbs. (107 kg)
4400431	Freestanding	208/230 Volts, 50/60 Hz, 12 Amps	93° C (199° F)	Yes	24.2" w x 27.5" d x 34.2-36.2" h	235 lbs. (107 kg)

Exclusive Labconco feature

# RO UNIT FOR CHEM PREP; ANATOMY PREP For Washers and Water Polishers

## FlaskScrubbers® & SteamScrubbers® Companion Products



WaterPro RO Station 90750-00

### WaterPro® RO Stations

- Connect to the SteamScrubber or FlaskScrubber to provide purified water for the final rinse.
- Use carbon filtration and reverse osmosis technologies to purify water.
- Deliver 1 liter/minute of reverse osmosis purified, Type III water when feedwater purity is 100 µs or better.
- Available for wall mounting or with an accessory stand for bench mounting.

### WaterPro RO Station 90750-00

Epoxy-coated steel cabinet with Type 304 stainless steel front panel. Three bowls made of white polypropylene. Includes integral 17 liter polyethylene storage tank with outlet port for connection to washer; ON/OFF switch; µS, TEMP °C, TIME DISP and TANK FULL indicator lights; and DISPENSE switch. If TIME DISP. is activated, water dispensing from the valve automatically shuts off once user-set time has elapsed. LED display shows actual water quality from 1 to 999 microsiemens (µS), actual water temperature in °C or dispense time in minutes. For 115 volt, 60 Hz, 12 amp AC operation. Includes an 8-foot, 3-wire cord and plug. Requires Prefilter/Carbon Filter Kit 90672-01 and Reverse Osmosis Membrane 90787-00 for operation. Dimensions: 31 1/8" w x 7 7/8" d x 30 3/8" h (79 x 20 x 77 cm). Shipping weight 100 lbs. (45 kg).

**\*WaterPro RO Station 90750-02**  
Same as 90750-00 except for 230 volt, 50 Hz, 60 amp AC operation. Includes an 8-foot, 3-wire cord. An electrical plug is required.

**Prefilter/Carbon Filter Kit 90672-01**  
Required for operation. Includes Prefilters (3) and Carbon Filters (3), for initial start-up and two filter changes. Shipping weight 10 lbs. (4.5 kg).

**Reverse Osmosis Membrane 90787-00**  
Required for operation. Shipping weight 6 lbs. (2.7 kg).



**Support Stand 90774-00**  
For converting wall-mounted WaterPro RO Station to bench mounted. Rests on countertop or other horizontal surface. Epoxy-coated steel. Dimensions (with WaterPro RO Station attached): 31 1/8" w x 16 1/8" d x 35 1/3" h (79 x 41 x 90 cm). Shipping weight 20 lbs. (9 kg).



WaterPro Softener 90733-00

### WaterPro Softeners

- Soften tap water to protect washer components from scaling and to help activate detergent.
- Twelve-day timer automatically regenerates resins.
- Large capacity 20" brine sump holds enough salt to provide three regenerations before refilling is necessary.
- Over 600 gallons (2271 liters) of softened water at 8 grains of hardness are provided before salt replacement is necessary.
- Large ion exchange resin capacity provides years of water softening.

### WaterPro Softener 90733-00

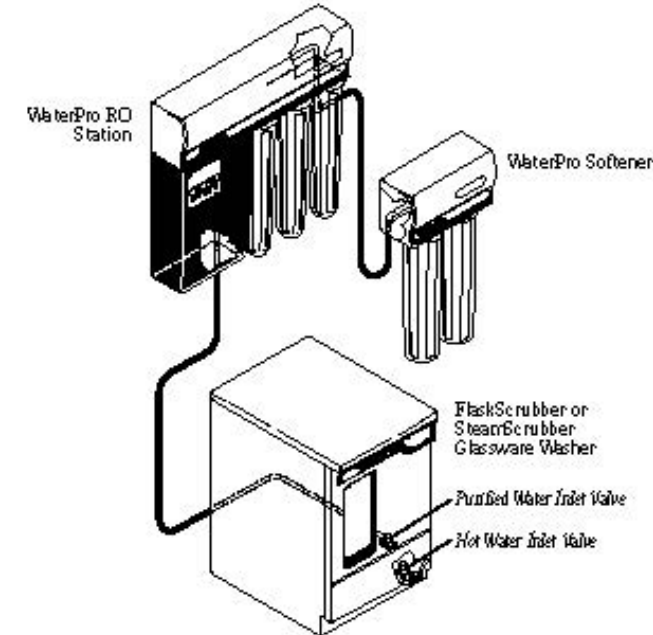
Epoxy-coated steel cabinet with Type 304 stainless steel front panel. Two white polypropylene sumps. Includes 6 color-coded hardness test strips. For 115 volt, 60 Hz, 1 amp operation. Includes 8-foot, 3-wire cord and plug. Shipping weight 65 lbs. (29.5 kg).

**\*WaterPro Softener 90733-01**  
Same as 90733-00 except for 230 volt, 50 Hz, 0.5 amp operation. Includes 8-foot, 3-wire cord. Plug is required.

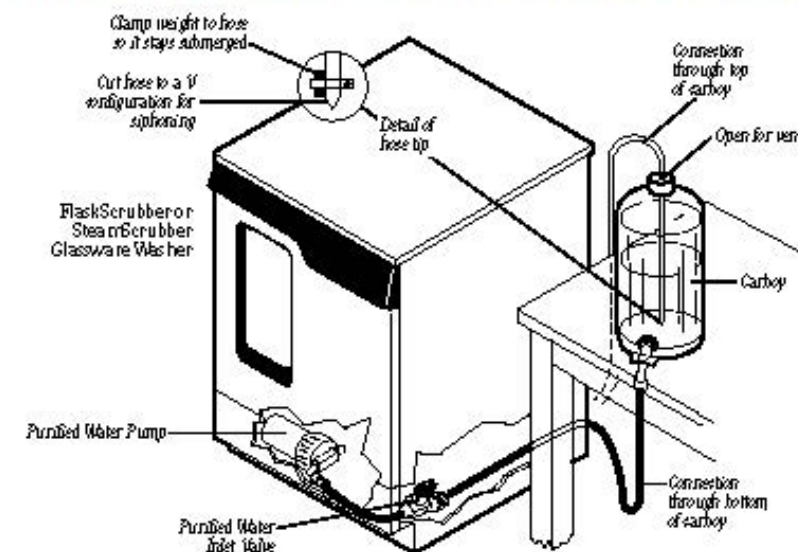
\*International electrical plug required

## FlaskScrubbers® & SteamScrubbers® Typical Plumbing Connections

This diagram illustrates the possible connections of various WaterPro Water Purification System components.



This diagram illustrates possible connections of the washer's purified water inlet valve to purified water stored in a carboy. As shown, the connection may be made through the top or bottom of the carboy.





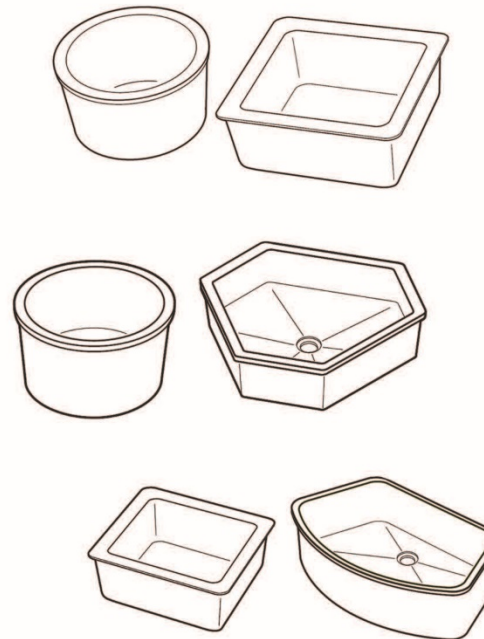
**PRODUCT DIMENSIONS - EPOXY RESIN SINKS [IMPERIAL]**

**Dropln® Sinks**

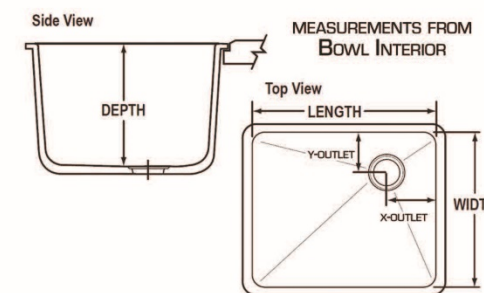
MODEL Number	OUTLET Placement	WEIGHT [lbs]	LENGTH [inches]	WIDTH [inches]	DEPTH [inches]	X-OUTLET [inches]	Y-OUTLET [inches]	ADA Compliant
D01C	Center	9	9	6	5.8	4.5	3	
D03C	Center	16	12	8	5.8	6	4	
A05	Corner	18	14	10	5	3.5	3.5	♿
D05	Corner	24	14	10	6.25	3.5	3.5	
D05C	Center	24	14	10	6.25	7	5	
D06C	Center	34	12	12	12	6	6	
A07	Corner	24	14	14	5	3.5	3.5	♿
D08	Corner	25	15	8	6	3.5	3.5	
D09	Corner	25	15	8	10.75	3.5	3.5	
D10E	End	22	16	8	6.75	4.5	4	
D10C	Center	22	16	8	6.75	8	4	
D15	Corner	30	16	12	8	3.5	3.5	
D15C	Center	31	16	12	8	8	6	
D19	Corner	42	16	16	9.56	3.5	3.5	
D20	Corner	32	16	16	7.5	3.5	3.5	
D21	Corner	58	16	16	15	3.5	3.5	
D22C	Center	20	18	6.5	6	9	3.25	
D24C	Center	30	18	14	10.5	9	6.825	
A25	Corner	35	18	15	5	3.5	3.5	♿
A25M	Corner	30	18	15	2.375	3.5	3.5	♿
D25	Corner	39	18	15	7.88	3.5	3.5	
A26	Corner	39	18	15	5.00 / 11.00	4.5	4.5	♿
D30	Corner	58	18	15	10.75	3.5	3.5	
D30C	Center	50	18	15	10.75	9	7.5	
D30D	Corner	110	37.5	15	10.75	3.5	3.5	
D32	Corner	49	18	15	15.13	3.5	3.5	
D33	Corner	59	21	17	9.75	3.81	3.81	
D33E	End	59	21	17	9.75	4.5	8.5	
D45	Corner	61	21.5	15.5	11	4.75	4.75	
D50	Corner	54	24	16	8.25	3.5	3.5	
D50C	Center	54	24	16	8	12	8	
D51	Corner	60	24	16	9.62	3.5	3.5	
D52	Corner	77	24	18	11	3.5	3.5	
D54	Corner	45	25	15	8	3.5	3.5	
A55	Corner	51	25	15	4.75	3.5	3.5	♿
D55	Corner	72	25	15	10	3.5	3.5	
A56	Corner	70	25	15	5.00 / 11.00	4.5	4.5	♿
D57	Corner	71	25	15	13.62	3.5	3.5	
D58	Corner	79	25	15	17.75	3.5	3.5	
D59	Corner	74	28	15	11.75	3.5	3.5	
D61	Corner	94	30	16	17.75	4.5	4.5	
D65C	Center	98	35.5	19.5	9.75	17.75	9.75	
D68E	End	120	30	16	10	4.75	8	
D70C	Center	77	24	16	15.5	12	8	
D78C	Center	94	36	18	12	18	9	
D99	Center	61	31	18	10	11.31	4.5	
DRS10	Center	14	10 Diameter		7.75		Center	
DRS12	Center	18	12 Diameter		7.75		Center	
DH20C	Center	65	30	26	7	14.77	14	

Measurements are taken from sink bowl interior. All dimensions are nominal, and may vary by manufacturing location. Cut sheets available upon request.

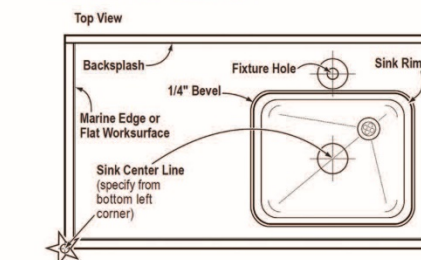
**DROPLN® SINK STYLES**



**DIMENSIONS KEY**



**INSTALLATION DETAIL**



**ADA Lab sink: A56**  
**25" long x 15" wide x 5/11" deep**  
**With sediment trap**

**Standard Lab sink: D59**  
**28" long x 15" wide x 11.75" deep**  
**With sediment trap**

**Round Sinks: No number**  
**Will be manufactured custom by Durcon**

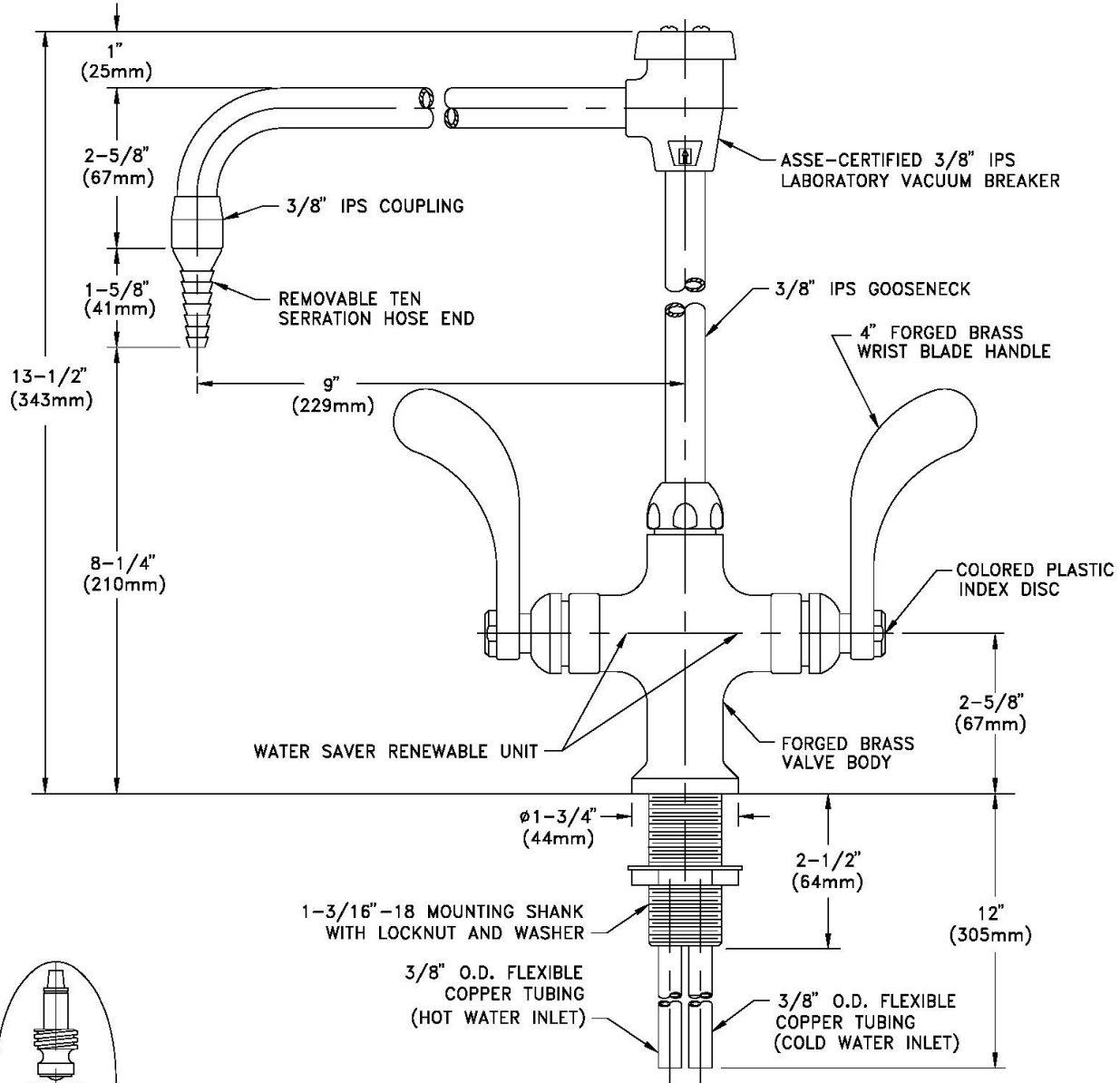
# HOT/COLD WATER FAUCET CUT SHEET

**COLORTECH**

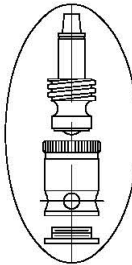
701 West Erie Street Phone 312 666 5500  
Chicago, Illinois 60610 Fax 312 666 8597

Laboratory Service Fixtures by  
WaterSaver Faucet Co.

CT414-9VB-BH  
LABORATORY MIXING FAUCET, DECK MOUNTED, 9" RIGID/SWING VACUUM BREAKER GOOSENECK, WRIST BLADE HANDLES



Faucet will be specified with satin chrome finish, epoxy powder coat.



WATER SAVER RENEWABLE UNIT WITH REPLACEABLE STAINLESS STEEL SEAT

MEASUREMENTS MAY VARY ±1/4".

- NOTES:
1. CSA CERTIFIED UNDER CAN/CSA B125.M89. COMPLIES WITH ANSI/ASME A112.18.1M.
  2. FIXTURE IS FURNISHED WITH COLORTECH POWDER-COATED FINISH.

Drawing Number: \_\_\_\_\_

Revision Number: 031803-KJS

# WATER POLISHER CUT SHEET

REV	DESCRIPTION	DATE	APP
-	INITIAL RELEASE	shoboc	

## For both Milli-Q Integral and Elix Advantage Systems

INTERFACE CALL-OUT TABLE		
TAG	DESCRIPTION	LOCATION
1-1	Feed water source - provide 1/2" npt connection for Millipore interface. Pressure 30-80 psi, Temp 41-95°F	Either under the sink or on wall, within 5 feet of system. If under sink, provide 2" Ø hole in counter or casework for tubing for connection to system by Millipore
2-1	Overflow from storage tank	Gravity drain connection is on back of tank, Millipore will run 3/4" hose from tank to sink or standpipe provided by customer
3-1	Reject from make-up system	Millipore will run tubing from system to sink or standpipe provided by customer
4-1	Supply and return from storage tank	Millipore will run tubing from system to the storage tank
5-1	120VAC for water system, provide 5-15R receptacle. System power 160VA, fused internally at 2.5 A	Locate within 48" of the Millipore system
6-1	Provide mounting panel to cover wall behind and provide mounting for Millipore equipment	Locate as needed, dimensions as needed, material typically 3/4" plywood or similar, to support tank and make-up system
7-1	Supply and return to/from the dispenser(s)	Millipore will run tubing from system to the dispenser(s)

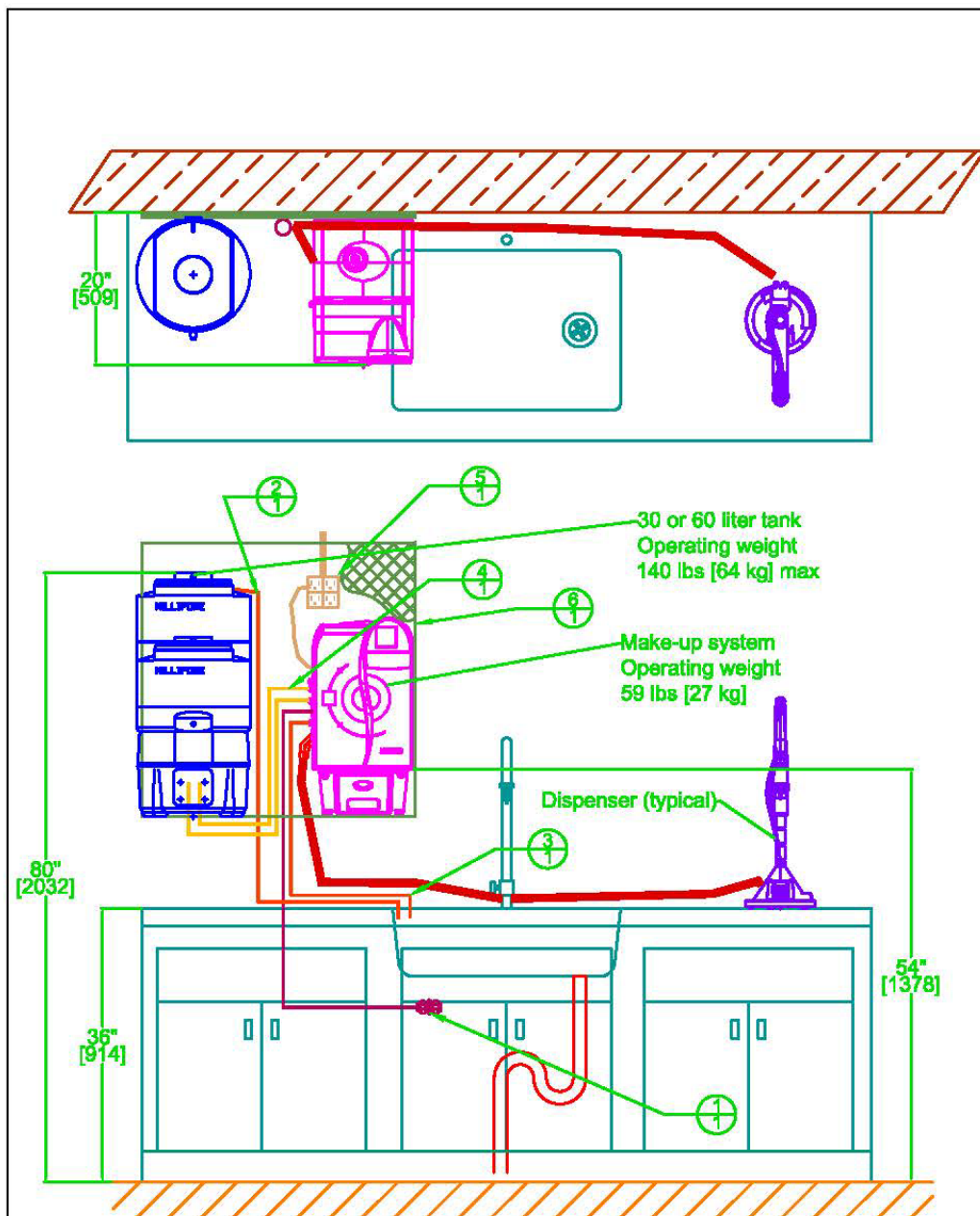
### INSTALLATION NOTES

- (1) TANK LOCATION: Typical shown. Tank must be located within 6 ft (2 m) above or below, and within 9 ft (3m) left or right of the system.  
 (2) DISPENSER: Typical shown. Provided with communications/tubing assembly that allows location up to 9 ft (3 m) away from system (see "Pod combinations" drawing).  
 (3) CASEWORK : Owner to provide Holes in counters and casework as needed to provide path for all tubing and cables.

Locate at each lab sink where required.  
Requires RO water supply and duplex power outlet.

Includes 30 litre storage tank, wall mounted on shelf.

Can be Owner Furnished/Owner installed, or Contractor Furnished/Contractor Installed.



System and 30 or 60 liter tank wall mounted

<p>This drawing and the data contained therein are confidential and the property of Millipore Corp. Any other use or reproduction of this drawing is expressly prohibited without Millipore's consent.</p> <p>DO NOT SCALE PRINT</p>		NA CUSTOM WATER SYSTEMS - BIOLOGICAL DIVISION MILLIPORE	
		CLIENT: Millipore Installation Details	TITLE: Typical Milli-Q/Elix Advantage installation dimensions
DATE / APP BY: 11.01.02 / shoboc	DATE / APP BY: 11.01.02 / shoboc	DRAWING NO: SIMJL-CS-111008E	SHEET NO: 1 OF 1

# Flammable Liquid Safety Cabinet, 60 Gal. 2 Shelves, 2 Door, Manual Close, Yellow

[View Gallery](#)

**Model Number:**  
1962X

**UPC Code:**  
048441691920

**Description:**  
Eagle's 60 Gallon, manual close, Flammable Liquid Safety Cabinet is constructed of 18-gauge (1 mm) steel. The sides, top, bottom, and doors are double-walled with a 1-1/2 in (3.8 cm) air space between walls. Includes two vents, each have 2 in (5.1 cm) threaded fittings and a fire baffle and cap. Cabinets have a high gloss powder coat finish with red trilingual warning, plus grounding attachment, 3-point latch system, and 2-in (5.1 cm) raised, leakproof door sill. Each shelf is adjustable on 3 in (7.6 cm) centers, supported by 4 brackets, with a 350 lbs (159 kg) safe allowable load. Cabinets are FM-Approved and meet NFPA Code 30 and OSHA requirements.

**Capacity:**  
60 gal. (227.2 L)

**Color:**  
Yellow

**Door Style:**  
Manual Close

**Inside Dimensions:**  
30.75" W x 30.34" D x 60.5" H (78.1 x 77.1 x 153.7 cm)

**Lock:**  
True

**Number of Shelves:**  
2

**Shelf Depth:**  
29" (73.7 cm)

**Shelf Model Number:**  
29944

**Uniform Fire Code:**  
False



2/27/2020

**Width:**  
34" (86.4 cm)

**Depth:**  
34" (86.4 cm)

**Height:**  
65" (165.1 cm)

**Weight:**  
371 lbs. (168.3 kg)

**Approvals:**



**Compliance:**



**All cabinets to be vented with 100 cfm exhaust per cabinet.**

**Chem Store Room cabinets to be 60 gal capacity each cabinet.**

**All other Prep room cabinets to be 24 gal capacity each cabinet.**

## CORROSIVE CABINET CUT SHEET

# Acid & Corrosive Metal Safety Cabinet, 60 Gal., 2 Shelf, 2 Door, Self Close, Blue

[View Gallery](#)

**Model Number:**  
CRA6010X

**UPC Code:**  
048441691876

**Description:**

Eagle's 60 Gallon, self-closing, Acid & Corrosive Safety Cabinet is constructed of 18-gauge (1 mm) steel. The sides, top, bottom, and doors are double-walled with a 1-1/2 in (3.8 cm) air space between walls. Includes two vents, each have 2 in (5.1 cm) threaded fittings and a fire baffle and cap. Cabinets have a corrosion-resistant powder coat finish and includes trilingual warning label, plus grounding attachment, 3-point latch system, and 2-in (5.1 cm) raised, leakproof door sill. Each shelf is adjustable on 3 in (7.6 cm) centers, supported by 4 brackets, with a 350 lbs (159 kg) safe allowable load. Includes poly shelf and sump trays to help contain small spills and provide extra corrosion protection. Not recommended for use with Sulfuric, Nitric or Hydrochloric acids. Cabinets are FM-approved and meet NFPA Code 30 and OSHA requirements.

**Capacity:**  
60 Gal. (227.2 L)

**Color:**  
Blue

**Door Style:**  
Self-Close

**Inside Dimensions:**  
30.75" W x 30.3" D x 60.5" H (78.1 x 77.1 x 153.7 cm)

**Lock:**  
True

**Number of Shelves:**  
2

**Shelf Depth:**  
29" (73.7 cm)

**Shelf Model Number:**  
29944

**Uniform Fire Code:**  
True



2/27/2020

**Width:**  
34" (86.4 cm)

**Depth:**  
34" (86.4 cm)

**Height:**  
65" (165.1 cm)

**Weight:**  
382 lbs (173.3 kg)

**Approvals:**



**Compliance:**



**Warning:**

**All cabinets to be vented with 100 cfm exhaust per cabinet.**

**Chem Store Room cabinets to be 60 gal capacity each cabinet.**

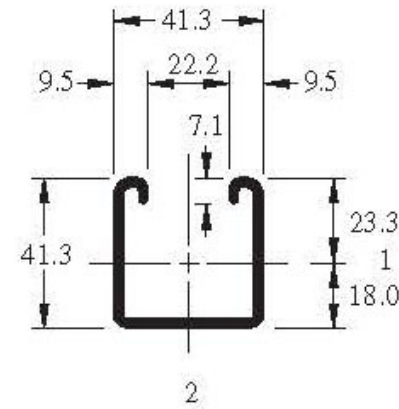
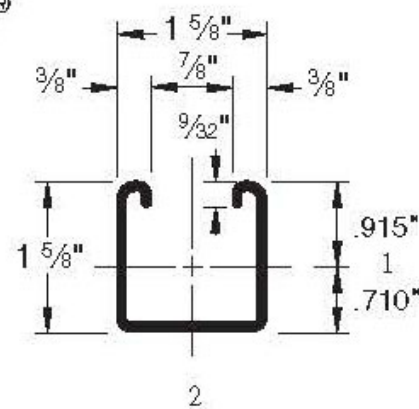
**All other Prep room cabinets to be 24 gal capacity each cabinet.**

# UNISTRUT P1000/P1001 CUT SHEET

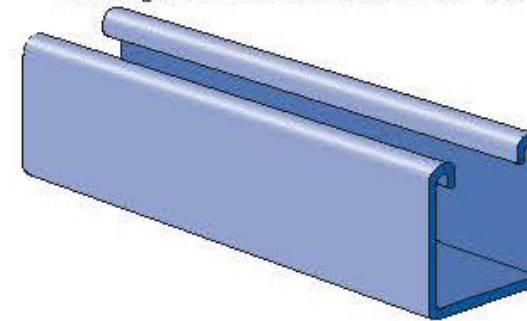
## P1000® & P1001 Channels

# UNISTRUT®

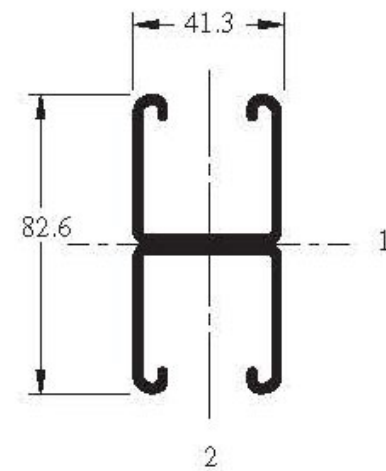
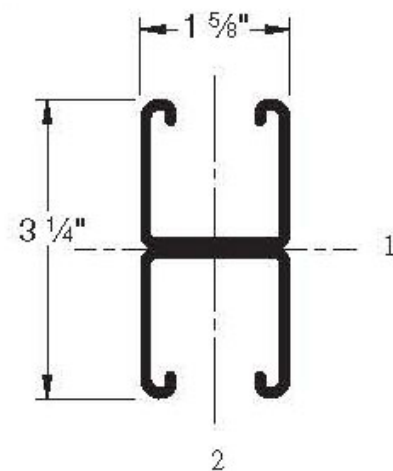
### P1000®



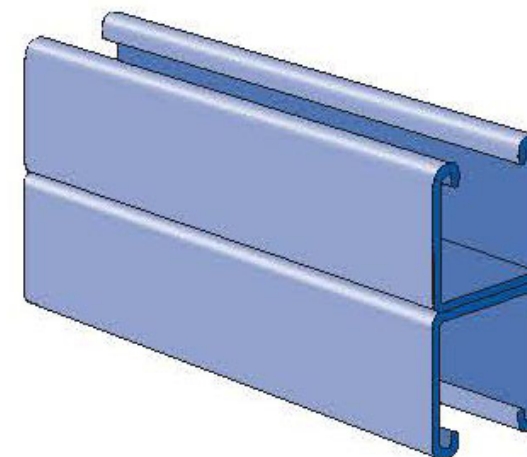
Wt/100 Ft: 189 Lbs (281 kg/100 m)  
 Allowable Moment: 5,070 In-Lbs (570 N•m)  
 12 Gauge Nominal Thickness .105" (2.7mm)



### P1001



Wt/100 Ft: 378 Lbs (562 kg/100 m)  
 Allowable Moment: 14,360 In-Lbs (1,620 N•m)  
 12 Gauge Nominal Thickness .105" (2.7mm)



1 5/8" Channel

Telestrut System

Nuts & Hardware

General Fittings

Pipe/Conduit Supports

Electrical Fittings

Used for Unistrut frame at walls and overhead Unistrut suspended frame at all labs where noted

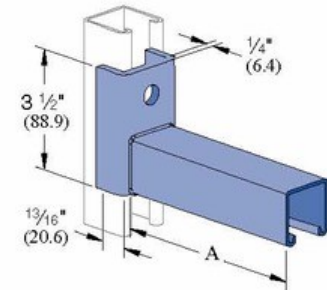
P1000 unistrut will be used at wall frame members to which shelf brackets will attach. Backing at walls will need to be specified by Architect.

Shelf units are adjustable/removable/relocatable. All shelf units can be moved to other shelf unit/storage cabinet locations.

P1001 members are used at horizontal and vertical frames that hang from structure. Power conduit and fourplex power boxes attach to Unistrut frame.

1 1/2" Channel  
 Telestrut System  
 Nuts & Hardware  
**General Fittings**  
 Pipe/Conduit Supports  
 Electrical Fittings  
 Concrete Inserts  
 1 1/2" Framing System  
 1 3/4" Framing System  
 Fiberglass System  
 Special Metals  
 PrimeAngle System  
 Product Index

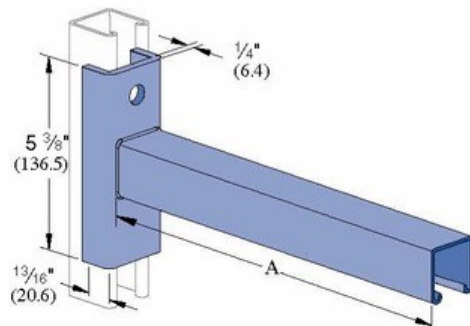
**P2231A, P2232A**



Part Number	"A" In (mm)	Wt/100 pcs Lbs (kg)	Vertical Channel		Uniform Design Load Lbs (kg)
			Part No.	Gauge	
P2231A	6 152.4	191 86.6	P1000	12	1,600 725.7
			P1100	14	1,200 544.3
			P2000	16	800 362.9
P2232A	12 304.8	292 132.4	P1000	12	800 362.9
			P1100	14	600 272.2
			P2000	16	400 181.4

Safety Factor - 2 1/2

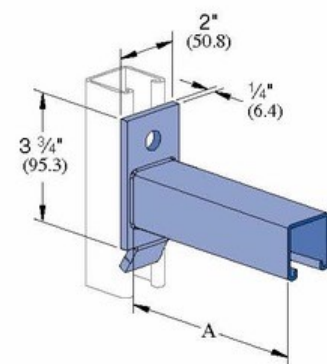
**P2233A, P2234A**



Part Number	"A" In (mm)	Wt/100 pcs Lbs (kg)	Vertical Channel		Uniform Design Load Lbs (kg)
			Part No.	Gauge	
P2233A	18 457.2	436 197.8	P1000	12	600 272.2
			P1100	14	450 204.1
			P2000	16	300 136.1
P2234A	24 609.6	536 243.1	P1000	12	450 204.1
			P1100	14	330 149.7
			P2000	16	220 99.8

Safety Factor 2 1/2

**P2513A thru P2516A**



Part Number	"A" In (mm)	Wt/100 pcs Lbs (kg)	Vertical Channel		Uniform Design Load Lbs (kg)
			Part No.	Gauge	
P2513A	6 152.4	161 73.0	P1000	12	1,200 544.3
			P1100	14	800 362.9
			P2000	16	600 272.2
P2514A	12 304.8	261 118.4	P1000	12	600 272.2
			P1100	14	400 181.4
			P2000	16	300 136.1
P2515A	18 457.2	361 163.7	P1000	12	400 181.4
			P1100	14	270 122.5
			P2000	16	200 90.7
P2516A	24 609.6	461 209.1	P1000	12	300 136.1
			P1100	14	200 90.7
			P2000	16	150 68.0

Safety Factor 2 1/2

When installed in inverted position use 60% of loads shown.

**Note**

When used for mechanical supports, load capacities of brackets and fittings should be in compliance with the American Standard Code for Pressure Piping.

**P2231A for 12" deep shelves.**  
 Modified to 4.5" height to allow shelf placement without covering bolt connector.

**P2232A for 15" deep shelves.**  
 Modified to 4.5" height to allow shelf placement without covering bolt connector.

**P2233A for 24" deep shelves.**  
 Modified to 6.5" height to allow shelf placement without covering bolt connector.

**All Unistrut members will be specified with epoxy powder coat white color.**

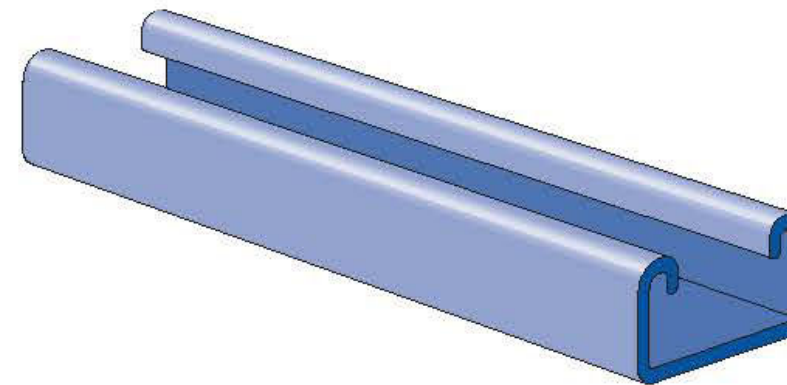
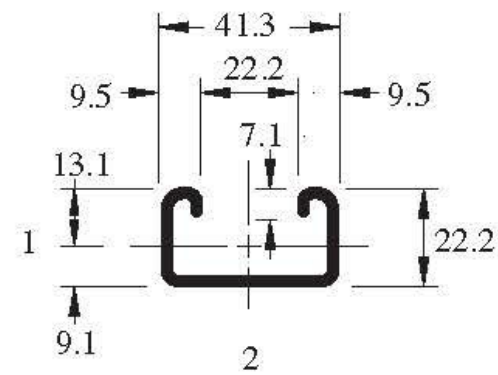
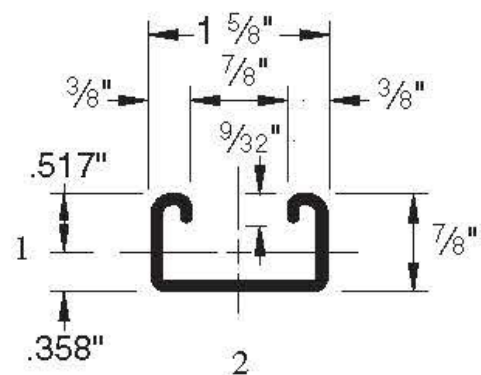
P3300 & P3301 Channels



P3300

Wt/100 Ft: 134 Lbs (200 kg/100 m)  
 Allowable Moment 1,800 In-Lbs (200 N•m)  
 12 Gauge Nominal Thickness .105" (2.7mm)

P3300 channel to be used at top horizontal member at sink stations in labs and prep rooms.

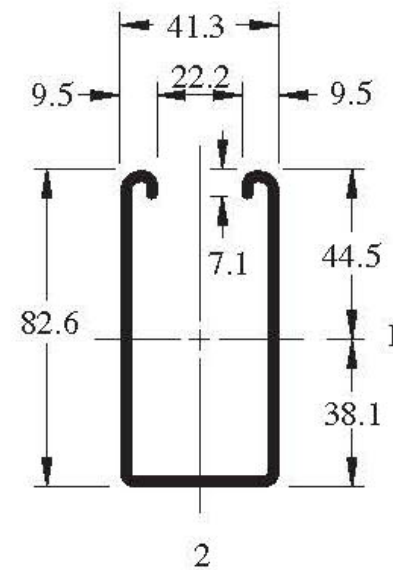
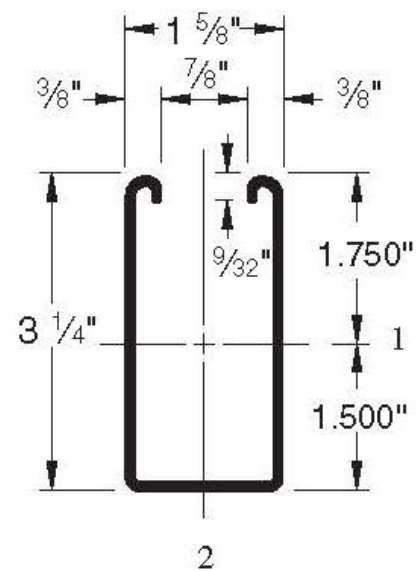




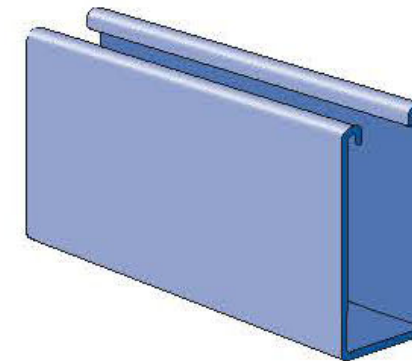
P5000 & P5001 Channels



P5000



Wt/100 Ft: 305 Lbs (454 kg/100 m)  
 Allowable Moment 15,770 In-Lbs (1,780 N•m)  
 12 Gauge Nominal Thickness .105" (2.7mm)



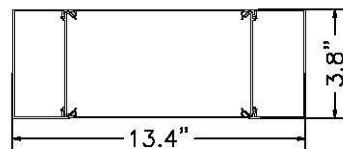
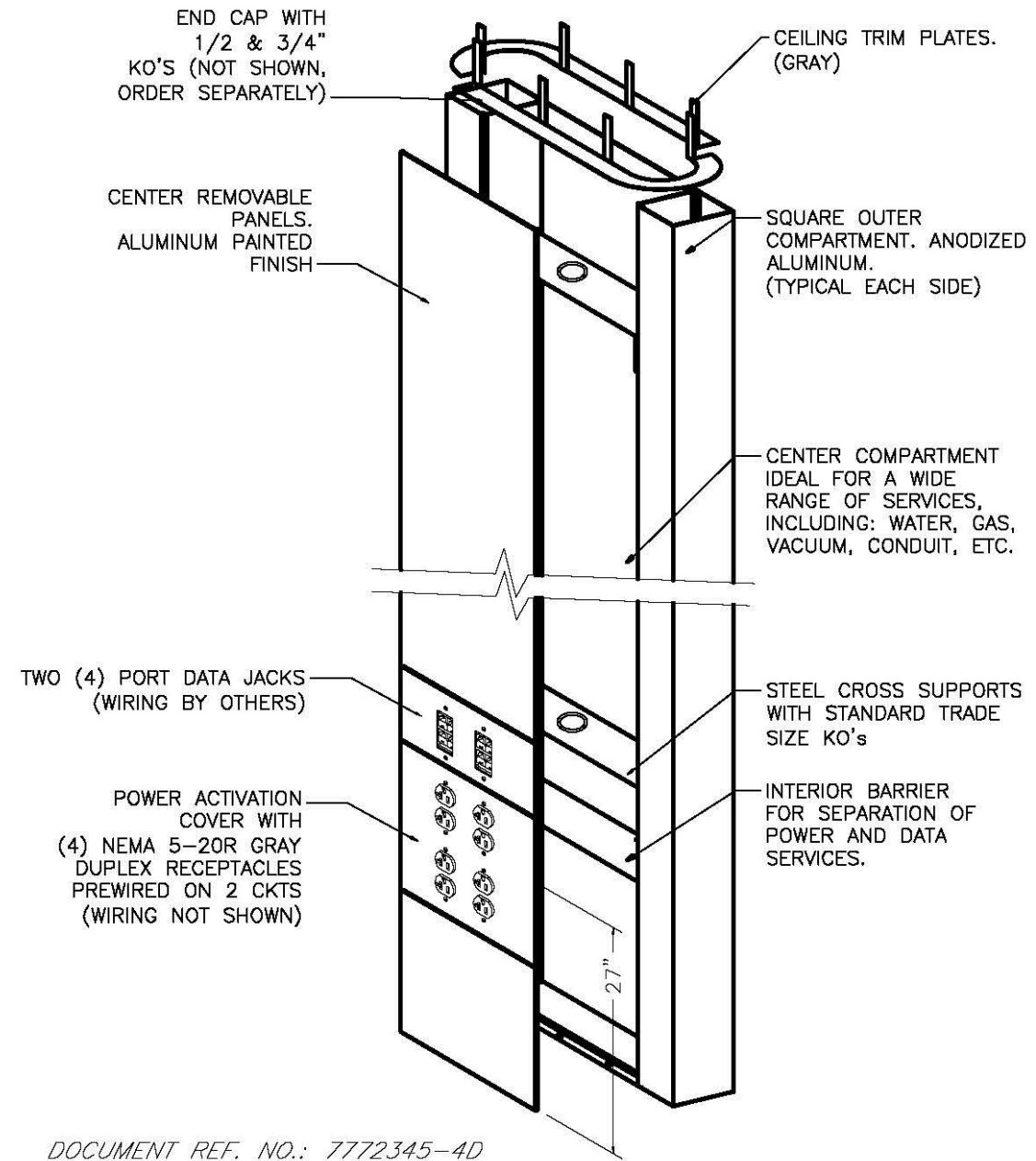
P5000 unistrut to be used at sides of pipe drop at wall sink locations in labs and prep room. The vertical P5000 runs from the floor up to 108" above the floor. The pair of vertical P5000 channels create an open pipe chase for water pipes and conduit. Water pipes have exposed shut-off valves visible to view.

# CEILING SERVICE MODULE CUT SHEET

**Mono-Systems, Inc.**  
**Mono-View**  
 Architectural Chase System

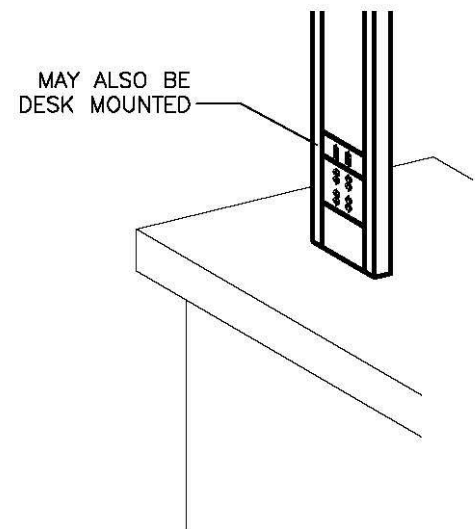
## HIGH CAPACITY AESTHETIC POLE SYSTEM (MONO-VIEW)

CATALOG #: VPL-7772345-4D



SECTION

STANDARD HEIGHT: 126"  
 NONSTANDARD HEIGHTS ARE AVAILABLE, CONTACT FACTORY.



**MONO-SYSTEMS, INC.**  
 UNIQUE CABLE DISTRIBUTION SOLUTIONS  
 4 INTERNATIONAL DRIVE  
 RYE BROOK, NEW YORK 10573  
 PHONE: (914)-934-2075  
 FAX: (914)-934-2190

Suspended from ceiling in Prep Rooms

Manufactured by Karan & Associates  
 (Mono-Systems no longer makes this product)

5/27/08 DOCUMENT REF. NO.: 7772345-4D



Item # \_\_\_\_\_

Job \_\_\_\_\_

### SUPER ADJUSTABLE 2" SUPER ERECTA SHELF® WIRE SHELVING

Super Adjustable 2" Super Erecta Wire Shelving is the most advanced and innovative wire storage system available. The unique Corner Release System, which allows shelves to be adjusted quickly and easily without tools, has been re-engineered to provide increased rigidity. And Super Adjustable 2" Shelving works in conjunction with the entire Super Erecta System of shelves and accessories.

- **Maximum Space Utilization:** The Corner Release System encourages repositioning of shelves during initial assembly to reclaim wasted vertical space. In some cases, reclaimed vertical space will allow an extra shelving tier to be added to the storage unit resulting in a 25% increase in storage capacity!
- **Easily Assembled:** The unique Corner Release System enables quick and easy repositioning of shelves during the initial set up to accommodate different package or container sizes. "Total Assembly" is complete only after the shelves are properly spaced to maximize storage. SiteSelect™ Posts, with the double-groove visual guide feature, have circular grooves at 1" (25mm) increments and are numbered at 2" (51mm) intervals to easily identify proper shelf locations.
- **Easily Adjustable:** The unique shelf design and SiteSelect™ Posts enable "tool-free", quick adjustment at 1" (25mm) increments along the entire height of the post.
- **Improved Rigidity:** An enhanced Corner Release System has made Super Adjustable 2" the most rigid, easily adjustable shelving system ever.
- **Strong:** Super Adjustable 2" shelves hold as much weight as traditional Super Erecta wire shelving. Stationary units hold a maximum of 2,000 lb. (910kg). Maximum weight capacity per shelf (48" [1219mm] or shorter = 800 lb. [364kg]; longer than 48" [1219mm] = 600 lb. [273kg]).
- **Choice of Finishes:** Super Adjustable 2" Super Erecta shelving is available in a variety of finishes: Super Erecta Brite and chrome-plated for dry storage; Metroseal 3" with antimicrobial product protection and stainless steel for corrosive environments; and attractive black epoxy for merchandising applications.

#### Super Adjustable 2" Advantage . . .

Easily reposition Super Adjustable 2" shelves during initial storage to increase storage capacity by as much as 25%.



Dry Storage — Chrome or Super Erecta Brite™



All Environments — Metroseal 3"™ with Microban® Antimicrobial Product Protection



Mobile Stem Caster Cart



Mobile Dolly Truck



Corner Release System

\*MICROBAN® and the MICROBAN® symbol are registered trademarks of the Microban Products Company, Huntersville, NC.



InterMetro Industries Corporation  
North Washington Street  
Wilkes-Barre, PA 18705  
www.metro.com



METRO SUPER ADJUSTABLE 2" SUPER ERECTA SHELF® Adjustable Wire Shelving

10.01A

## METRO SHELF UNIT CUT SHEET

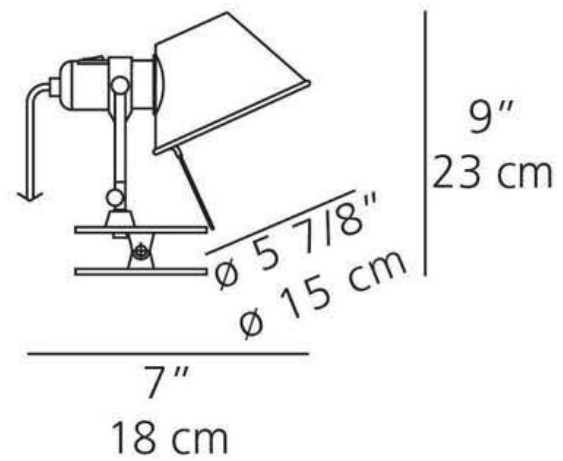
Metro shelf unit to be spec'd at 36" wide x 72" long x 72" high, with heavy duty lockable casters and adjustable shelves.

## TASK LIGHT CUT SHEET



LED Task light attaches to shelf edge and is easily moved/removed. Task light plugs into raceway at mobile lab bench.

*Tolomeo clip spot*



## BIOLOGICAL SAFETY CABINET CUT SHEET

Located in Biology Prep Room

Owner Furnished- Shown for reference only

Actual model may vary

### 4' Purifier Logic+ Class II A2 Biological Safety Cabinet with 10" sash opening Catalog

#302310001

- **Product Subcategory:** Class II, Type A2 Biological Safety Cabinets
- **Nominal Width:** 4'
- **Protection Type:** Product and Personnel
- **Nominal Sash Opening:** 10" (25 cm)
- **Region:** U.S. and Canada
- **Base Stand:** Required (not included)
- **Conformance:** ADA, CAN/CSA C22.2, ETL, NSF 49, UL
- **Exhaust :** No external exhaust
- **Lighting:** LED
- **Power Cord & Plug:** North America, 115V, 15A
- **Estimated Shipping Weight:** 510.0 lbs
- **Estimated Shipping Weight metric:** 231.3 kg
- **Dimensions:** 55" w x 31.2" d x 61.7" h
- **Dimensions metric:** 140 x 79.2 x 156.7 cm
- **Electrical:** 115V, 60 Hz, 12A

