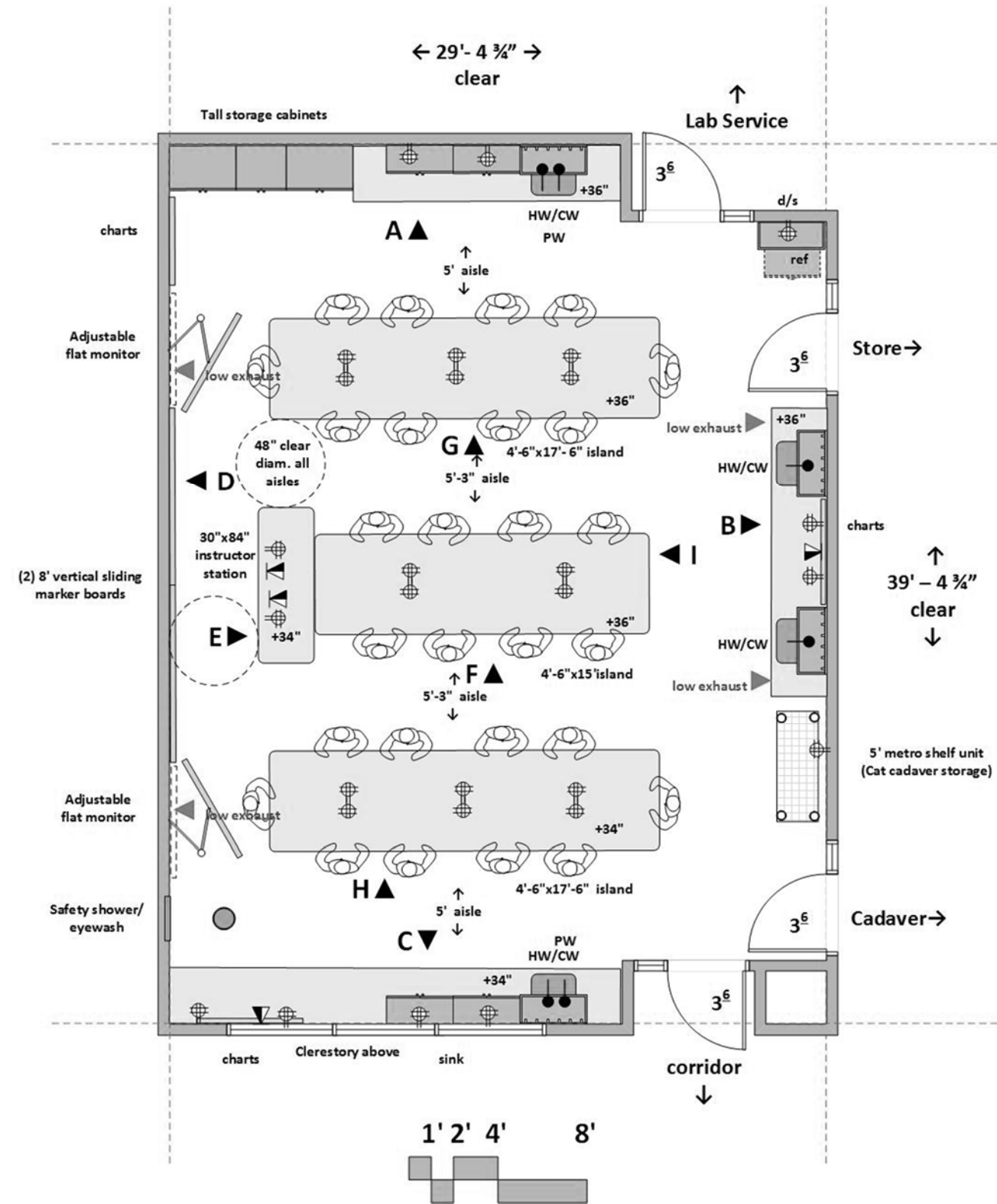
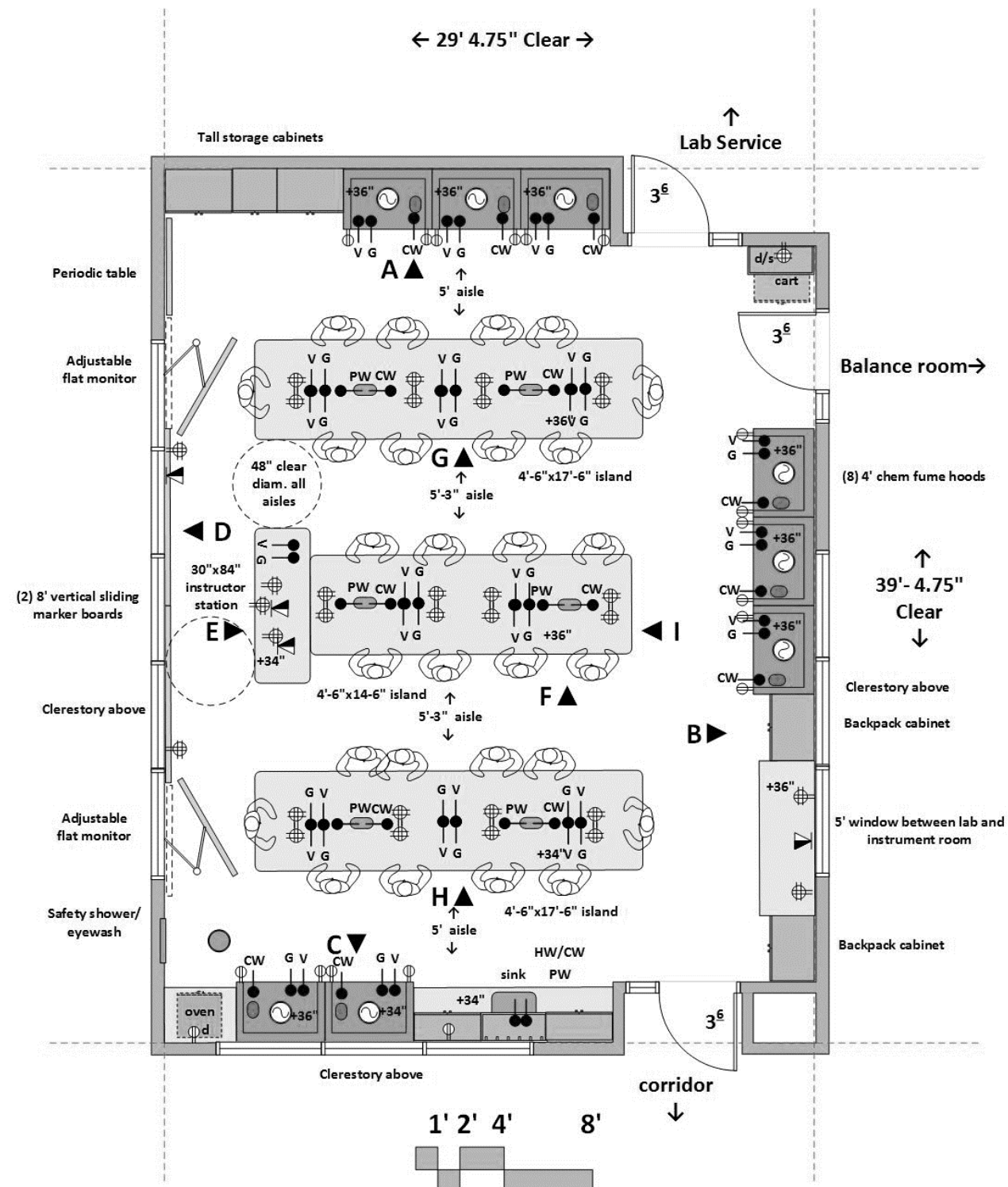


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INTRODUCTION



This document provides the basis of design for the science labs for the new Science Building at College of the Canyons. All MEP requirements are noted in this document. Interior lab elevations have been included for all science teaching labs and all lab service rooms. This document includes revisions made based faculty comments received on 2016 May 27.

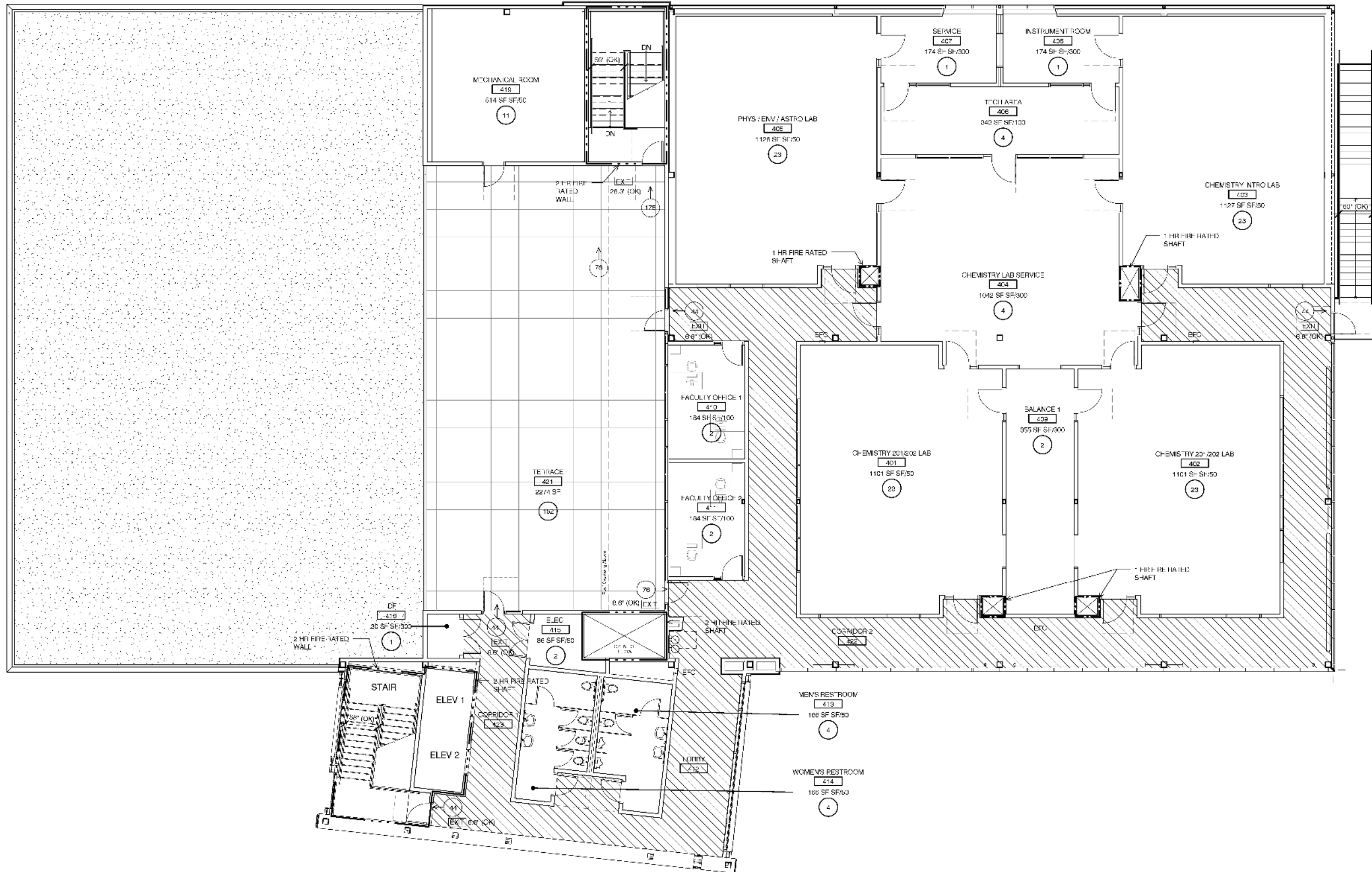
Glen Berry
 Glen Berry, AIA
 Laboratory Planning Consultant
 designforscience@icloud.com



MEP DESIGN CRITERIA

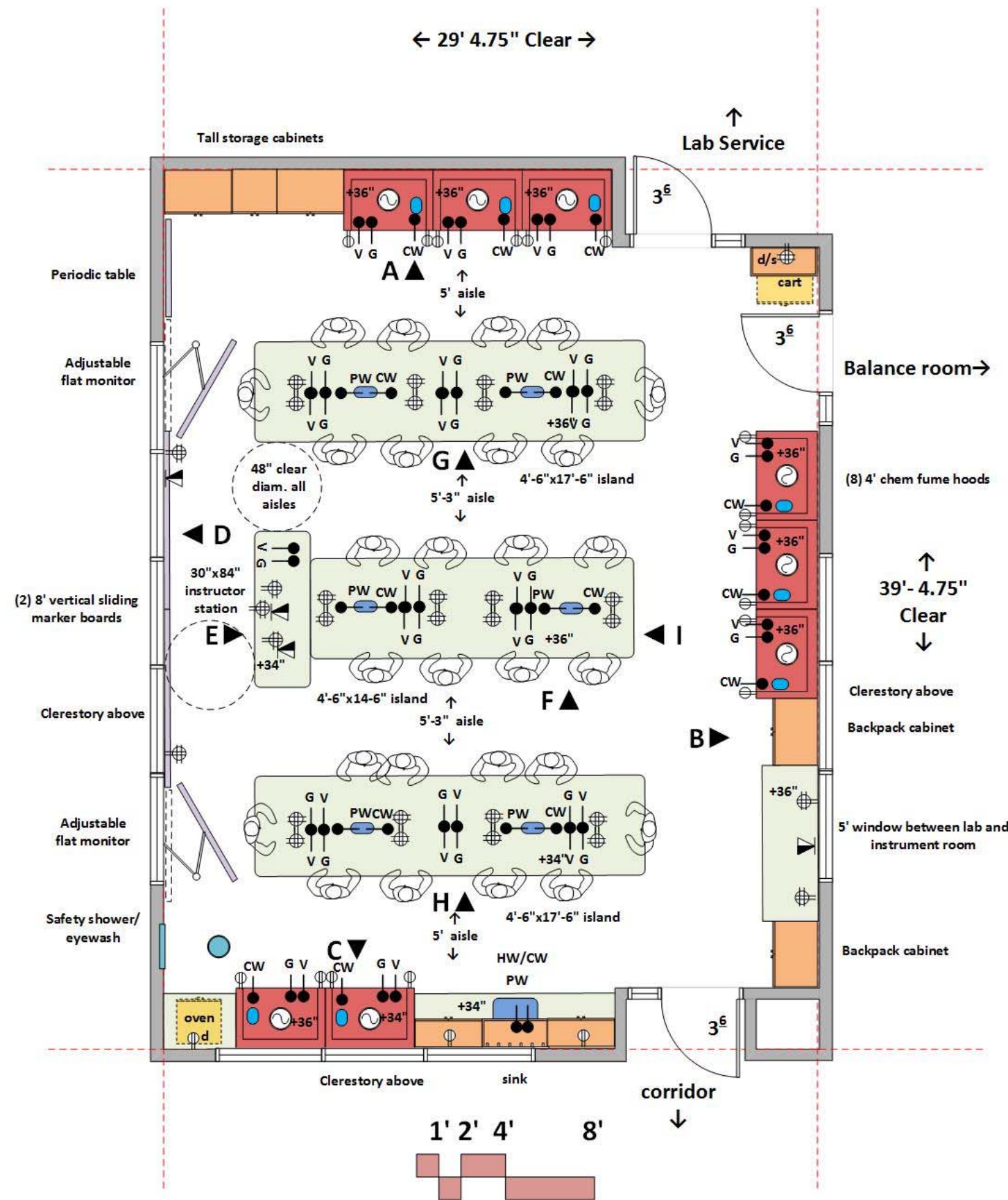
Mechanical	Electrical	Plumbing
<ul style="list-style-type: none"> ▪ 100% exhaust for labs and lab service - no recirculation of air. ▪ Labs to be negative pressure to corridor. ▪ Standard air change rate is 6 air changes per hour-occupied. Cadaver Room to have 20 air changes per hour occupied, half low at perimeter wall, half at ceiling. Anatomy and Microbiology labs to have 12 air changes per hour occupied. ▪ Unoccupied air change rate can be reduced to 4 air changes per hour- Owner to determine what defines "unoccupied"- it may be 10 pm to 6 am, plus weekends, plus holidays; or it may be based on occupancy sensor. ▪ All labs on individual thermostat control- one thermostat per lab. ▪ Individual offices on separate thermostat control- one thermostat for each office. ▪ Lab supply air and office supply air to be pre-filtered at 30% and 95% efficiency. ▪ Heat gain in labs: varies from 25 btuh/sf to 50 btuh/sf. ▪ Fume hood exhaust system on emergency power. ▪ Equipment on stand-by power (refrigerators, incubators). ▪ All fume hoods to be variable air volume (VAV) with sash sensor controls. ▪ N+1 redundancy for all HVAC equipment (motors, fans). ▪ ~40% diversity factor for connected loads. ▪ ~20% spare capacity for air supply and exhaust. 	<ul style="list-style-type: none"> ▪ Maximum of four duplex or two fourplex power outlets on same circuit anywhere in lab areas. ▪ Power outlets at equipment space on dedicated circuits (each duplex, or fourplex, or 208v outlet dedicated). ▪ Under counter washers require 208v power. ▪ Limited number of equipment space power outlets on 208v power. ▪ Lighting control switches to be located at each lab door. ▪ Lighting to be direct/indirect LED at 650 LUX. ▪ Dimmable or stepped lighting in labs. ▪ GFI outlets where outlets are near sinks, as required by code. ▪ ~40% diversity factor for connected loads. ▪ ~20% spare capacity for electrical loads. ▪ Electrical panels for labs shall be located outside of labs. 	<ul style="list-style-type: none"> ▪ Industrial water for hot and cold or vacuum breakers at each sink faucet. ▪ Pure water shall be Type II (4 megohm resistivity) distributed via recirculating loop; unpigmented polypropylene pipe with welded seams ▪ Piped services include hot water, cold water, pure water, gas, and vacuum. ▪ Hard drain connection in wall for emergency eyewash stations with floor drains below safety showers. ▪ N+1 redundancy for all plumbing equipment (pumps, etc.). ▪ ~40% diversity factor for connected loads.

LEVEL 4- CHEMISTRY LABS



CHEMISTRY 201/202

Mirror image for 2nd Chem 201/202 Lab



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶x8⁰ framed glass
 Windows: clerestory at 7'
 Daylight attenuation: at exterior windows
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 Fume hood exhaust on emergency power supply
 (6) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (4) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf
 500 c.f.m. exhaust at each fume hood (VAV)

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Dedicated/standby circuits at equipment space
 Dedicated circuit at oven
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Task lights below wall cabinets
 Provide light switches at door

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Cold water at fume hoods
 Natural gas and vacuum at fume hoods and island benches
 Pure water at sinks and cupsinks
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 141 section drawers shown as drawn (140 required)
 Backpack cabinets
 Epoxy resin tops and sinks; Faucets & fittings
 Chemical fume hoods
 Safety shower/eyewash
 Fire Extinguisher
 Marker boards

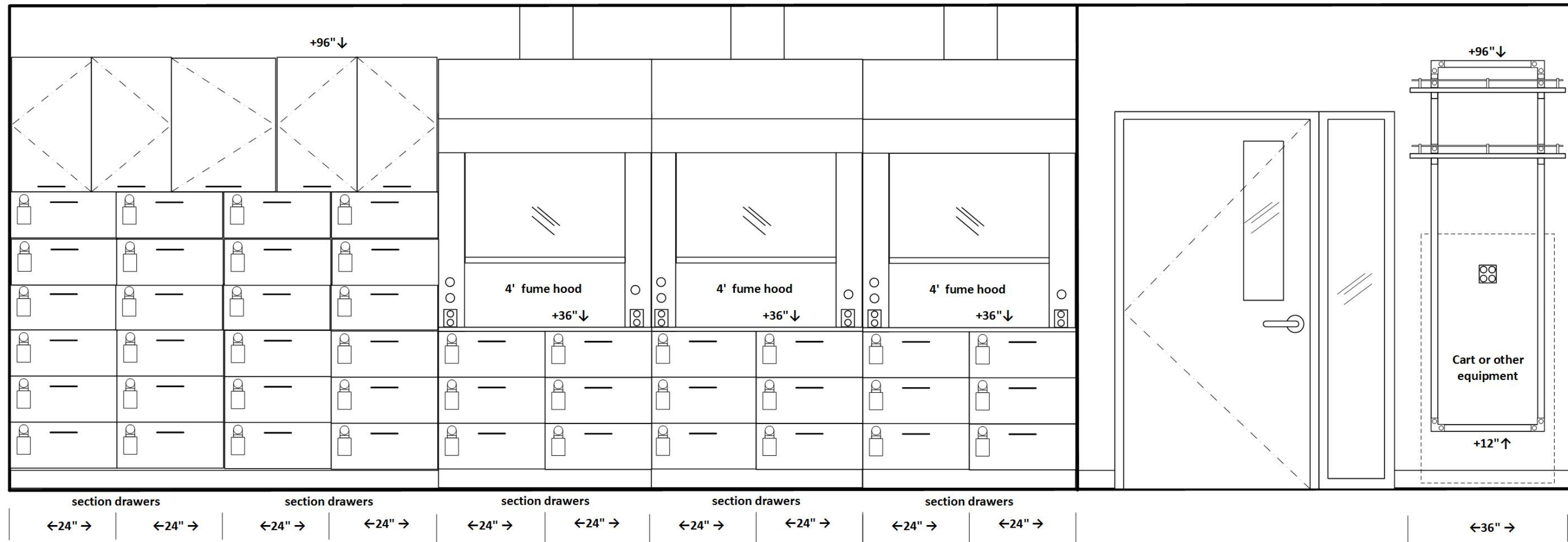
OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop analytical instruments; Benchtop oven
 cart
 Projection system- monitors

CHEMISTRY 201/202

Elevation A

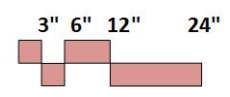
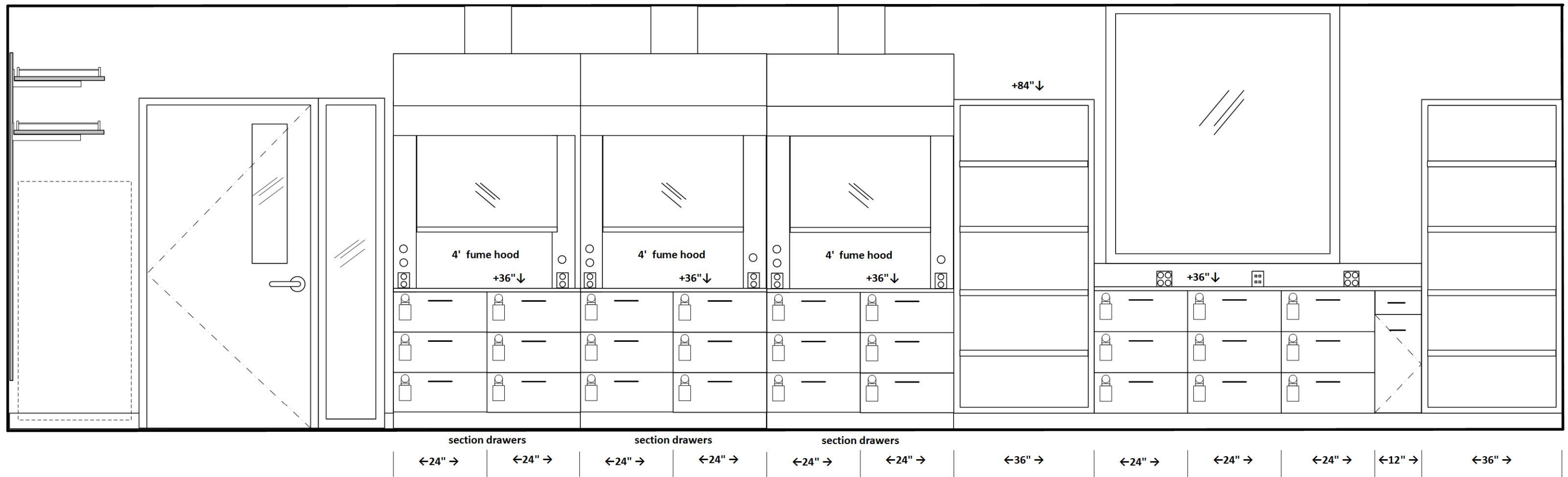
Mirror image for 2nd Chem 201/202 Lab



CHEMISTRY 201/202

Elevation B

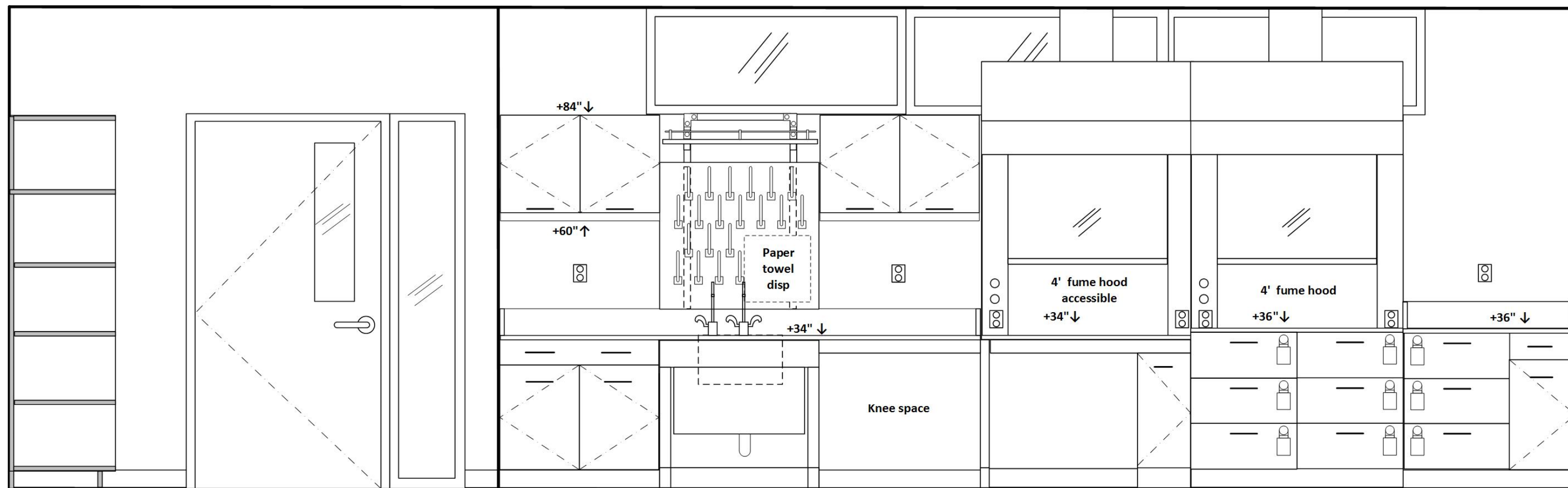
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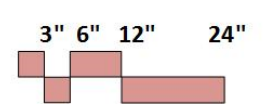
CHEMISTRY 201/202

Elevation C

Mirror image for 2nd Chem 201/202 Lab



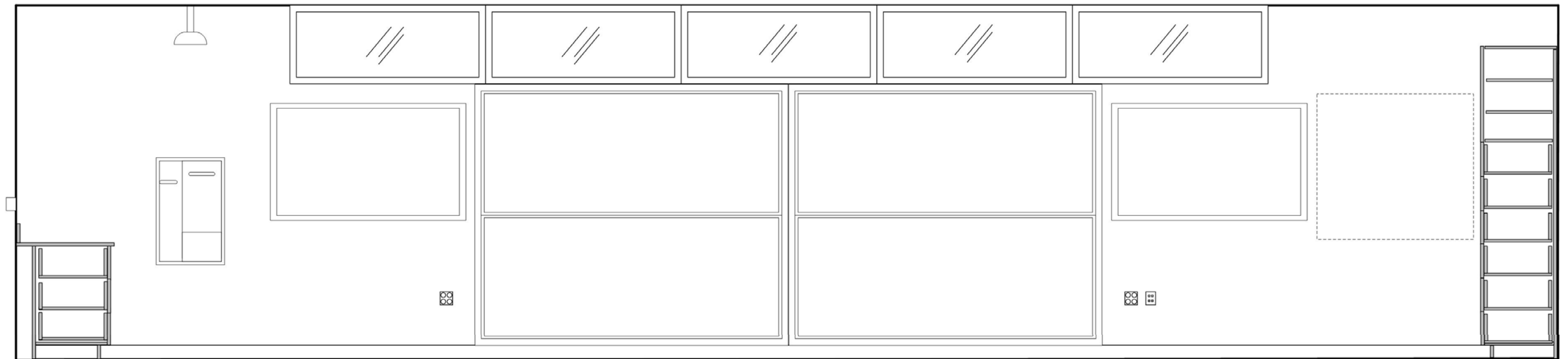
←24" → ←36" → ←36" → ←36" → ←36" → ←12" → ←24" → ←24" → ←24" → ←15" →



CHEMISTRY 201/202

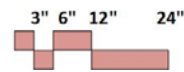
Elevation D

Mirror image for 2nd Chem 201/202 Lab



←30" →

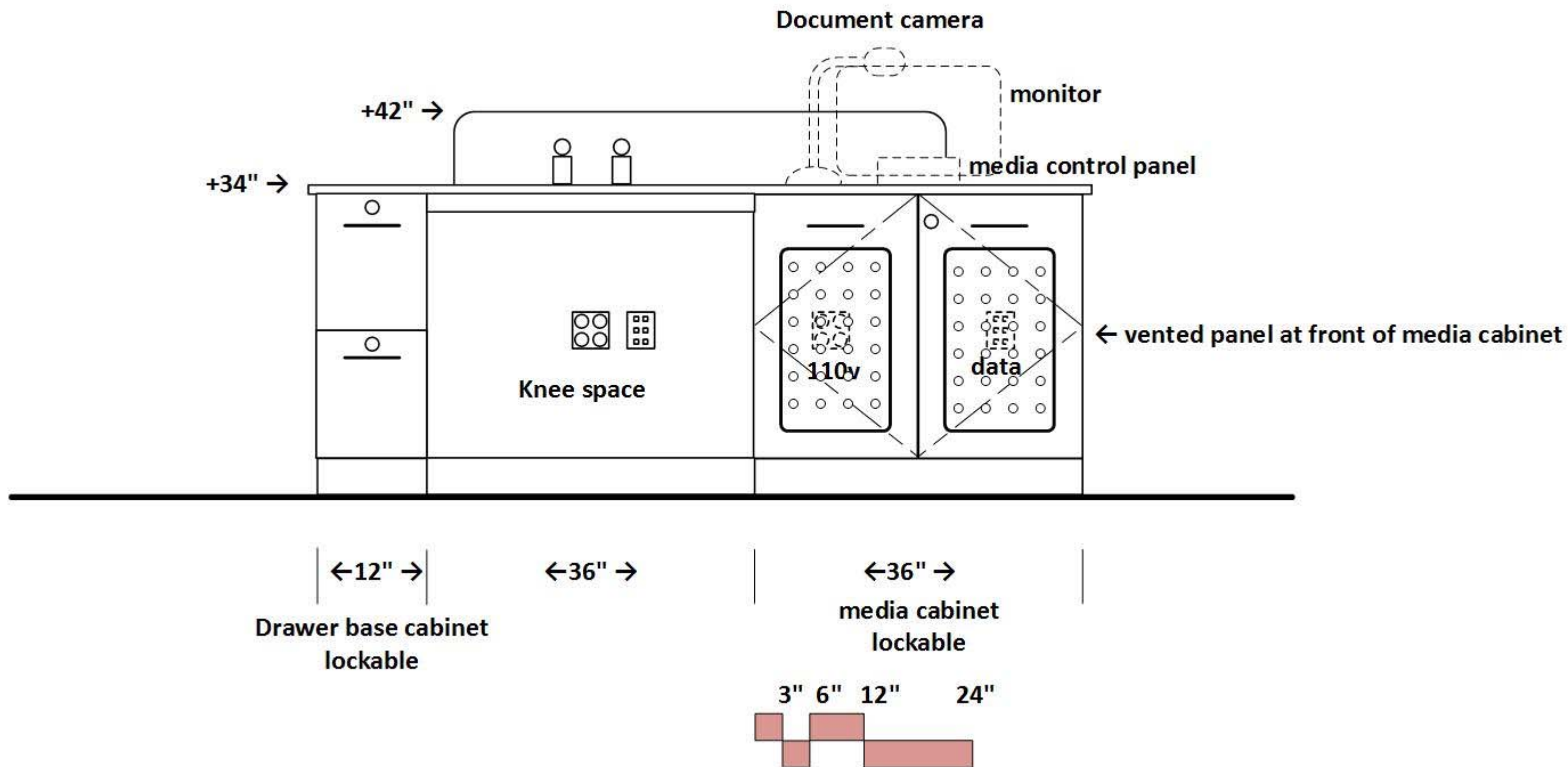
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CHEMISTRY 201/202

Elevation E

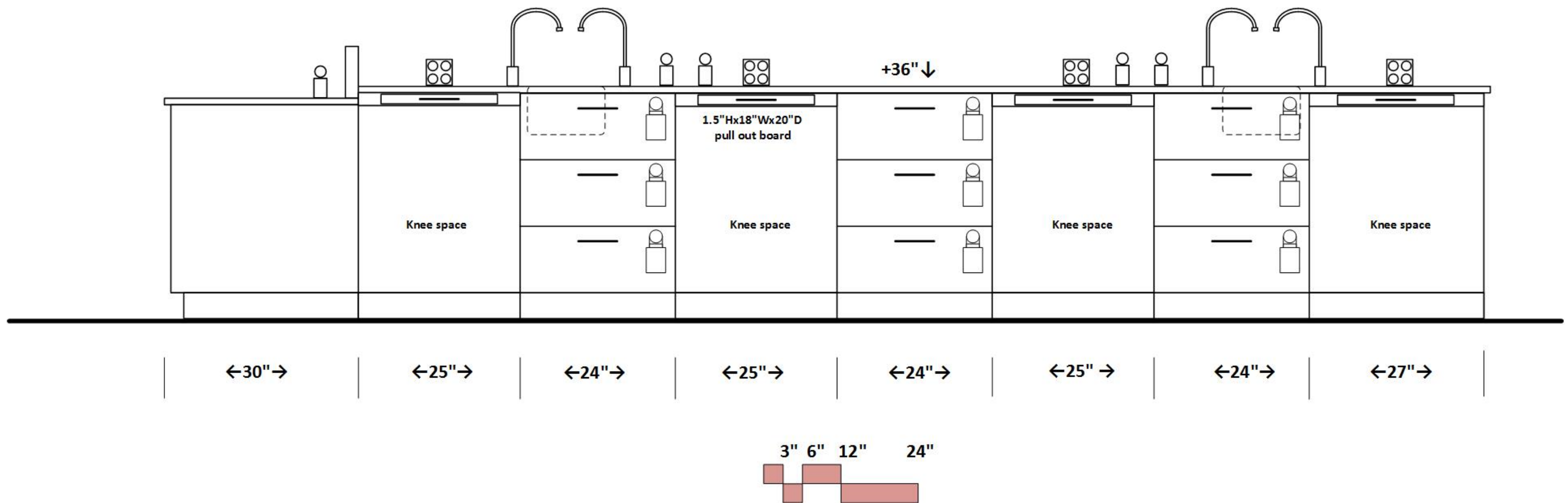
Mirror image for 2nd Chem 201/202 Lab



CHEMISTRY 201/202

Elevation F

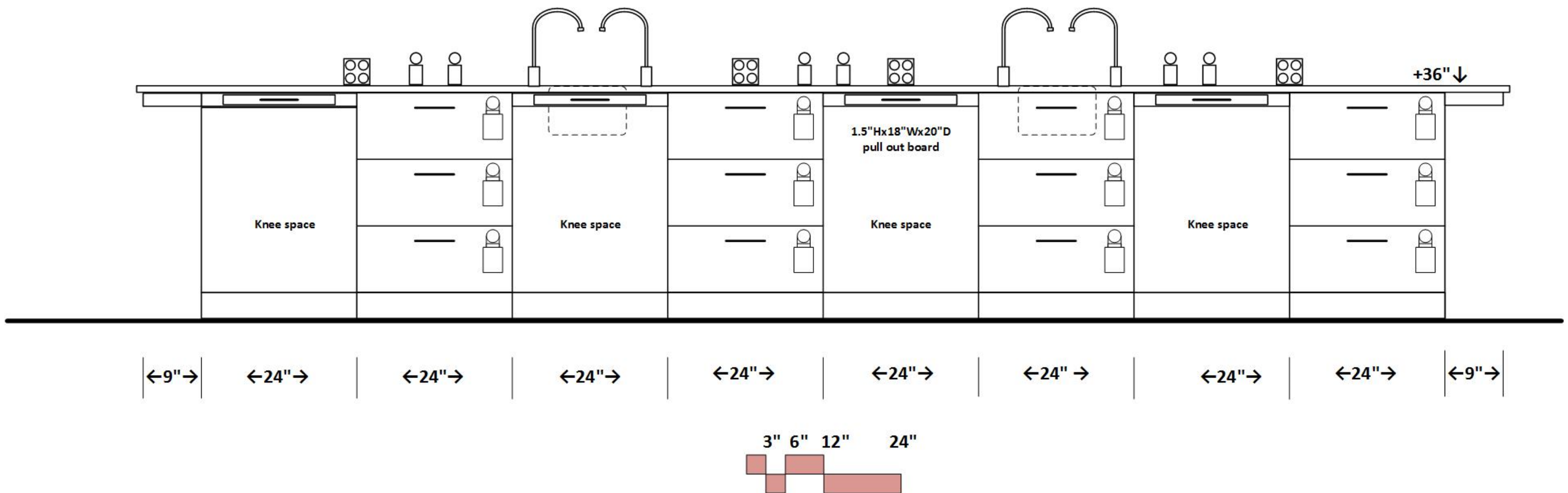
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CHEMISTRY 201/202

Elevation G

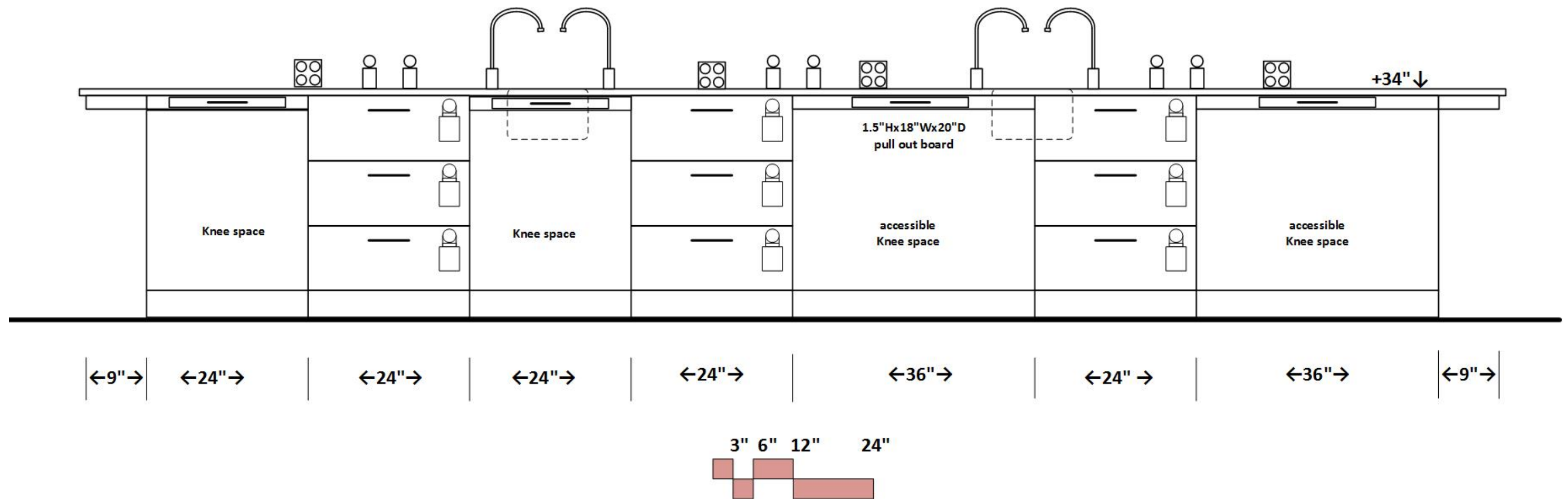
Mirror image for 2nd Chem 201/202 Lab



CHEMISTRY 201/202

Elevation H

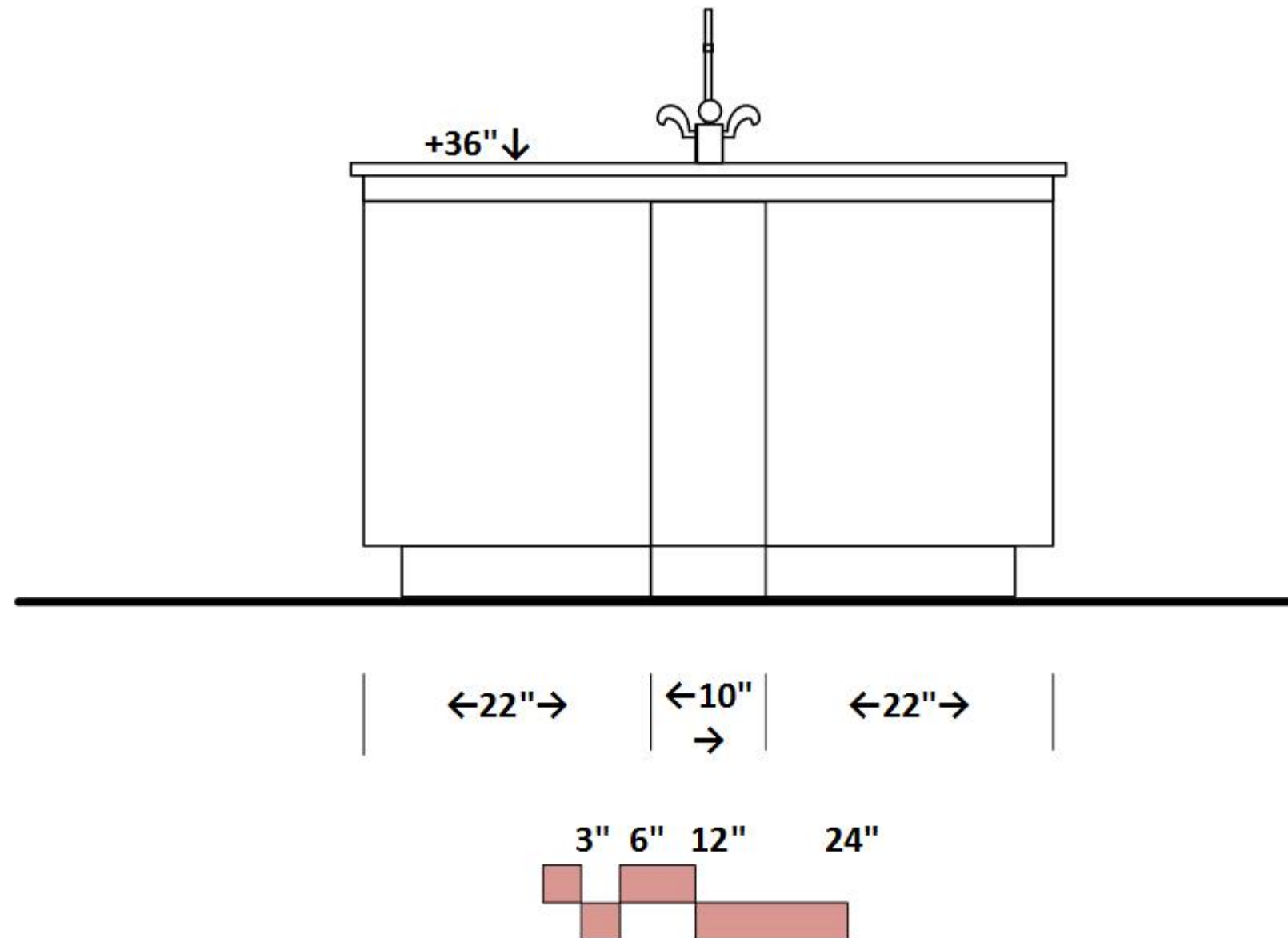
Mirror image for 2nd Chem 201/202 Lab



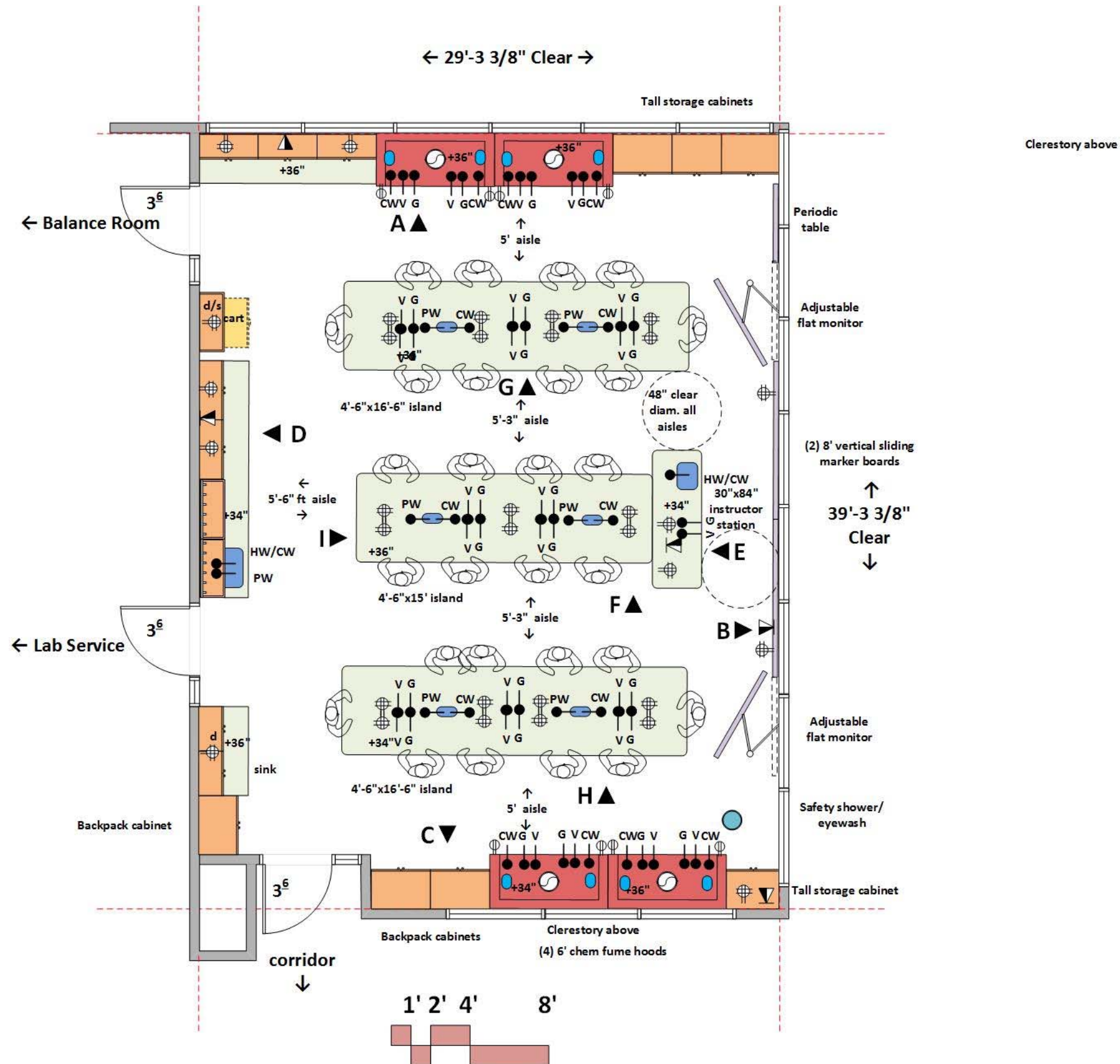
CHEMISTRY 201/202

Elevation I

Mirror image for 2nd Chem 201/202 Lab



CHEMISTRY INTRO



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶x8⁰ framed glass
 Windows: clerestory at 7'
 Daylight attenuation: at exterior windows
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 Fume hood exhaust on emergency power supply
 (6) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (4) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf
 800 c.f.m. exhaust at each fume hood (VAV)

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Dedicated/standby circuits at equipment space
 Dedicated circuit at wall bench
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Task lights below wall cabinets
 Provide light switches at door

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Cold water at fume hoods
 Natural gas and vacuum at fume hoods and island benches
 Pure water at sinks and cupsinks
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

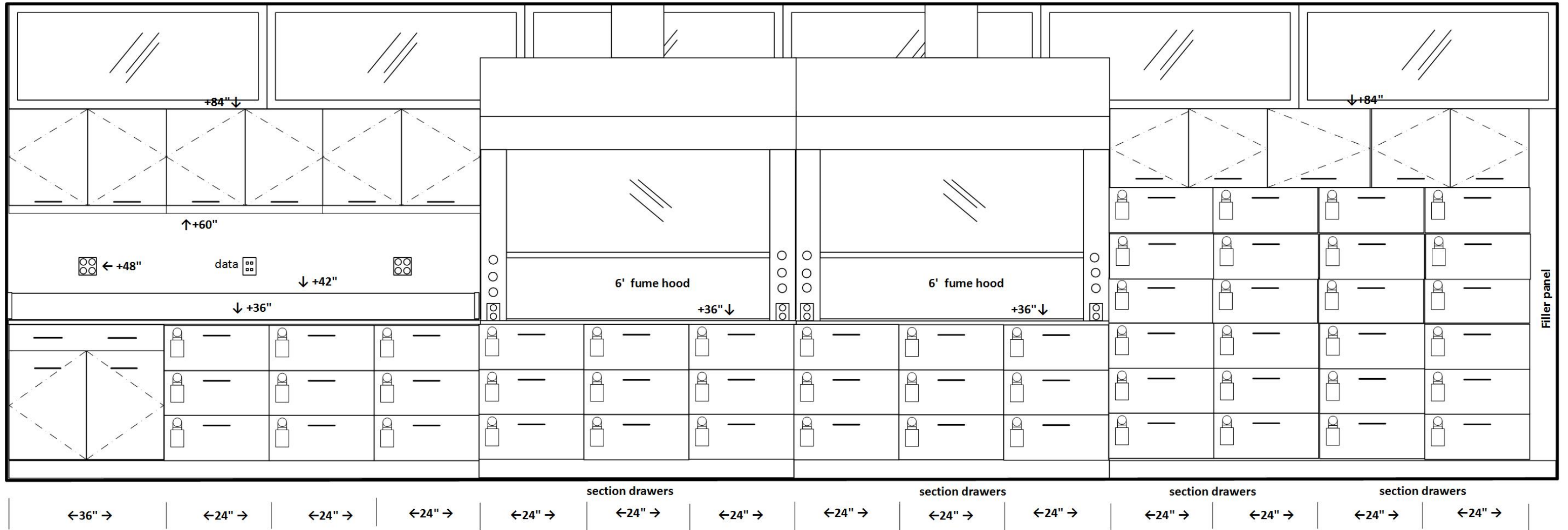
Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 141 section drawers shown as drawn (140 required)
 Backpack cabinets
 Epoxy resin tops and sinks; Faucets & fittings
 Chemical fume hoods
 Safety shower/eyewash
 Fire Extinguisher; Marker boards

OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop analytical instruments; Benchtop oven
 cart
 Projection system- monitors

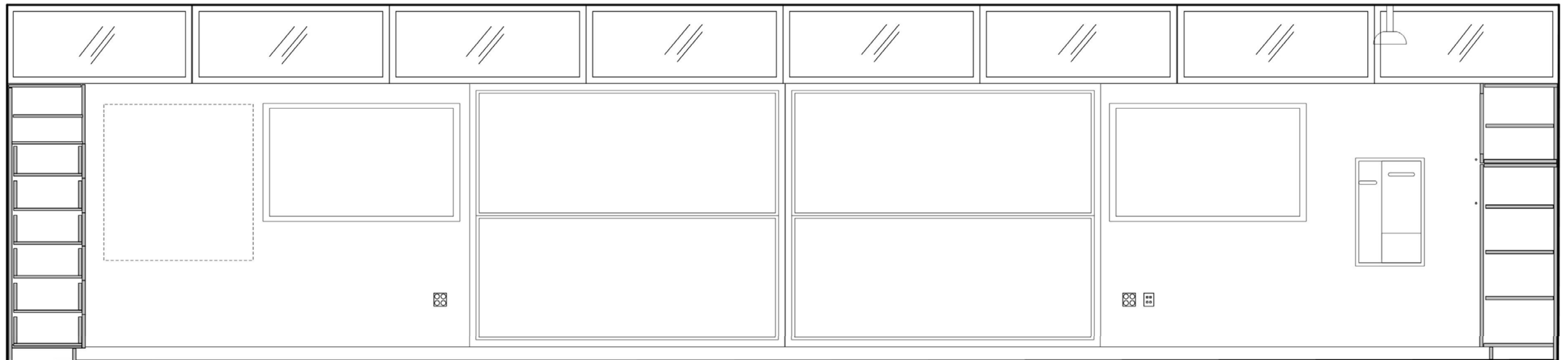
CHEMISTRY INTRO

Elevation A



CHEMISTRY INTRO

Elevation B



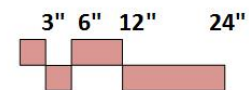
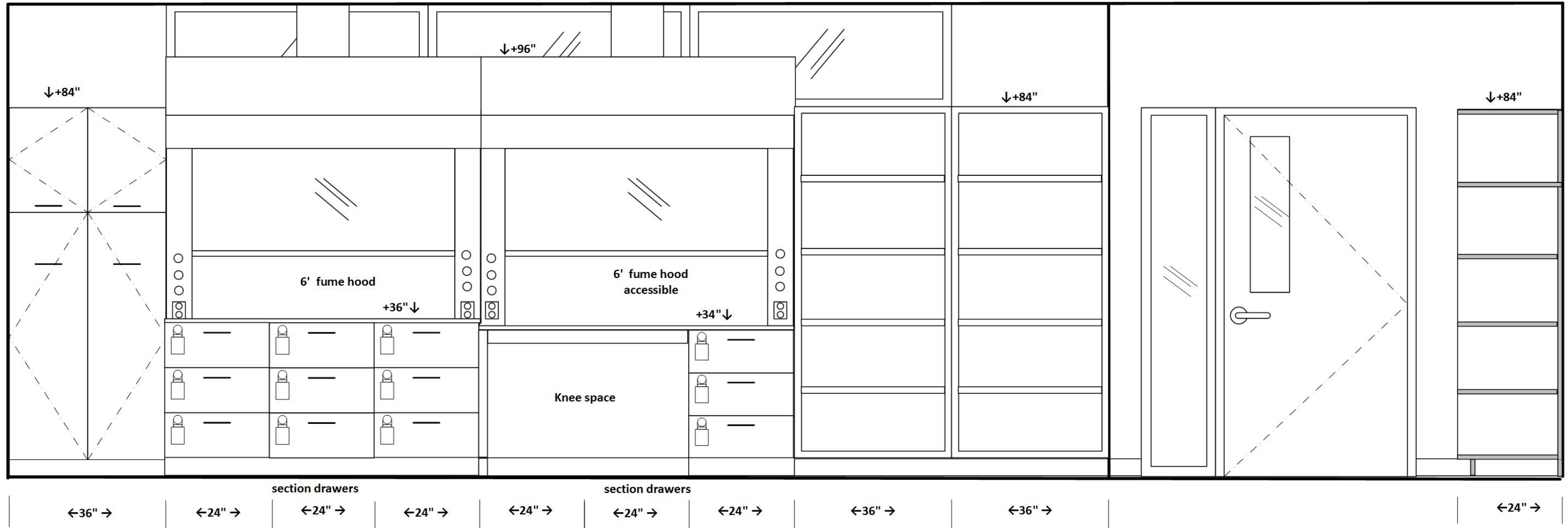
←24" →

←24" →



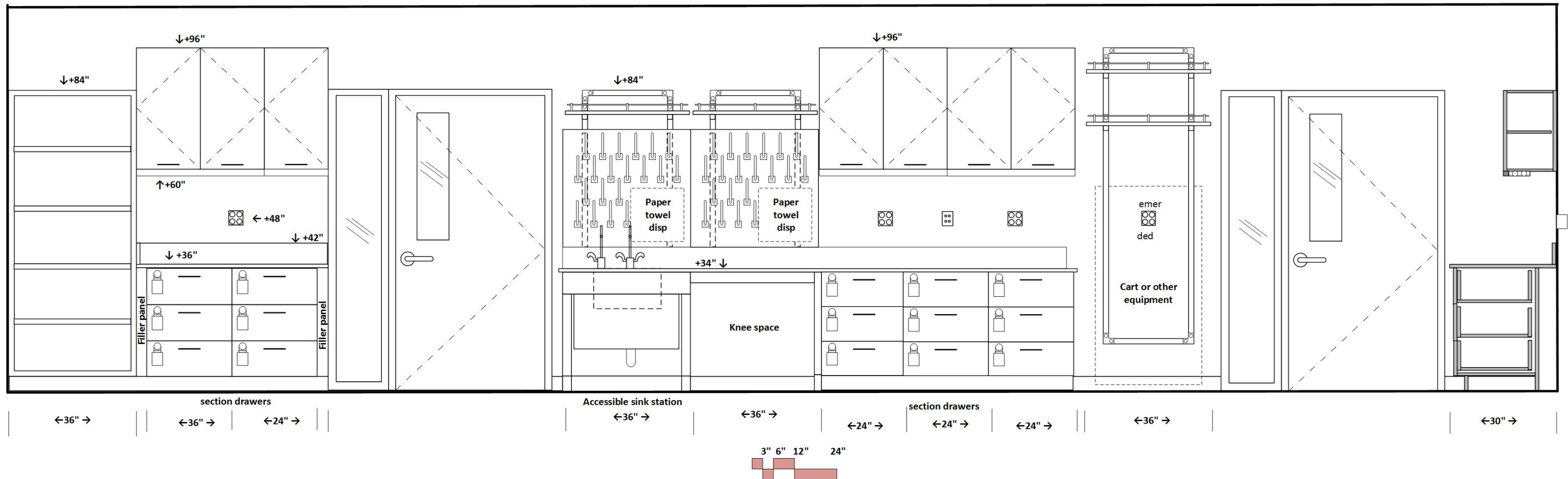
CHEMISTRY INTRO

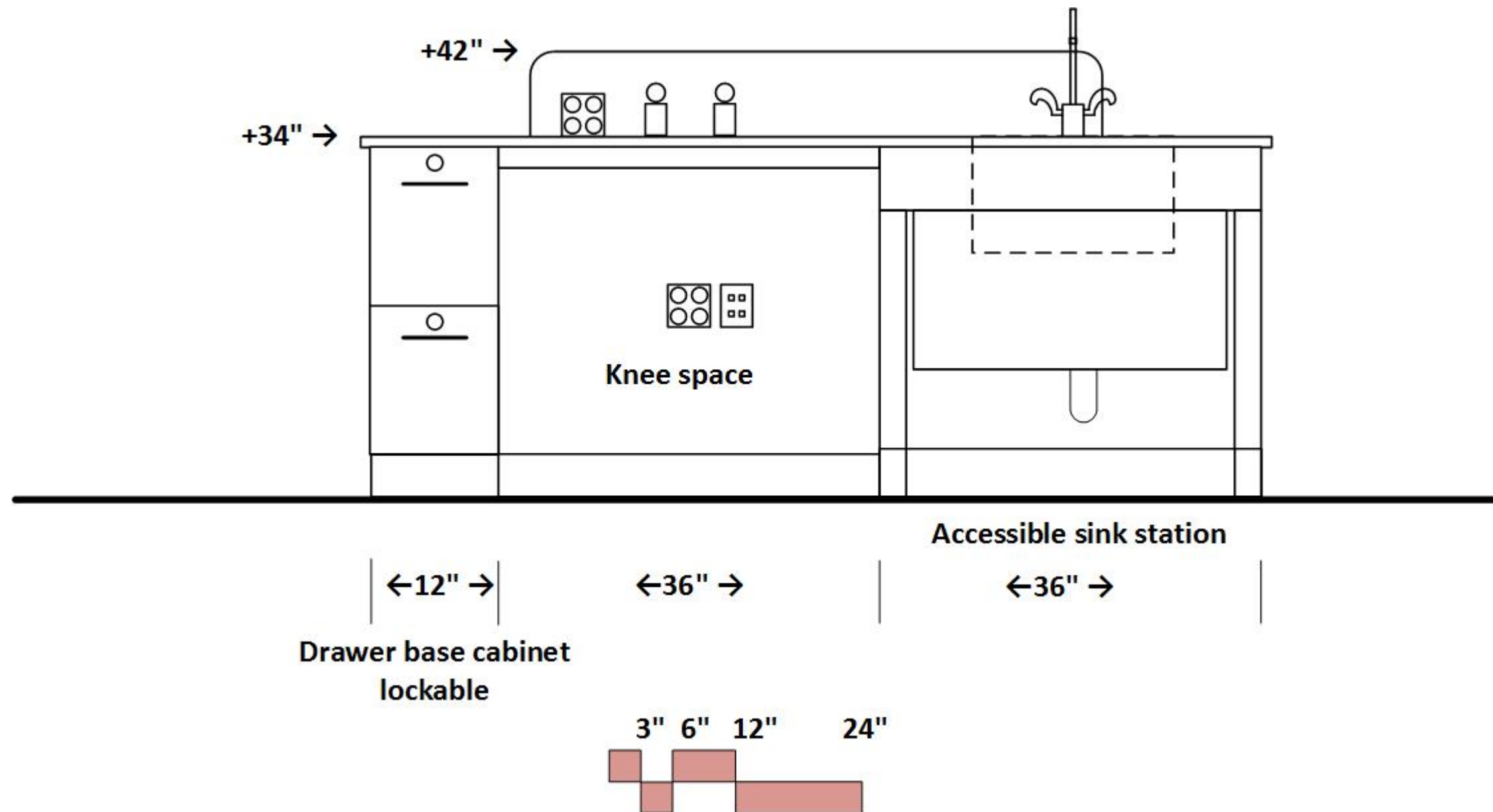
Elevation C



CHEMISTRY INTRO

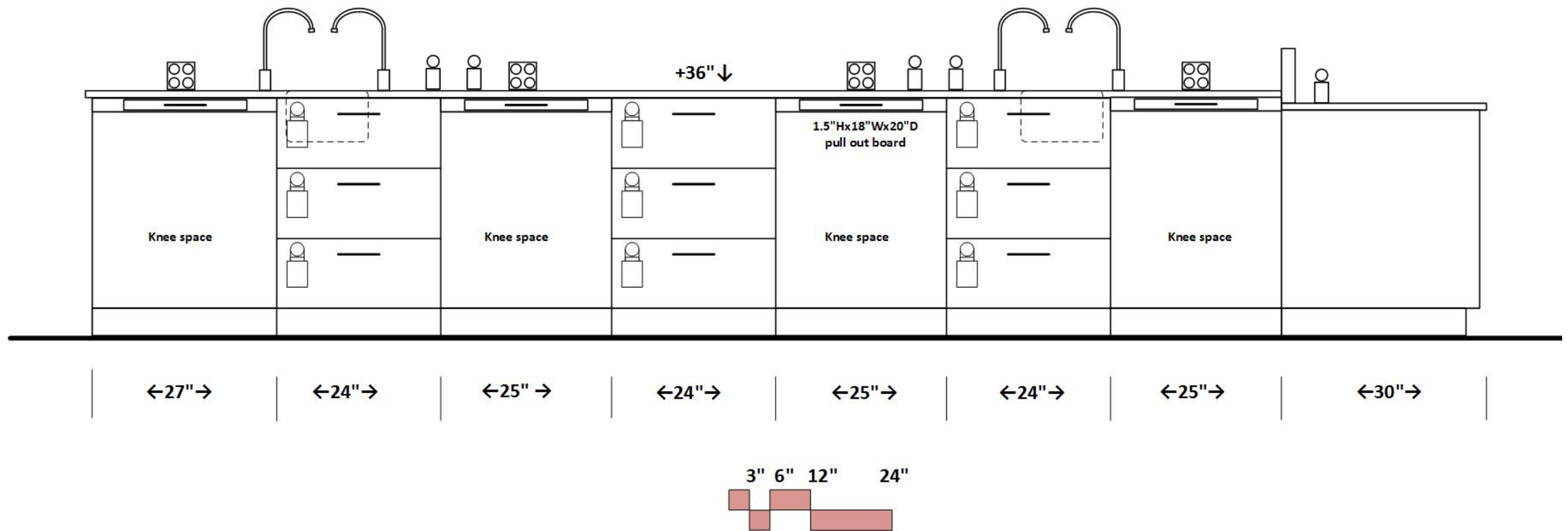
Elevation D





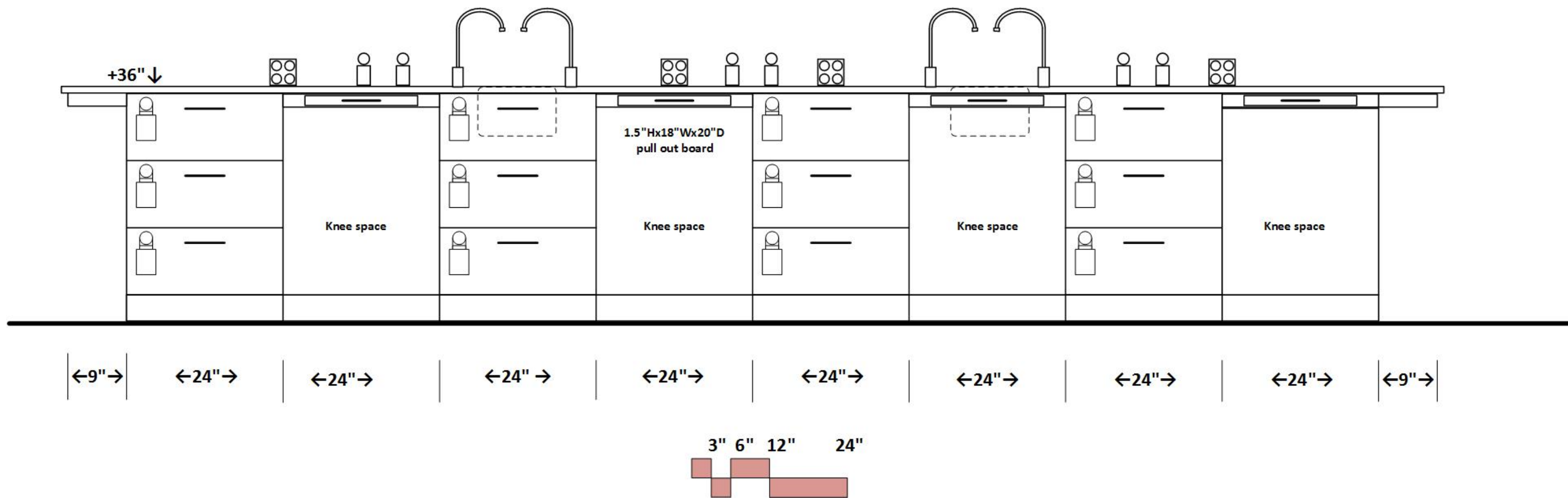
CHEMISTRY INTRO

Elevation F



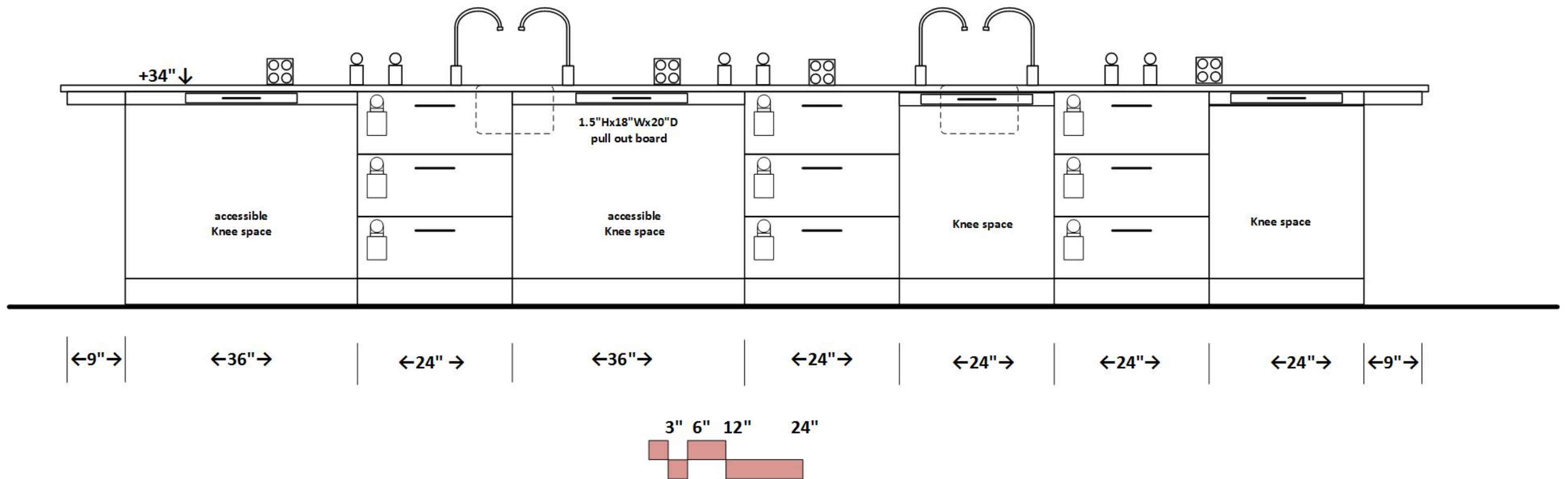
CHEMISTRY INTRO

Elevation G



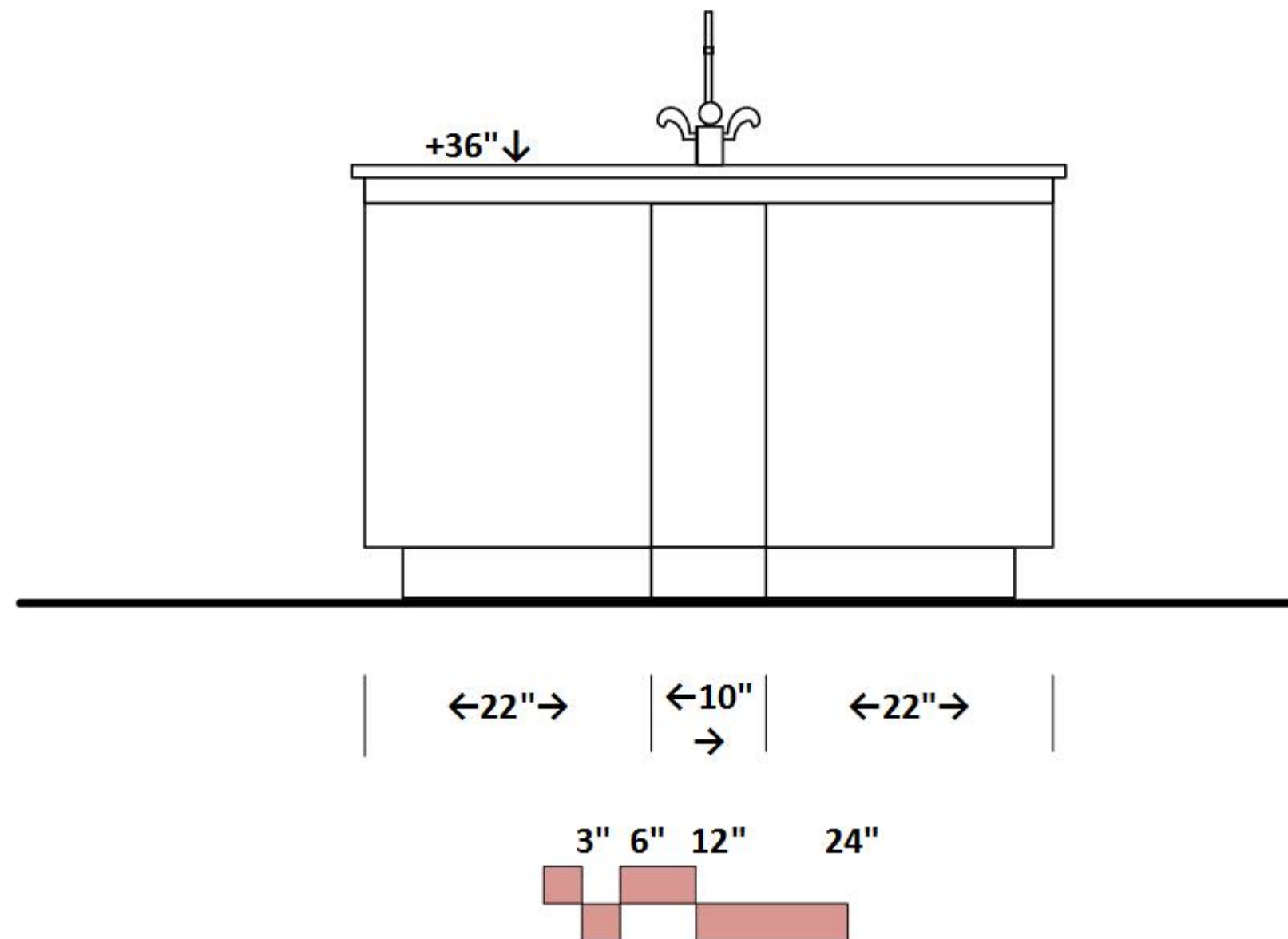
CHEMISTRY INTRO

Elevation H

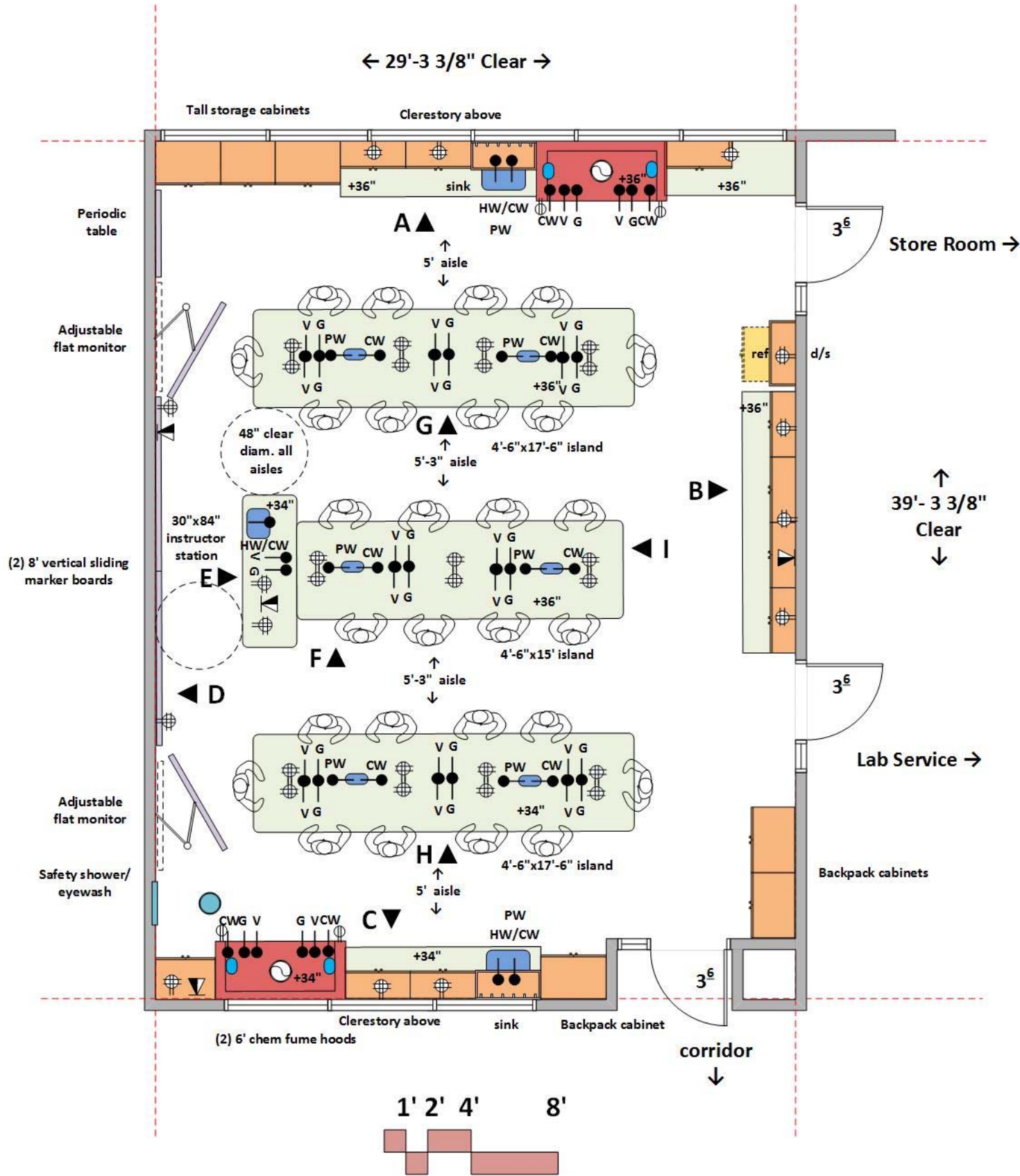


CHEMISTRY INTRO

Elevation I



PHYSICAL/ENVIRONMENTAL SCIENCE



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3'x8' framed glass
 Windows: clerestory at 7'
 Daylight attenuation: at exterior windows
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 Fume hood exhaust on emergency power supply
 (6) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (4) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf
 800 c.f.m. exhaust at each fume hood (VAV)

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Dedicated/standby circuits at equipment space
 Dedicated circuit at wall bench
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Task lights below wall cabinets
 Provide light switches at door

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Cold water at fume hoods
 Natural gas and vacuum at fume hoods and island benches
 Pure water at sinks and cupsinks
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

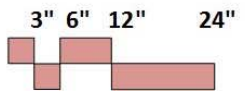
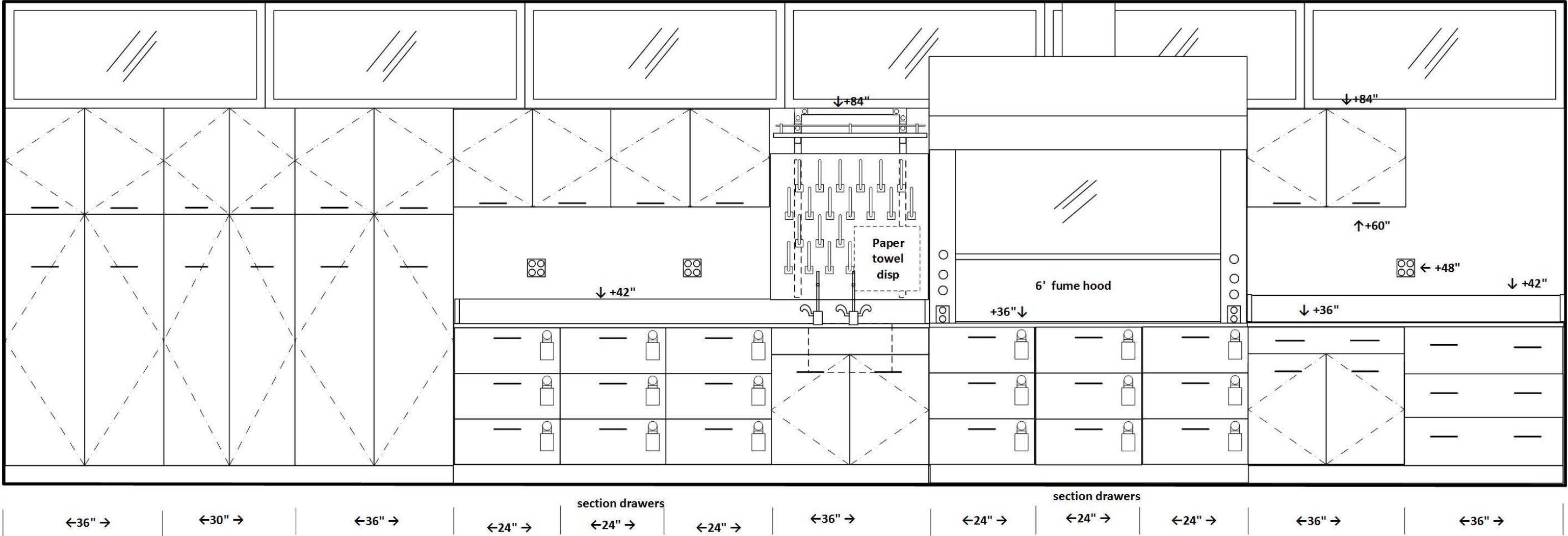
Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 105 section drawers shown as drawn
 Backpack cabinets
 Epoxy resin tops and sinks; Faucets & fittings
 Chemical fume hoods
 Safety shower/eyewash
 Fire Extinguisher; Marker boards

OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop analytical instruments; Benchtop oven
 cart
 Projection system- monitors

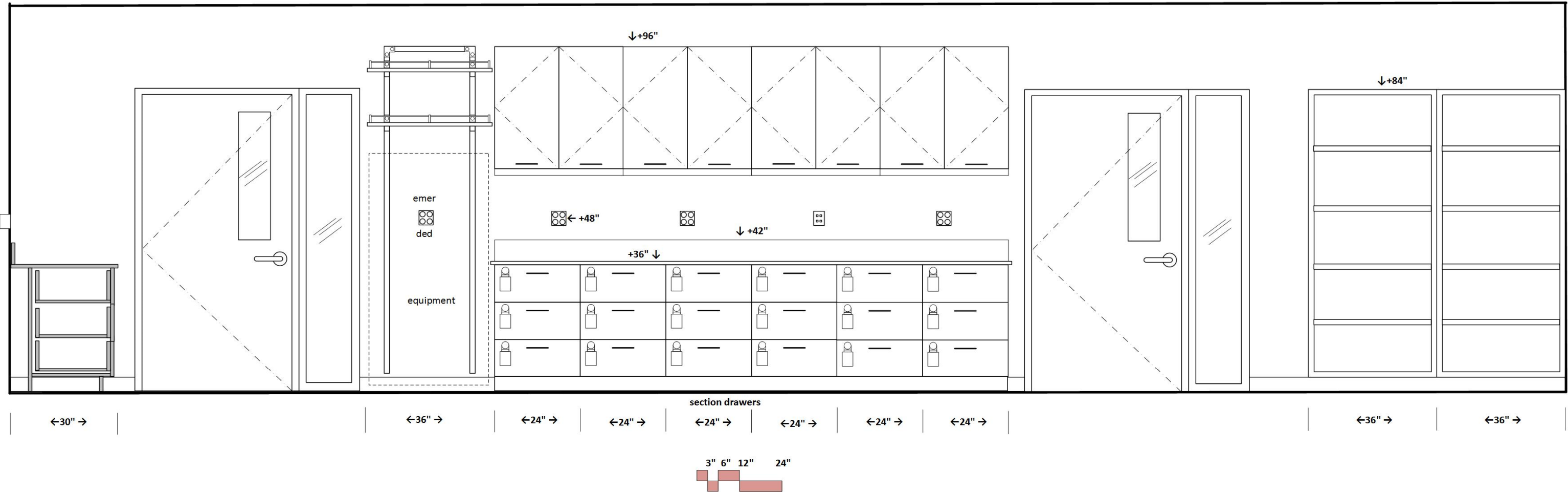
PHYSICAL/ENVIRONMENTAL SCIENCE

Elevation A



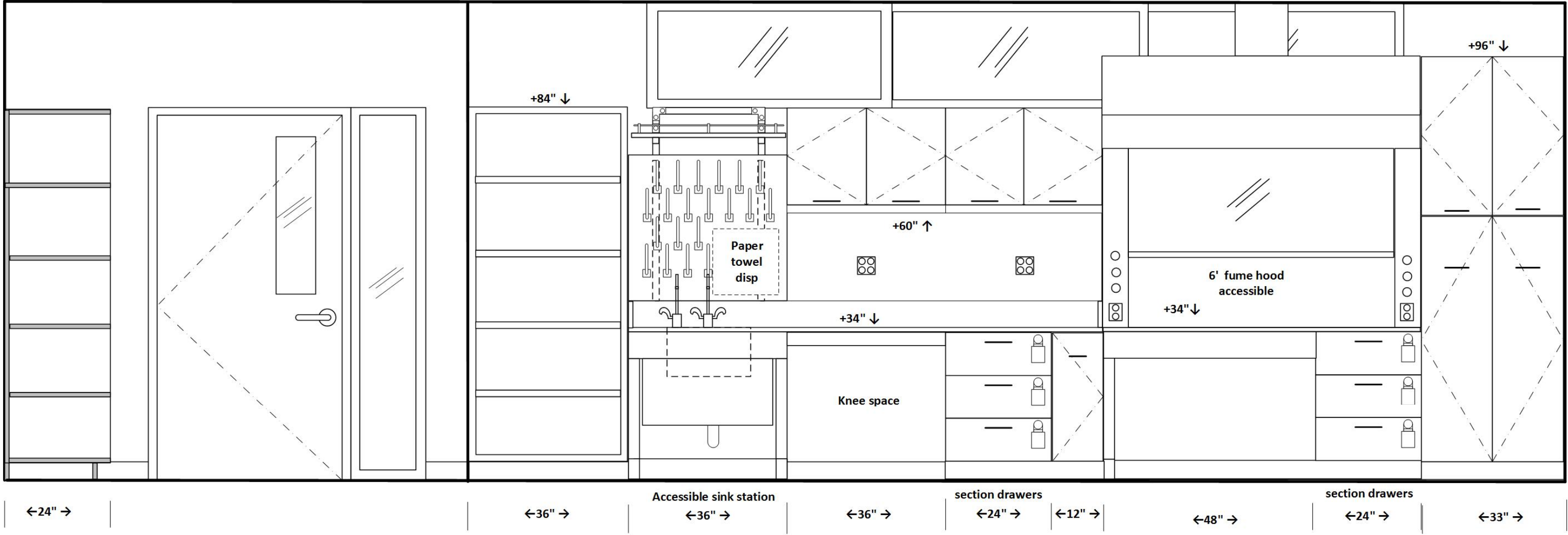
PHYSICAL/ENVIRONMENTAL SCIENCE

Elevation B



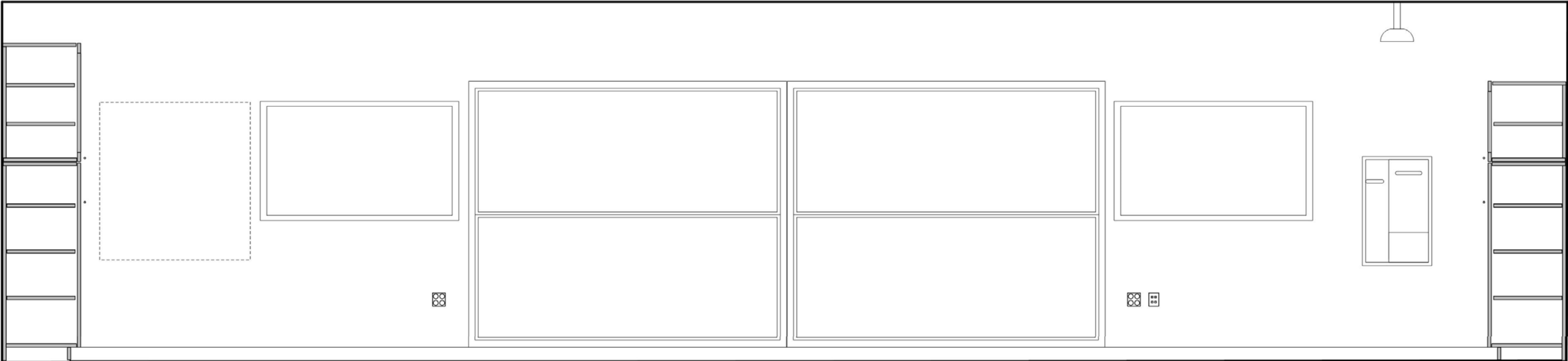
PHYSICAL/ENVIRONMENTAL SCIENCE

Elevation C



PHYSICAL/ENVIRONMENTAL SCIENCE

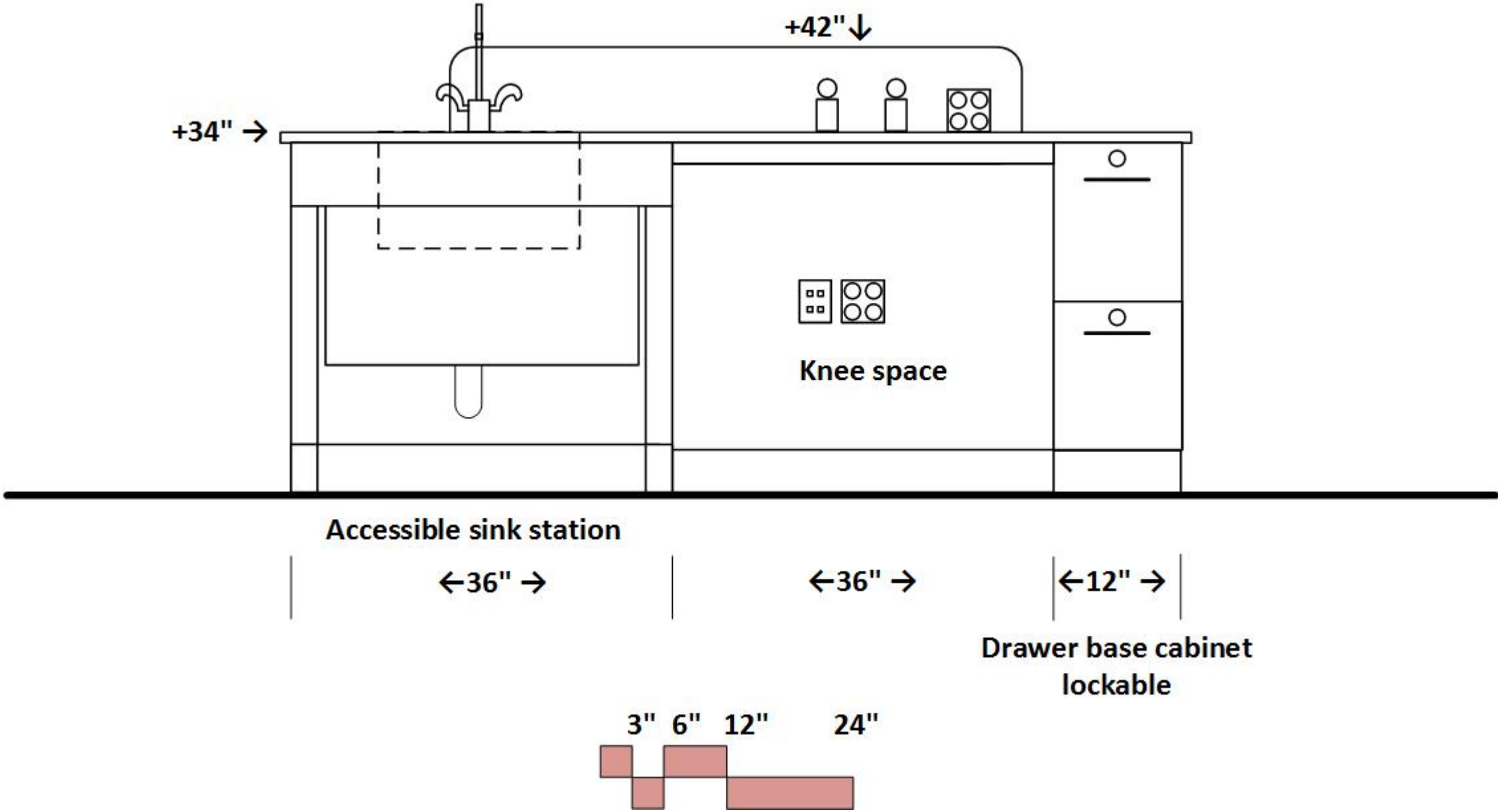
Elevation D



←24" →

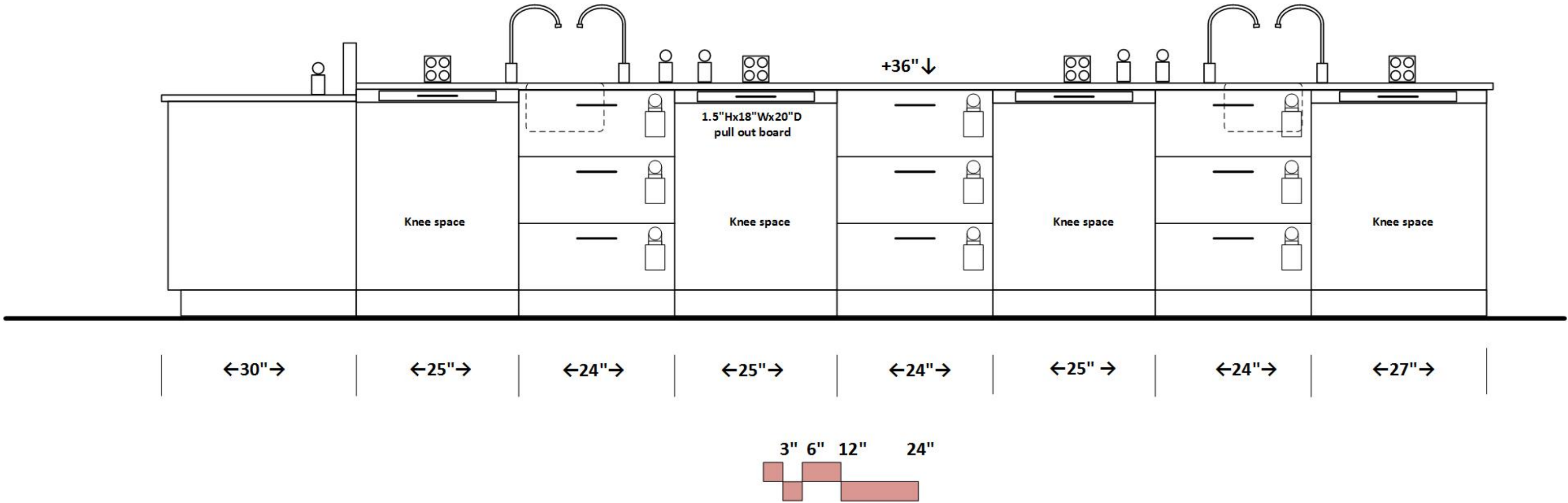
←24" →





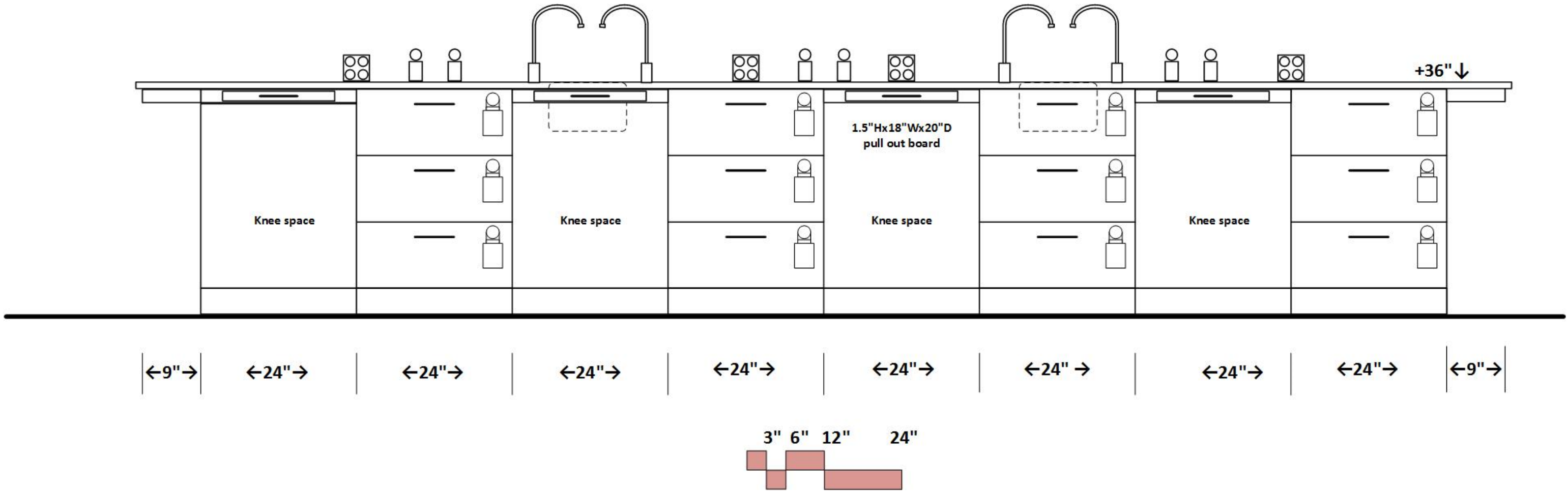
PHYSICAL/ENVIRONMENTAL SCIENCE

Elevation F



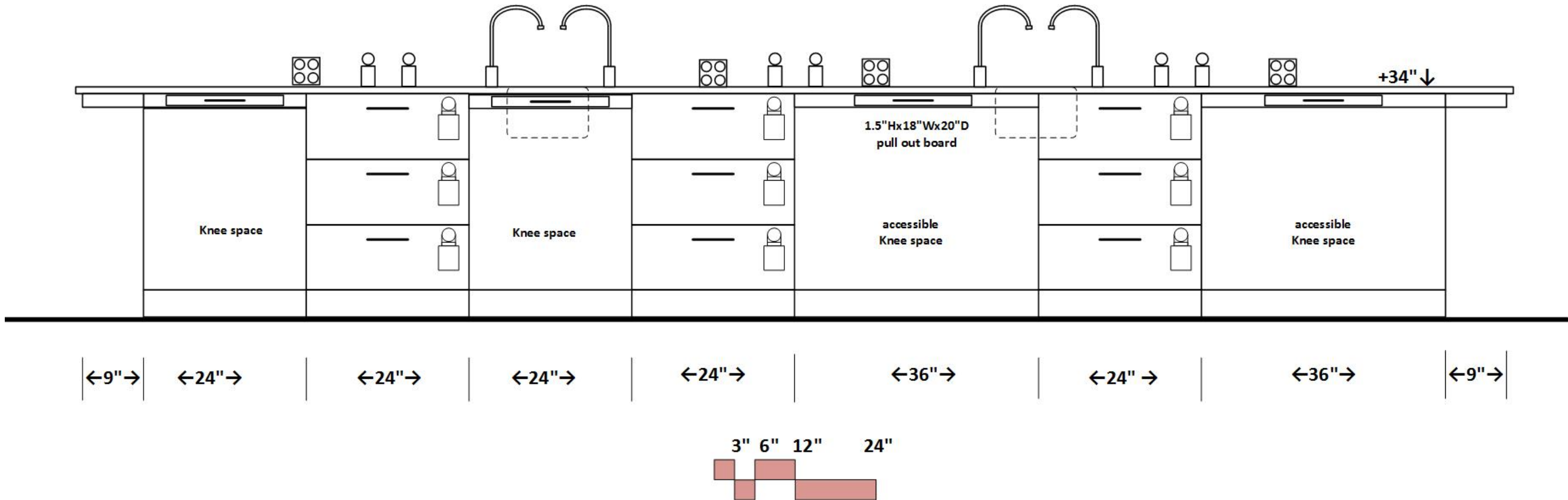
PHYSICAL/ENVIRONMENTAL SCIENCE

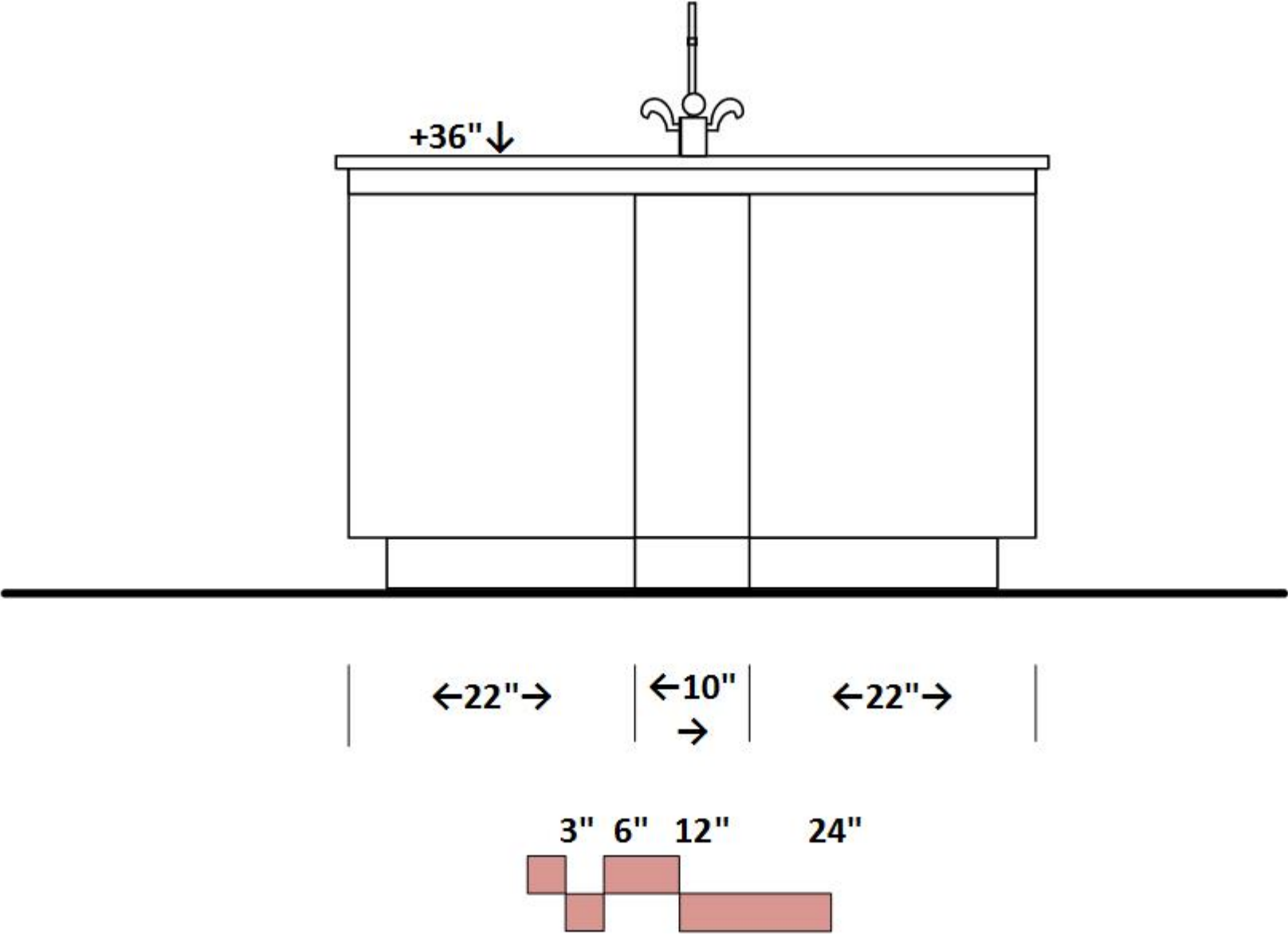
Elevation G



PHYSICAL/ENVIRONMENTAL SCIENCE

Elevation H





INSTRUMENT ROOMS 1 & 2

ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9" acoustic tile
 Doors: 3⁶x8⁰ framed glass
 Daylight attenuation: at exterior windows
 Acoustic Attenuation: NC 40 or less

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 (6) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (4) air changes per hour unoccupied
 Pressure: Neutral to adjacent labs
 Humidity: Ambient
 Equipment Heat Gain: 50 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX
 Task lights below wall cabinets
 Provide light switches at door opening

PLUMBING

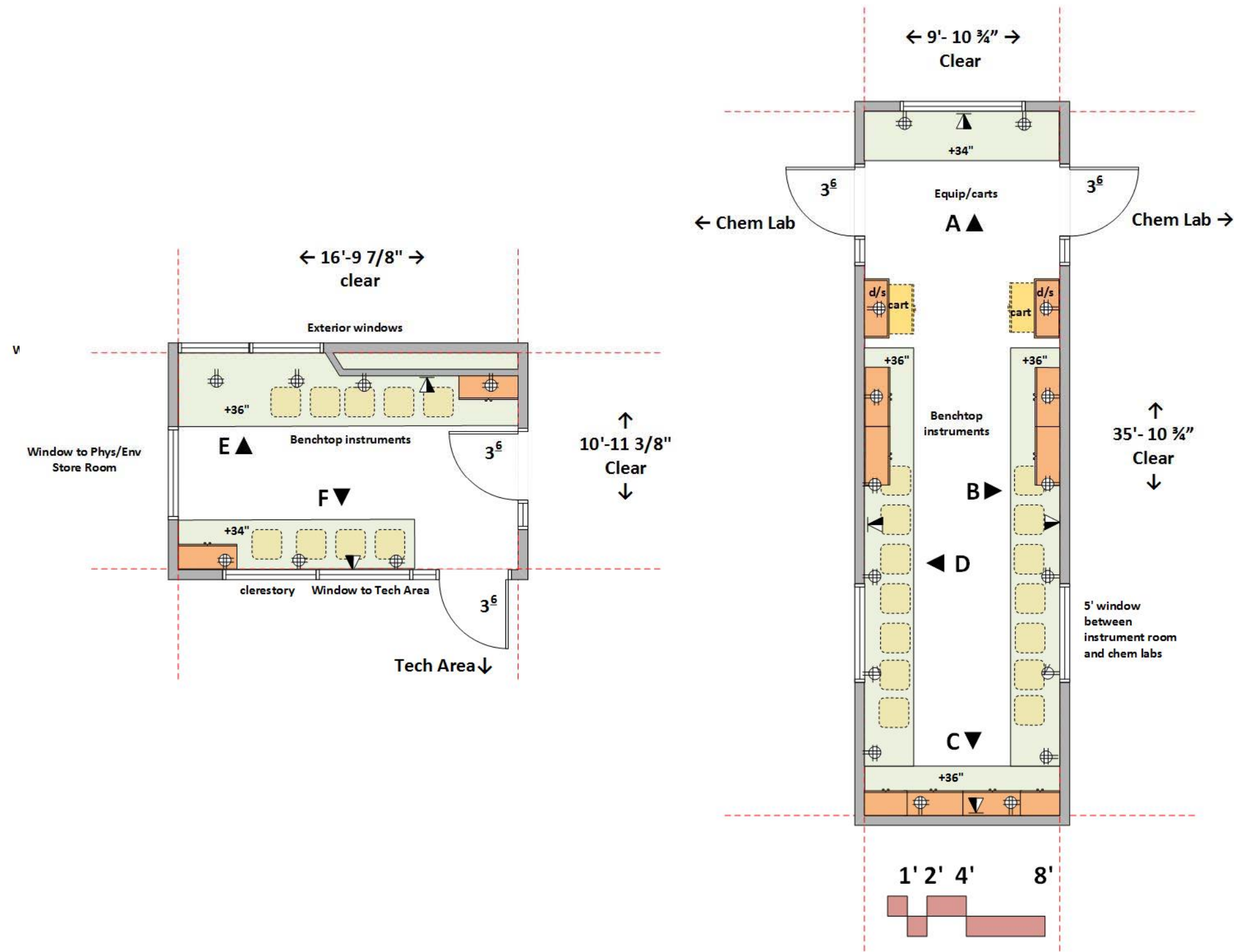
None

CONTRACTOR FURNISHED EQUIPMENT

Wood (bamboo) casework - base cabinets, wall cabinets
 Epoxy resin tops

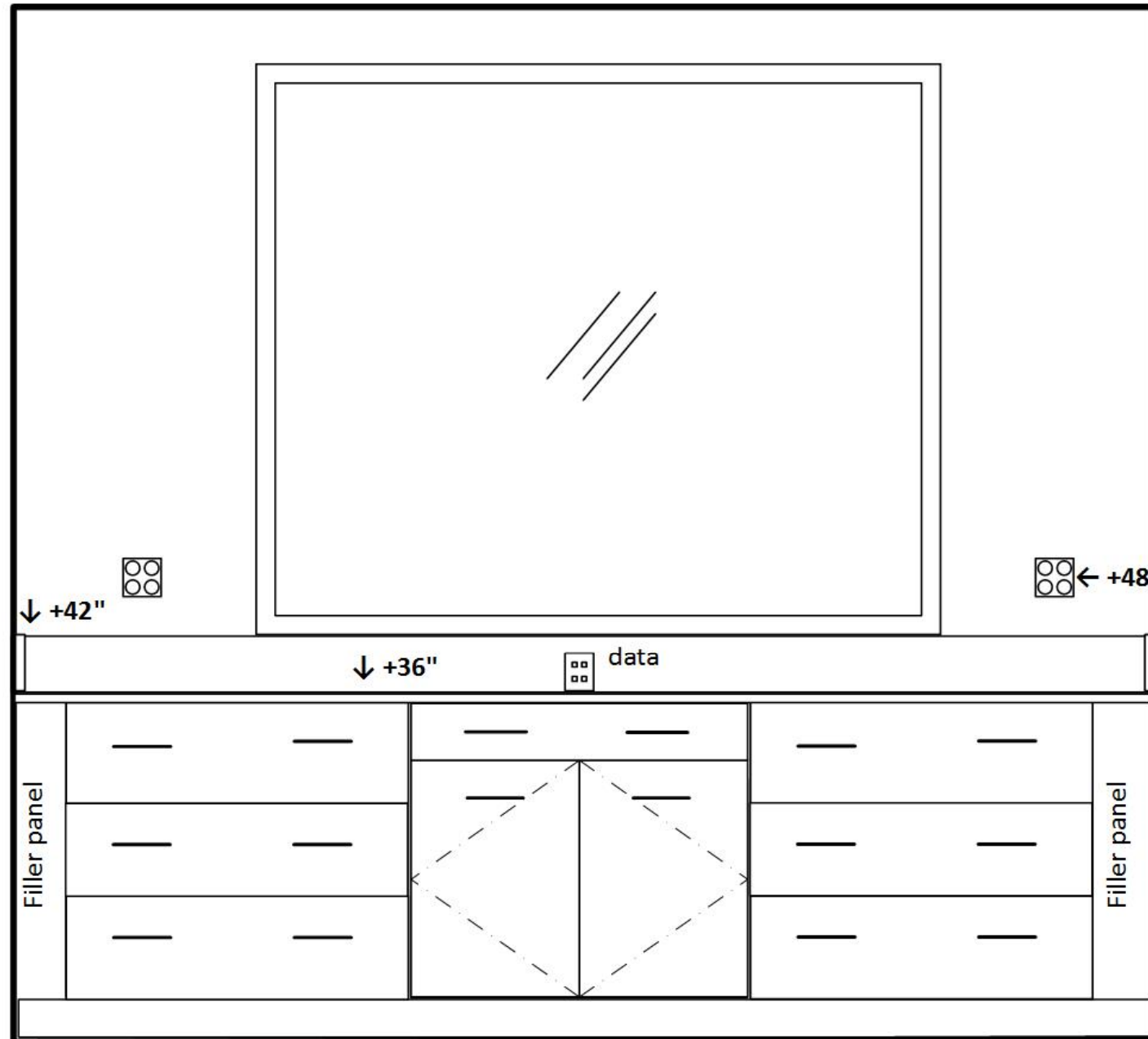
OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop instruments



INSTRUMENT ROOMS 1 & 2

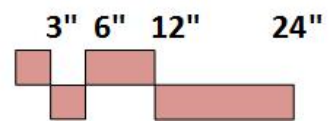
Elevation A



←36" →

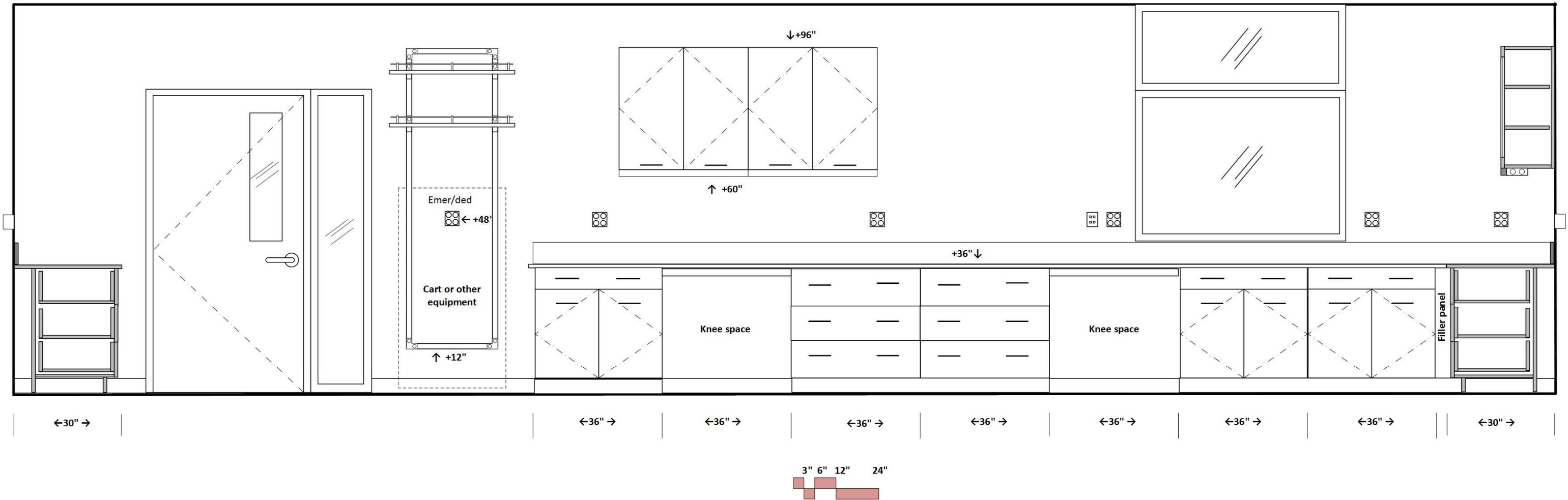
←36" →

←36" →



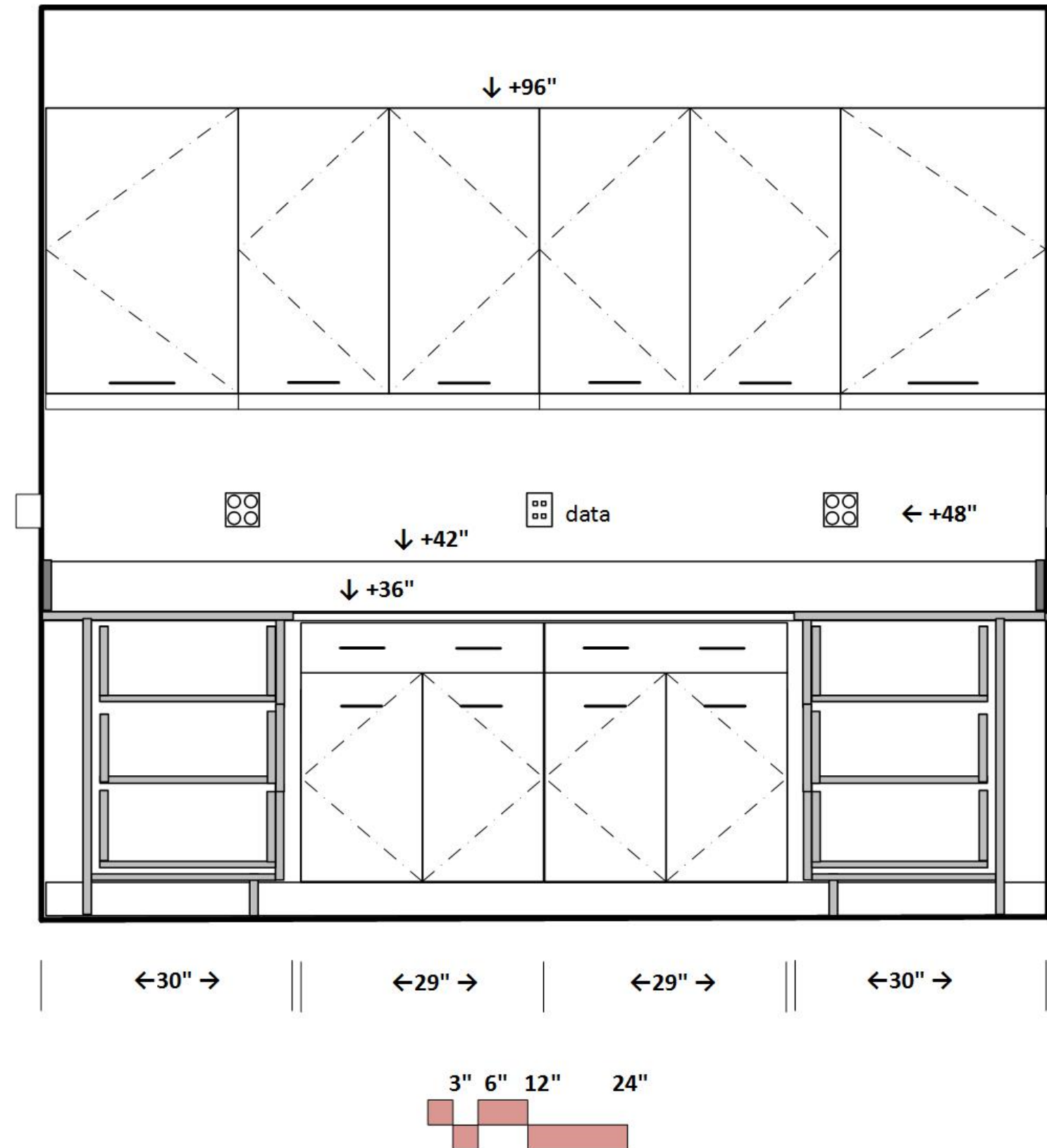
INSTRUMENT ROOMS 1 & 2

Elevation B



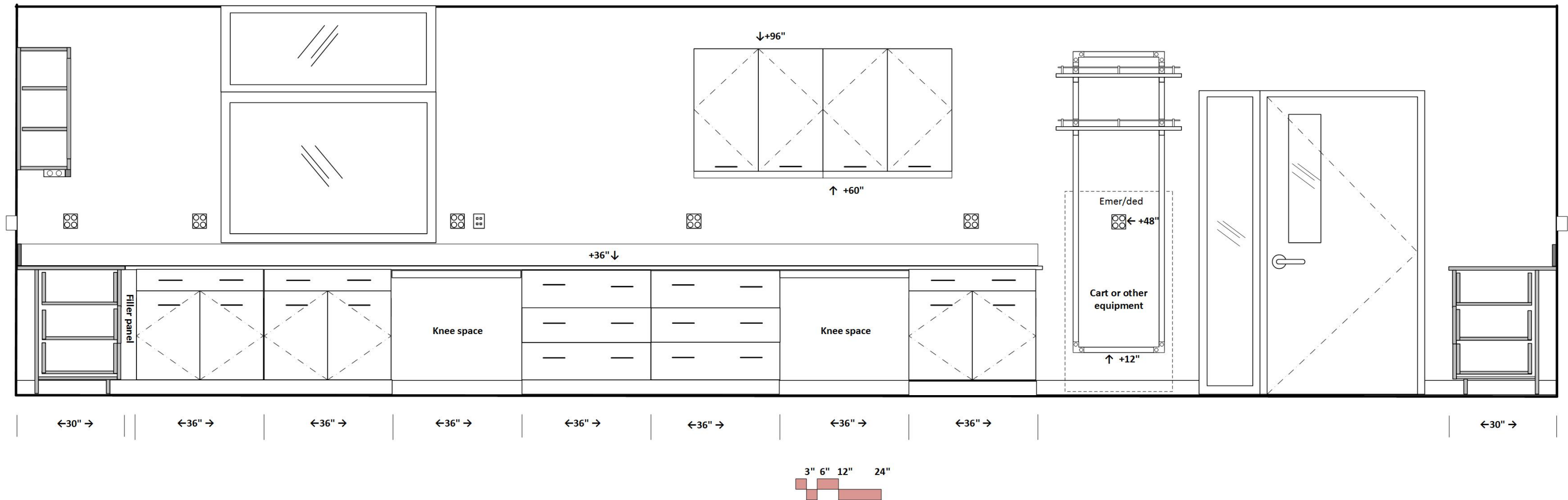
INSTRUMENT ROOMS 1 & 2

Elevation C



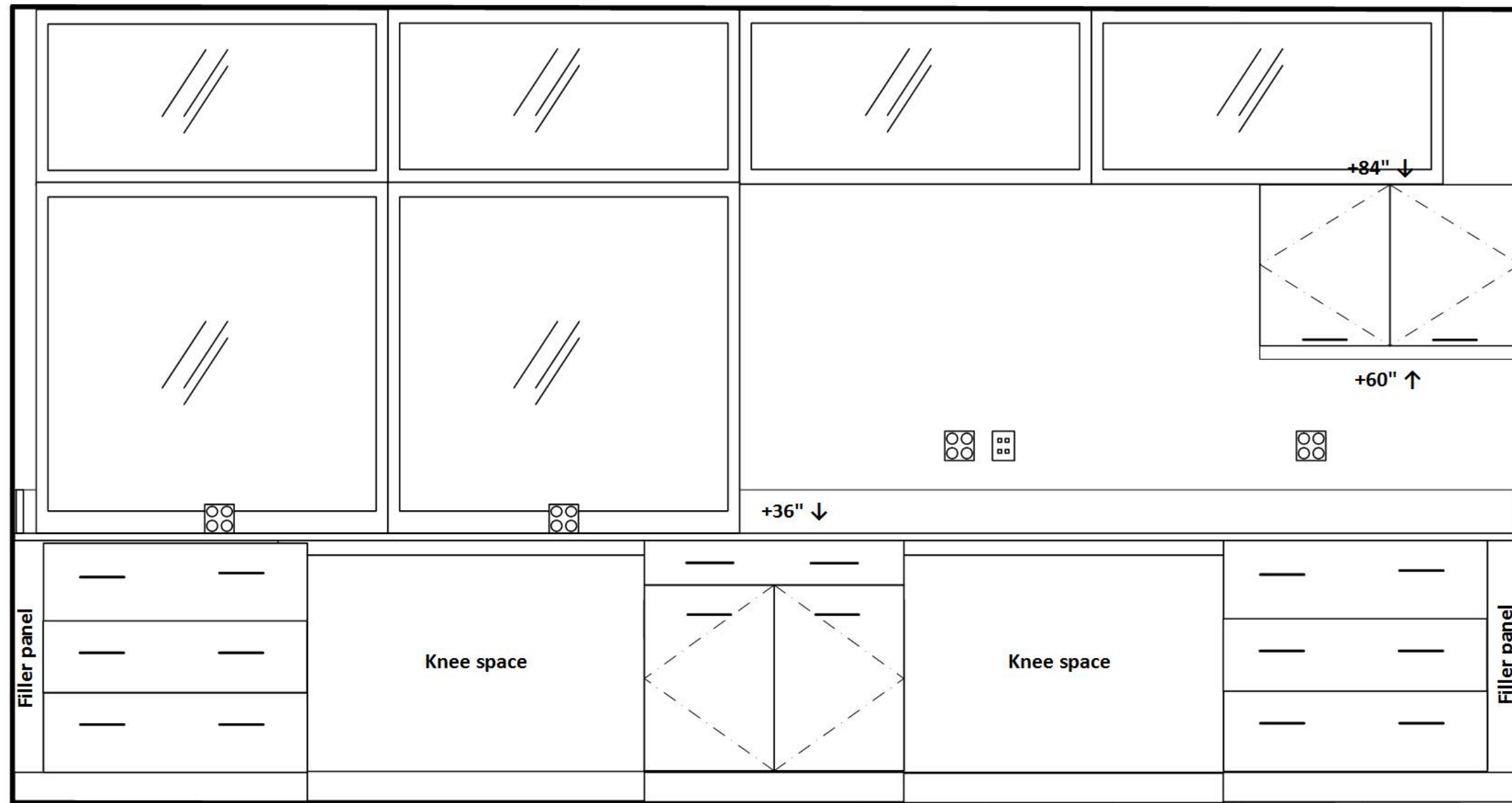
INSTRUMENT ROOMS 1 & 2

Elevation D



INSTRUMENT ROOMS 1 & 2

Elevation E



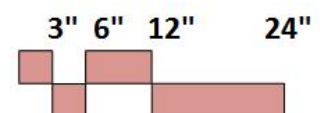
←36" →

←45" →

←36" →

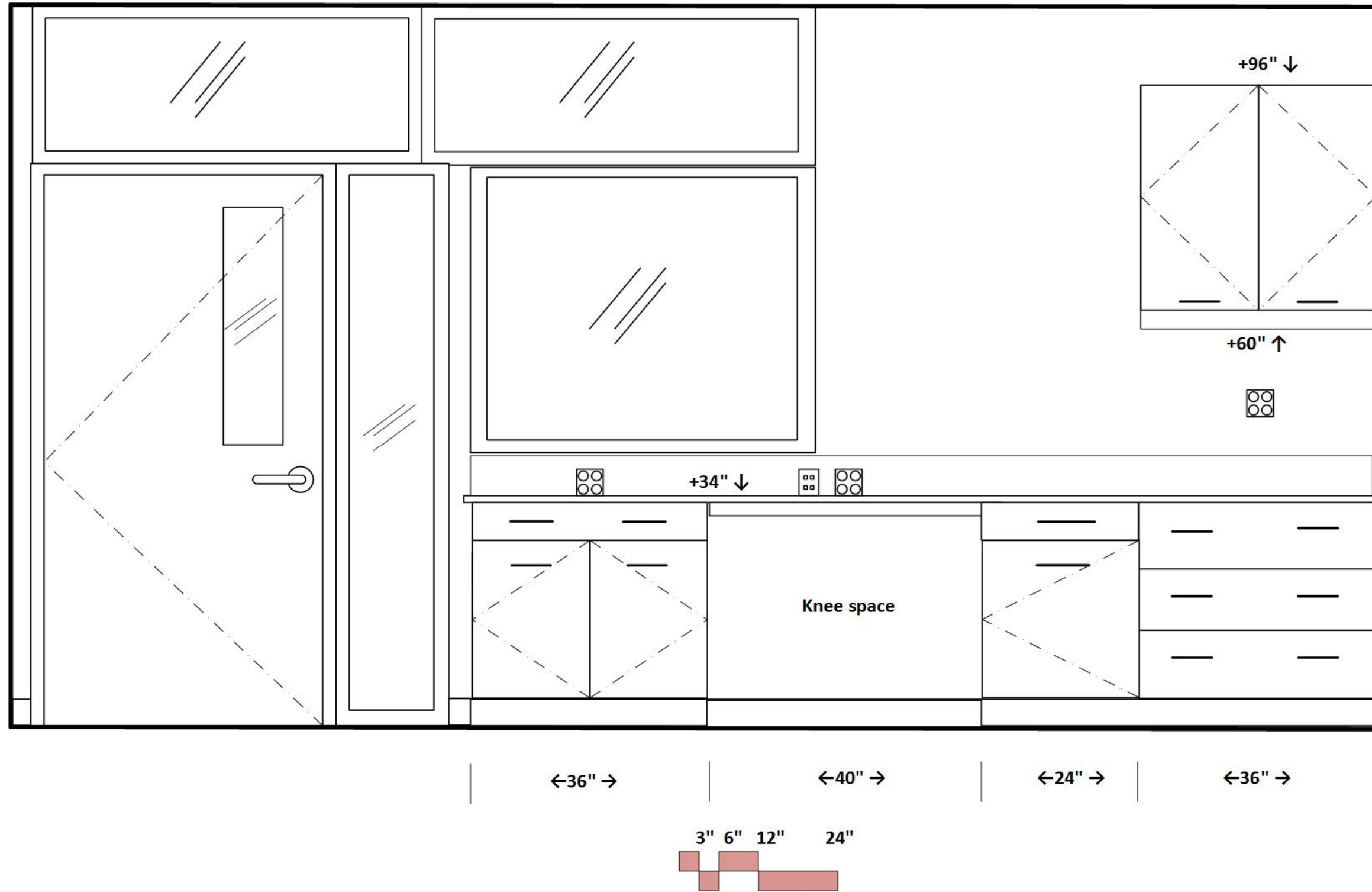
←45" →

←36" →



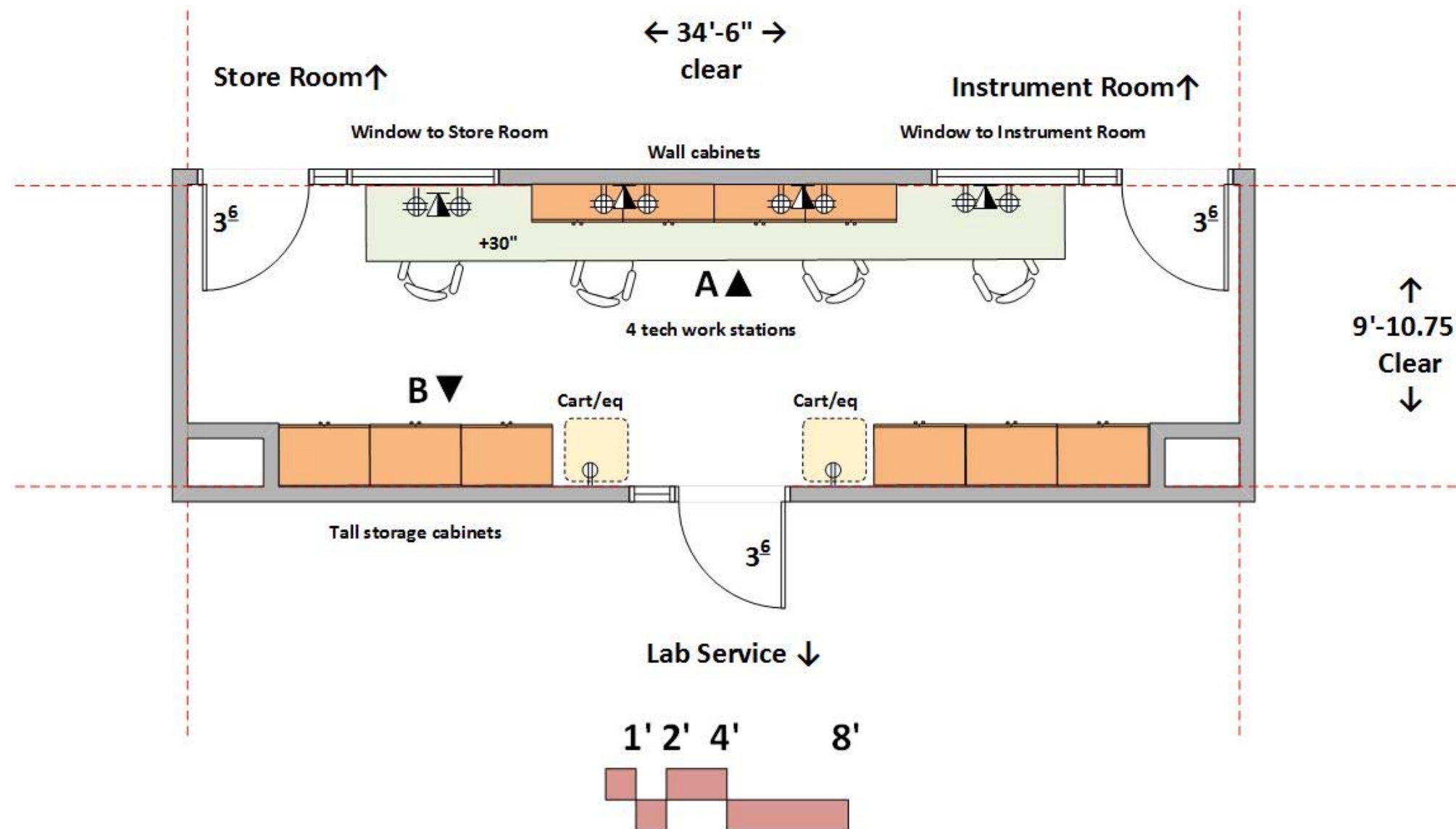
INSTRUMENT ROOMS 1 & 2

Elevation F



CHEMISTRY TECH AREA

Program Requirements



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶x8⁰ framed glass
 Daylight attenuation: at exterior windows (if any)
 Acoustic Attenuation: NC 40 or less

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 (4) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (2) air changes per hour unoccupied
 Pressure: Positive to adjacent labs
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX
 Task lights below wall cabinets
 Provide light switches at door opening

PLUMBING

None

CONTRACTOR FURNISHED EQUIPMENT

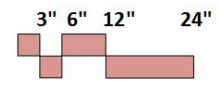
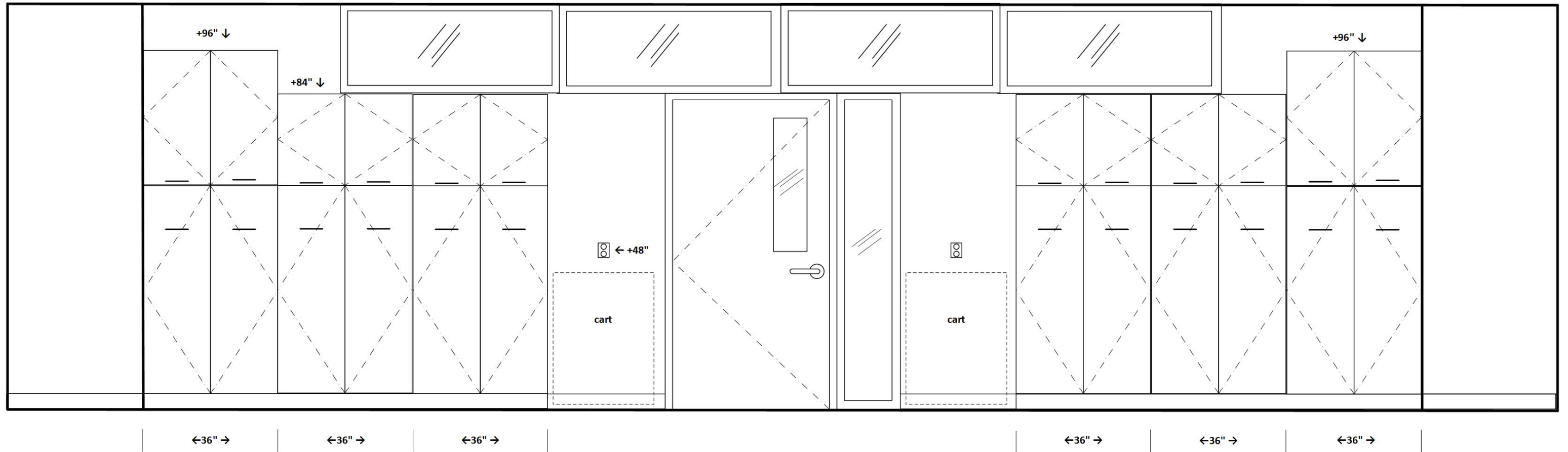
Wood (bamboo) casework - base cabinets, wall cabinets
 Phenolic resin tops

OWNER FURNISHED EQUIPMENT

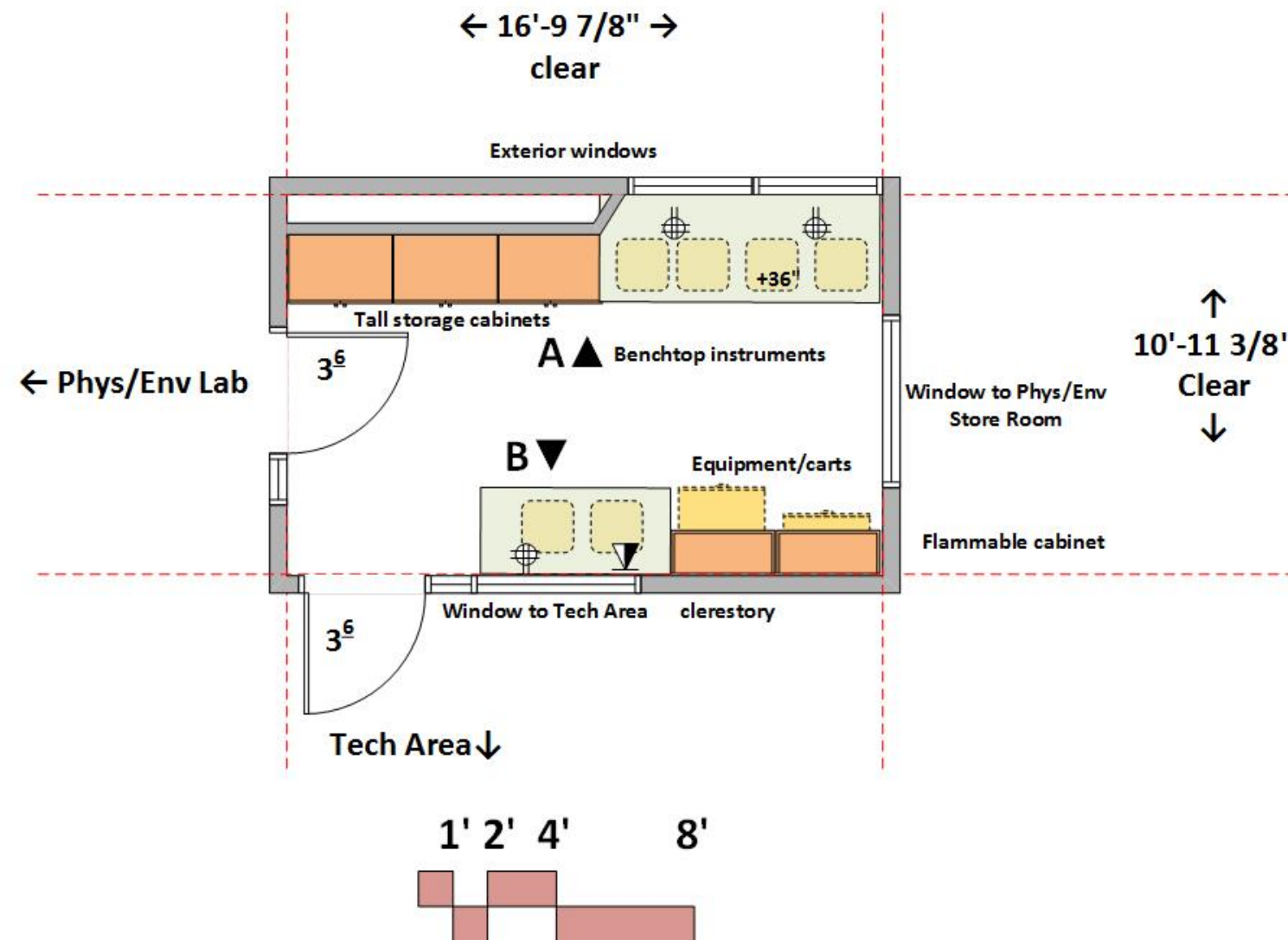
Chairs

CHEMISTRY TECH AREA

Elevation B



PHYS/ENV STORE ROOM



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶x8⁰ framed glass
 Daylight attenuation: at exterior windows (if any)
 Acoustic Attenuation: NC 40 or less

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 (4) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (2) air changes per hour unoccupied
 Pressure: Positive to adjacent labs
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX
 Task lights below wall cabinets
 Provide light switches at door opening

PLUMBING

None

CONTRACTOR FURNISHED EQUIPMENT

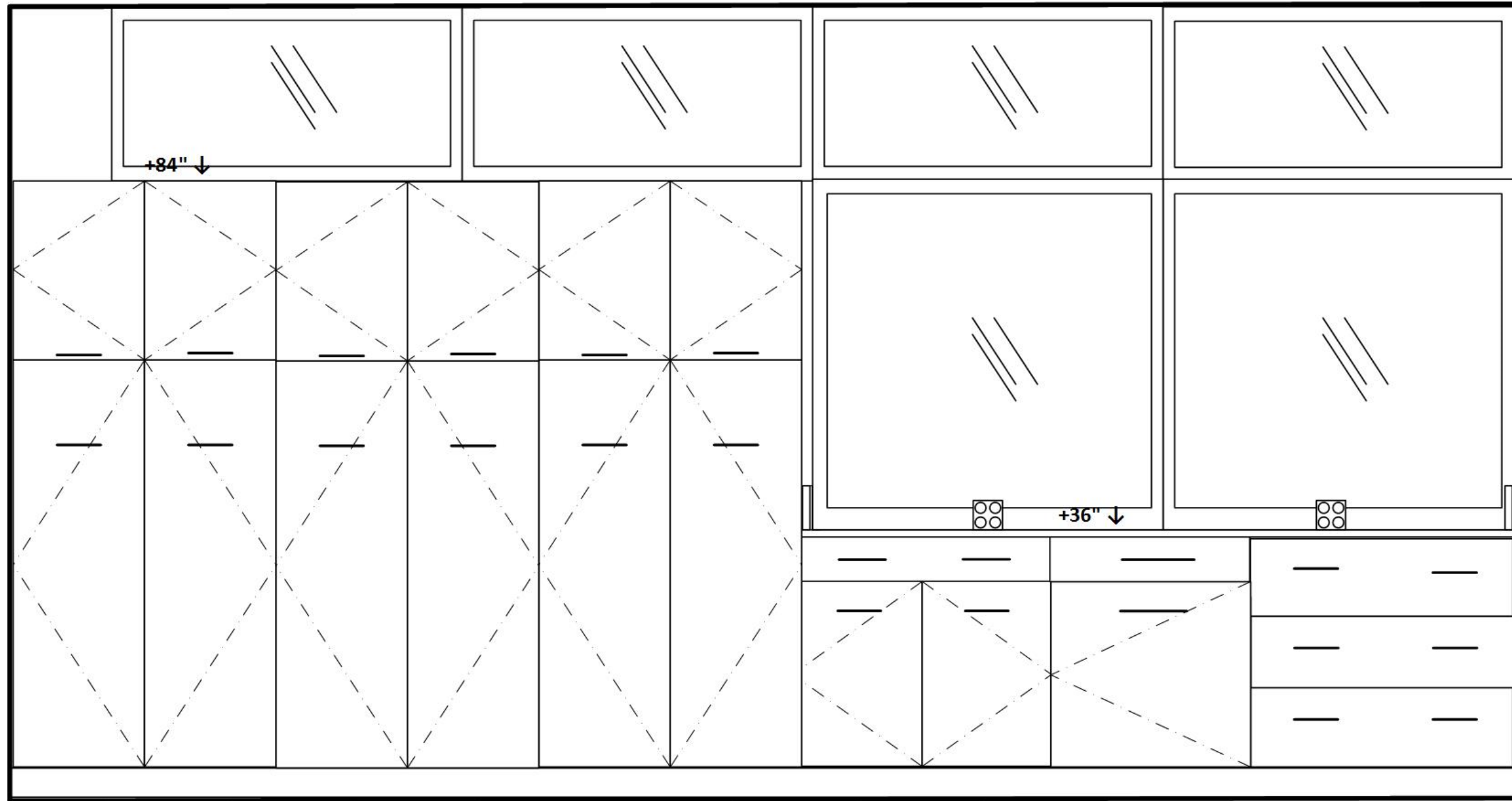
Wood (bamboo) casework - base cabinets, wall cabinets
 Phenolic resin tops

OWNER FURNISHED EQUIPMENT

Chairs
 Flammable cabinet- not vented

PHYS/ENV STORE ROOM

Elevation A



←36" →

←36" →

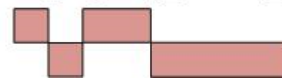
←36" →

←36" →

←27" →

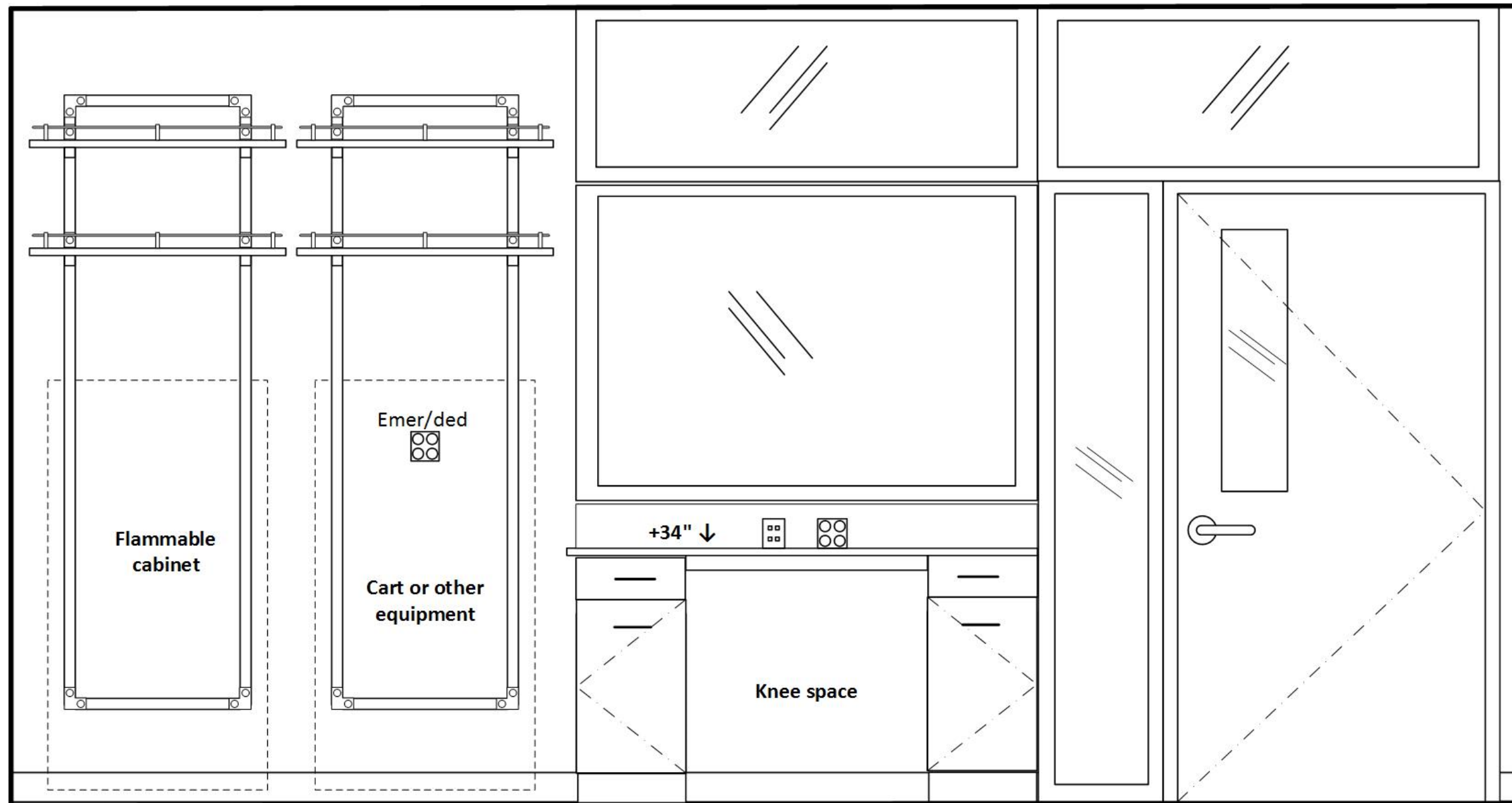
←36" →

3" 6" 12" 24"



PHYS/ENV STORE ROOM

Elevation B



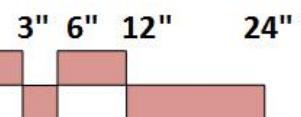
←36" →

←36" →

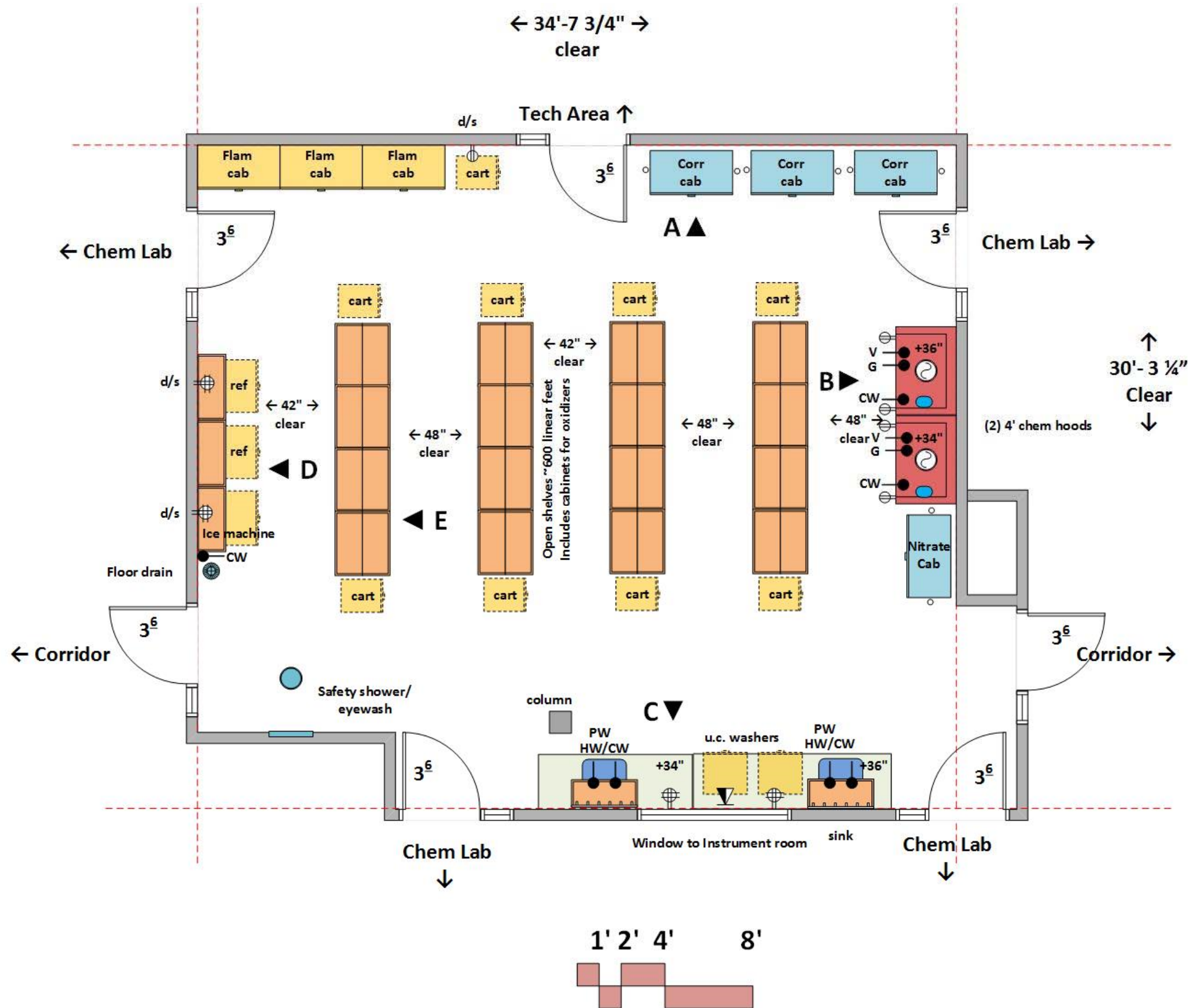
←15" →

←33" →

←15" →



CHEMISTRY LAB SERVICE



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶/x8⁰ framed glass
 Windows: at wall to balance room
 Daylight attenuation: at exterior windows (if any)
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 Fume hood exhaust on emergency power supply
 (10) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (6) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 50 btuh/sf
 500 c.f.m. exhaust at each fume hood (VAV)

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Dedicated/standby elec circuits at equipment
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX
 Task lights below wall cabinets
 Provide light switches at door
 Emergency power at equipment

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Hot/Cold water at undercounter glassware washer
 Pure water at sinks
 RO rinse water at u.c. washers
 Natural gas and vacuum at fume hoods
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

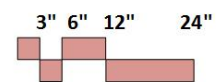
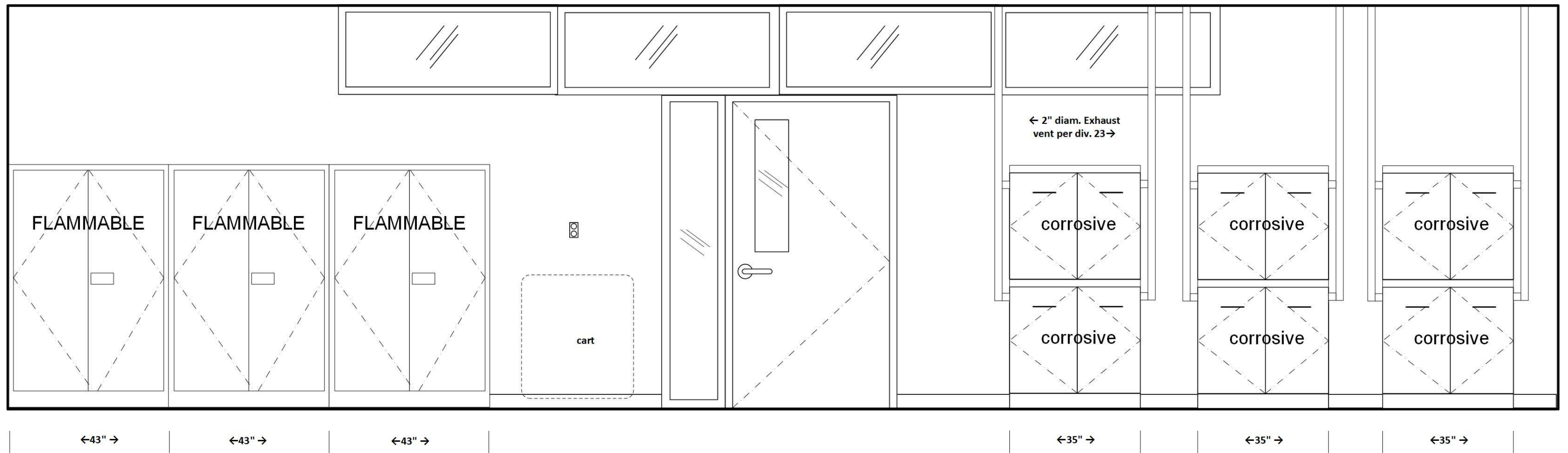
Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 Epoxy resin tops and sinks
 Provide large, deep sinks in Lab Service Rooms
 Faucets & fittings
 Chemical fume hoods
 Undercounter glassware washers
 Safety shower/eyewash
 Fire Extinguisher
 Chemical storage cabinets- flammables and corrosives (vented)

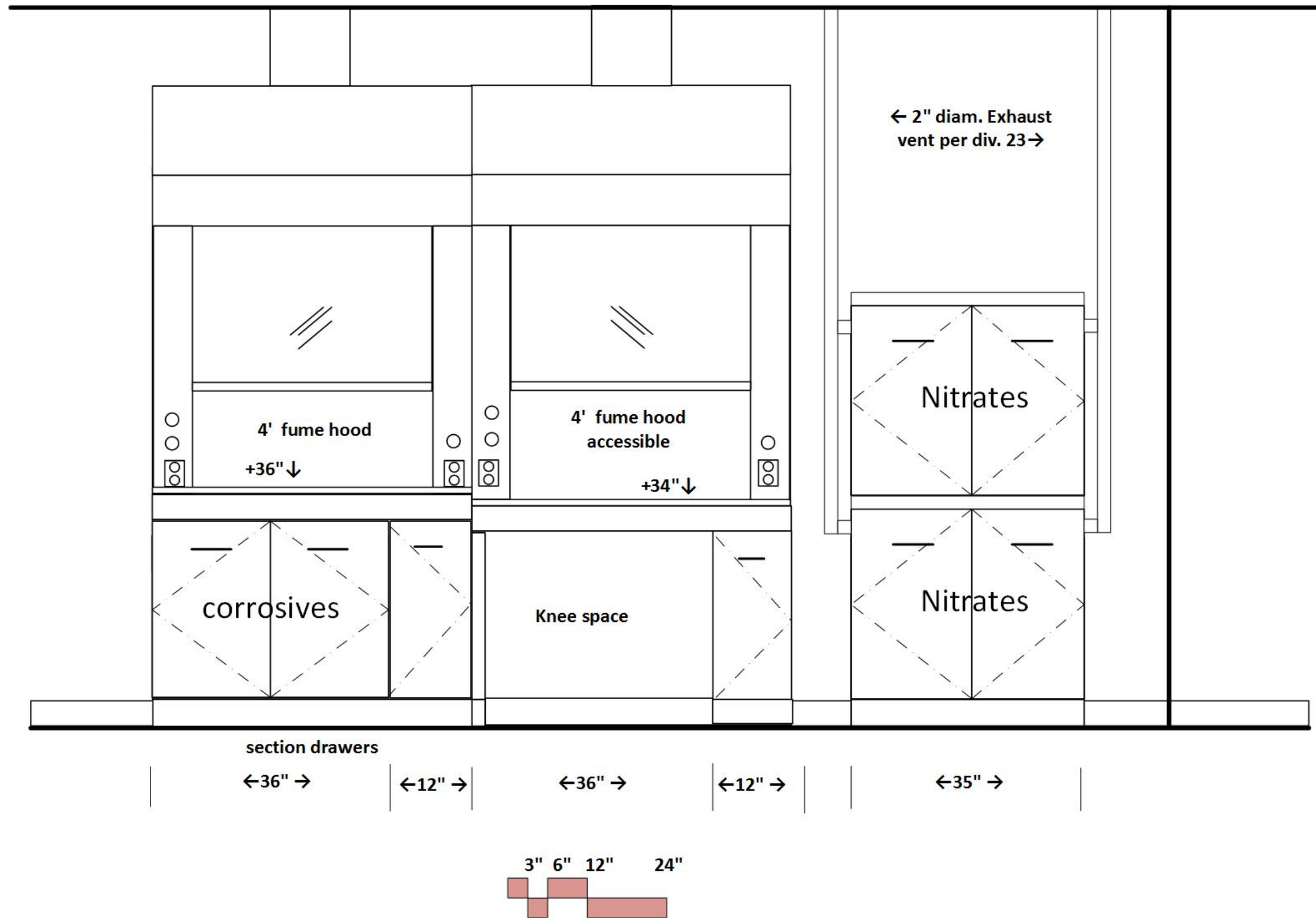
OWNER FURNISHED EQUIPMENT

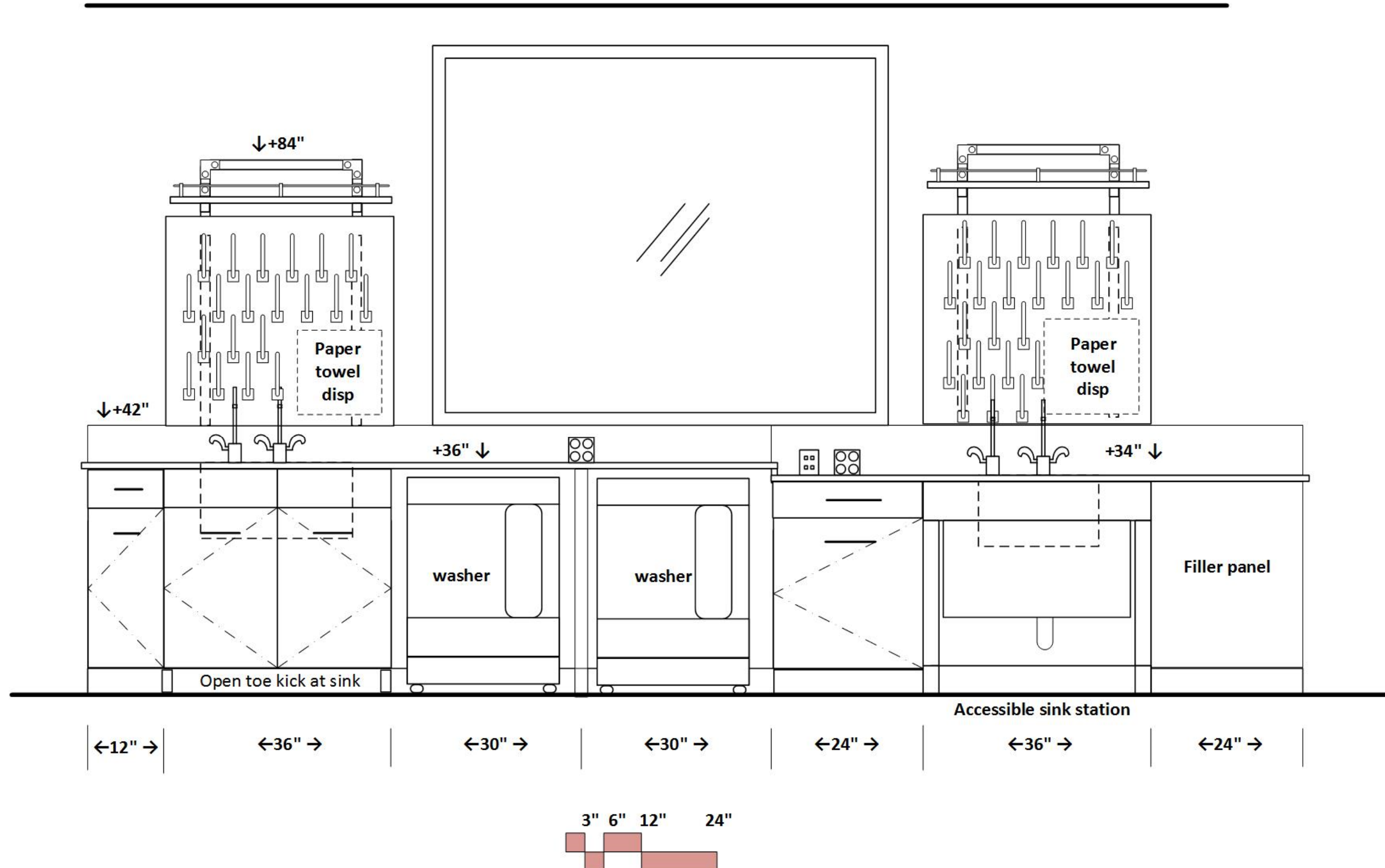
Chairs
 Benchtop analytical instruments; carts

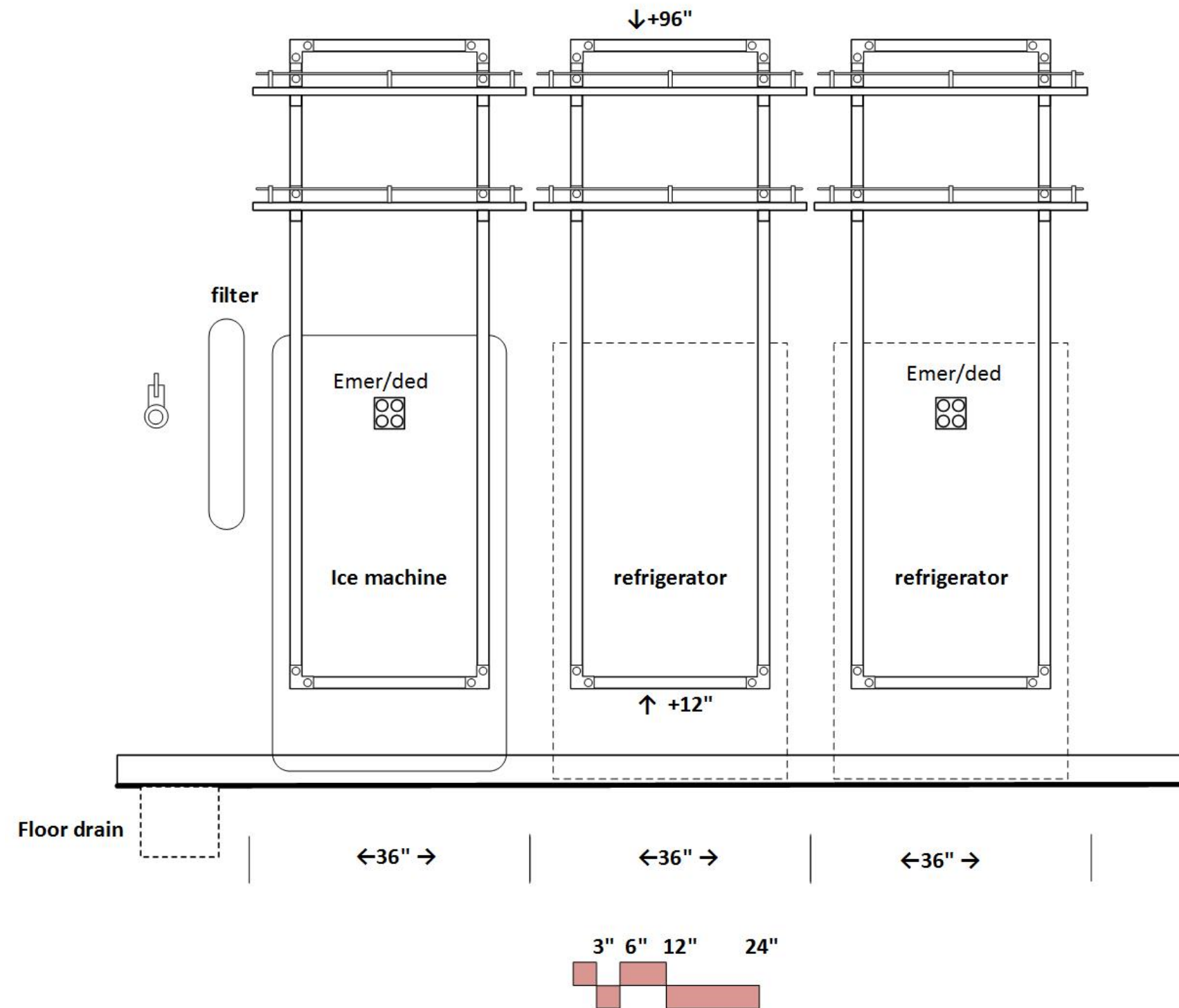
CHEMISTRY LAB SERVICE

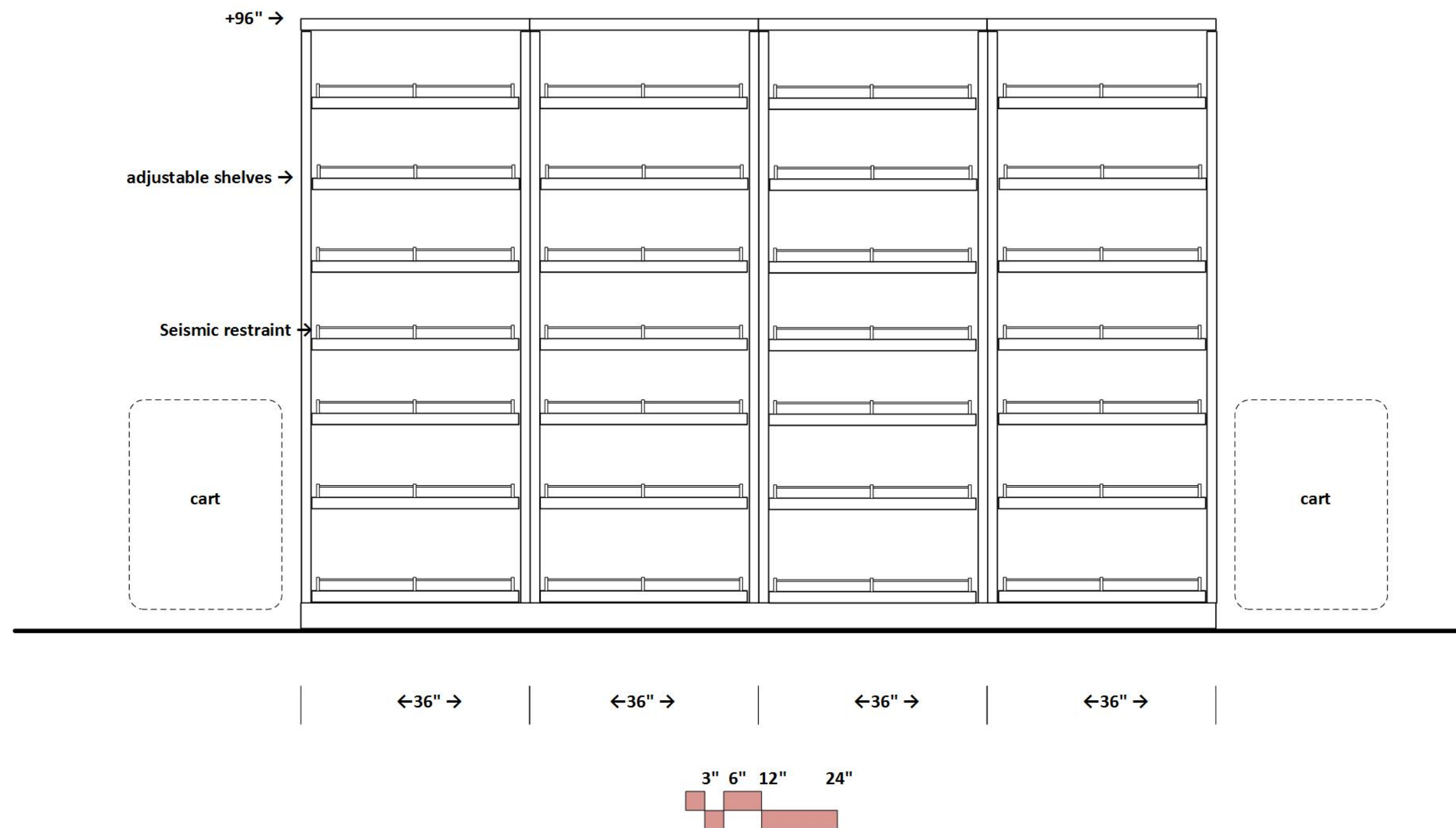
Elevation A



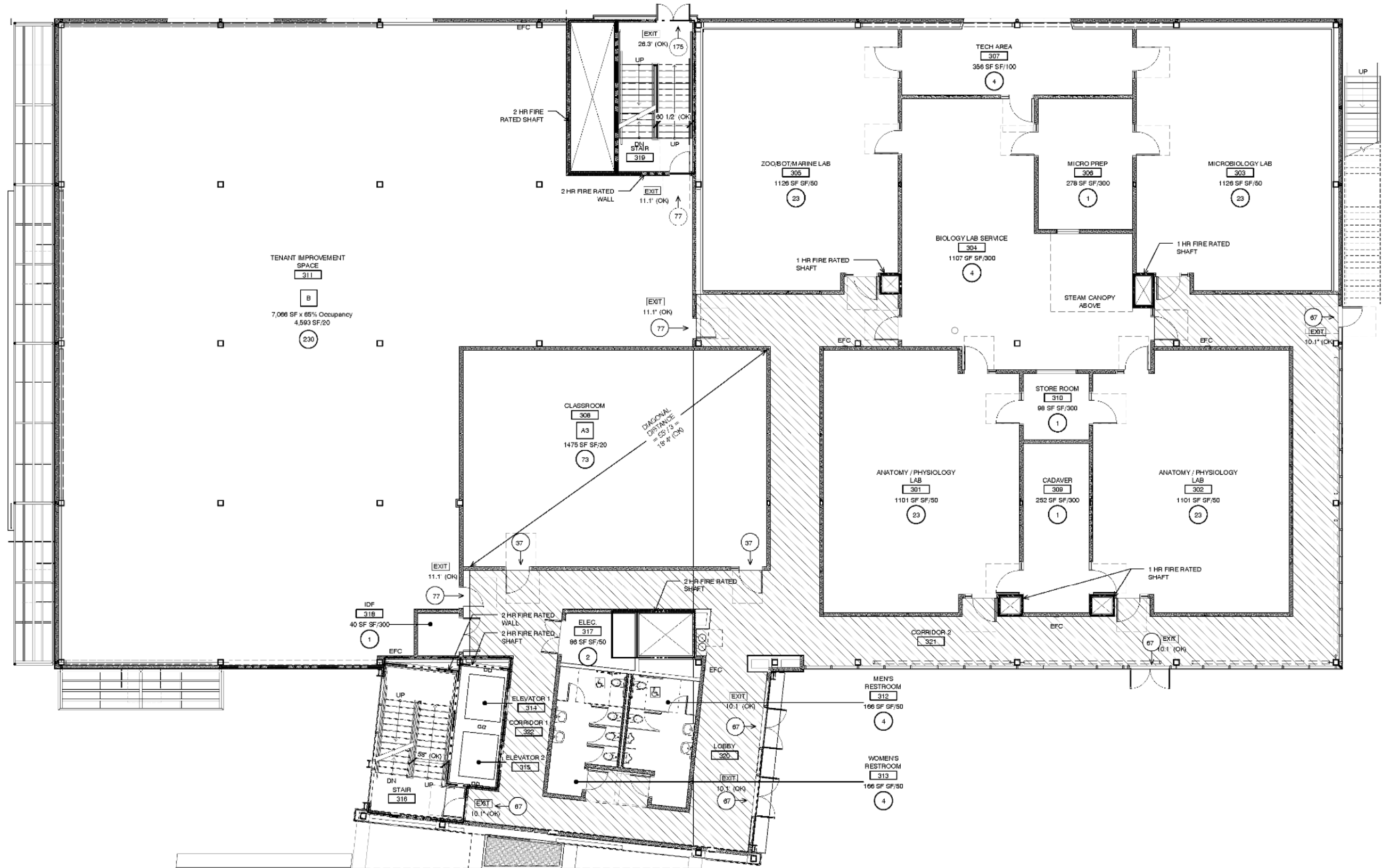






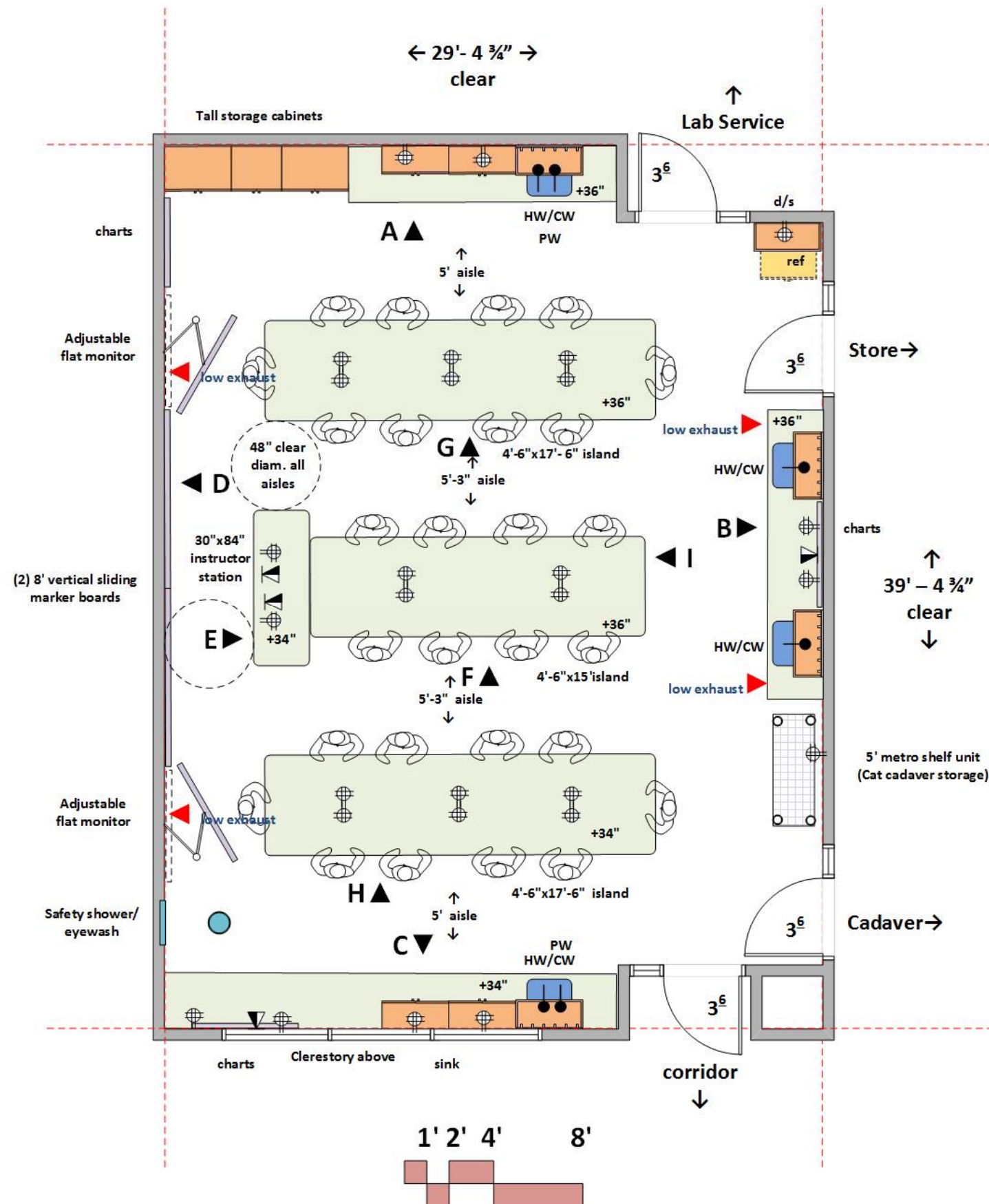


LEVEL 3- BIOLOGY LABS



ANATOMY/PHYSIOLOGY LAB

Mirror Image for 2nd Anatomy/Physiology Lab



ARCHITECTURAL

Occupancy: B
 Floor: Vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶/x8⁰ framed glass
 Windows: clerestory
 Daylight attenuation: at exterior windows
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 Up to 12 air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 Low and high exhaust
 (4) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Task lights below wall cabinets
 Provide light switches at door

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Pure water at sinks
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 Epoxy resin tops and sinks
 Faucets & fittings
 Safety shower/eyewash
 Fire Extinguisher
 Projection screens
 Marker boards

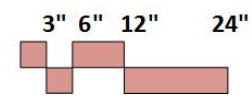
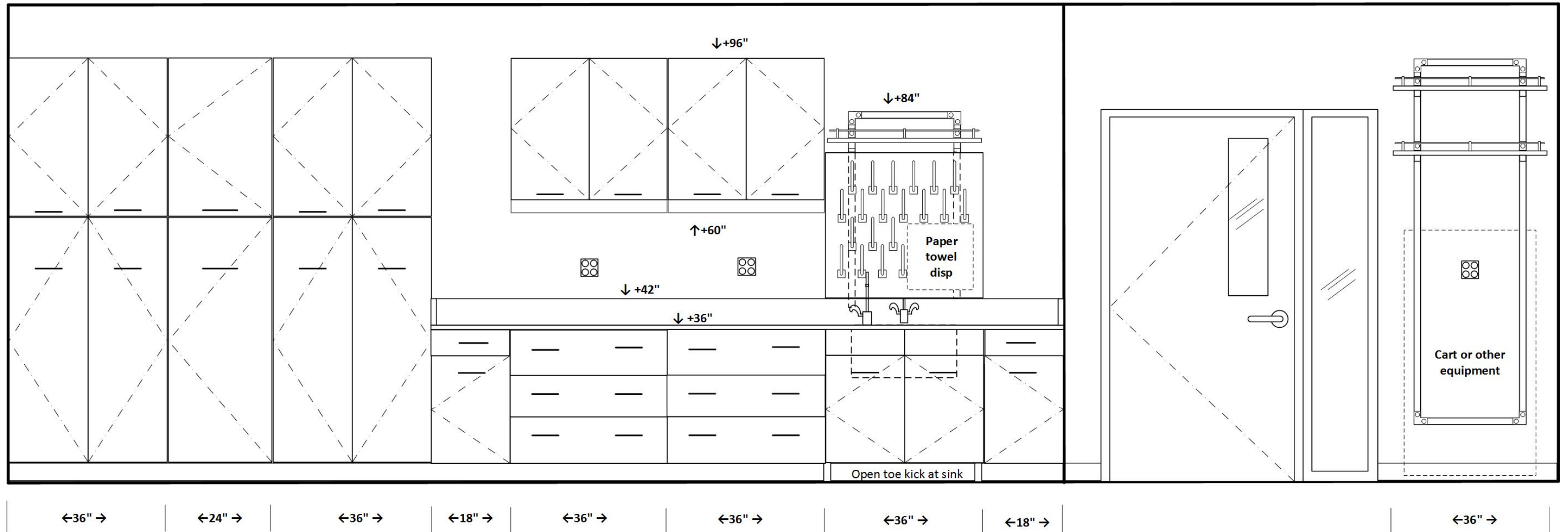
OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop analytical instruments
 Projection system

ANATOMY/PHYSIOLOGY LAB

Elevation A

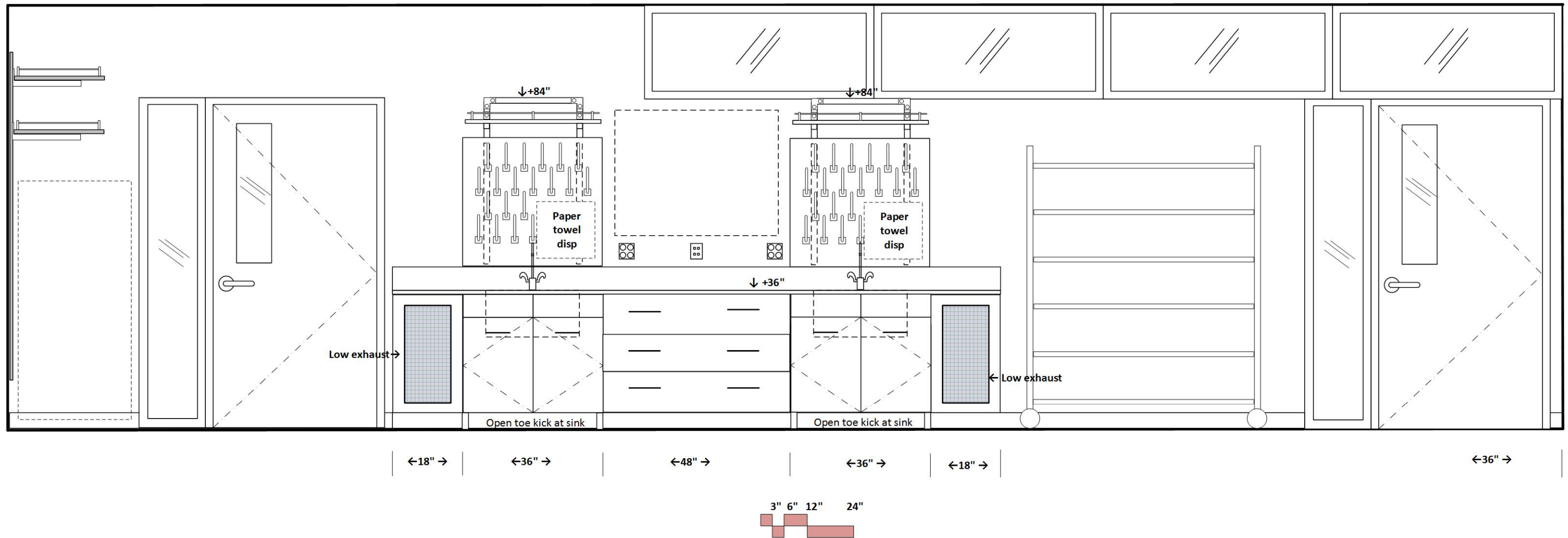
Mirror Image for 2nd Anatomy/Physiology Lab



ANATOMY/PHYSIOLOGY LAB

Elevation B

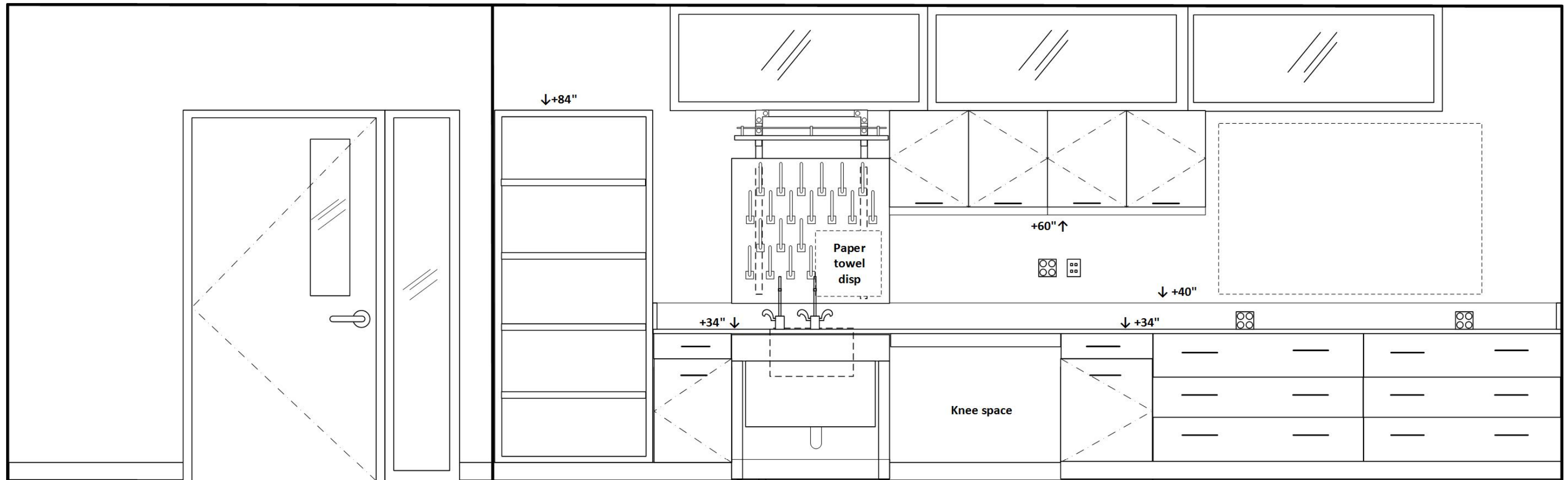
Mirror Image for 2nd Anatomy/Physiology Lab



ANATOMY/PHYSIOLOGY LAB

Elevation C

Mirror Image for 2nd Anatomy/Physiology Lab



$\leftarrow 36'' \rightarrow$

$\leftarrow 18'' \rightarrow$

Accessible sink station

$\leftarrow 36'' \rightarrow$

$\leftarrow 36'' \rightarrow$

$\leftarrow 21'' \rightarrow$

$\leftarrow 48'' \rightarrow$

$\leftarrow 45'' \rightarrow$

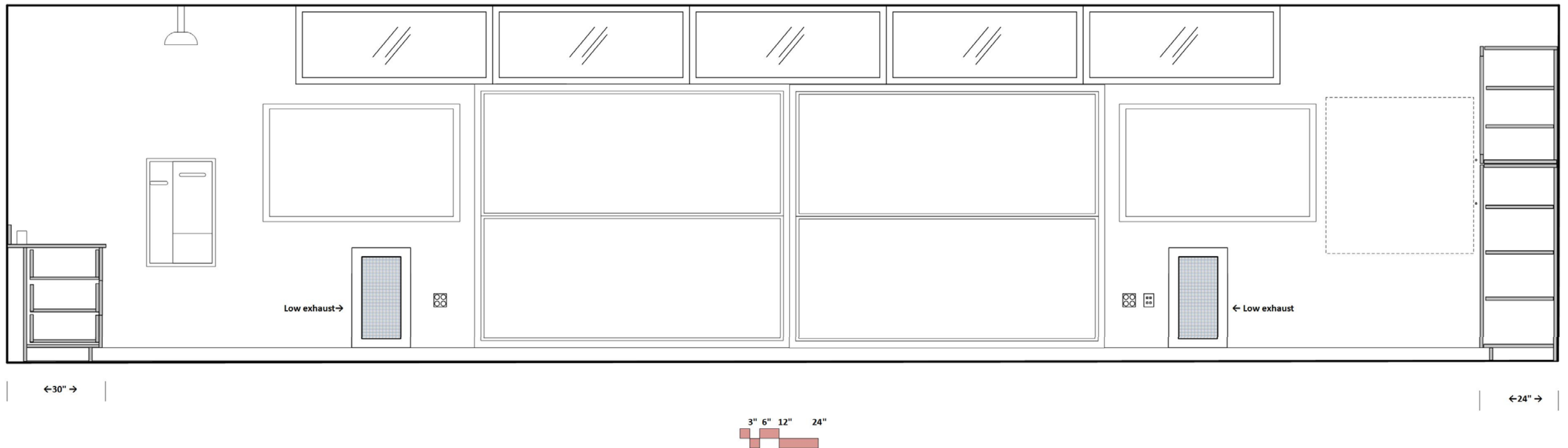
3" 6" 12" 24"



ANATOMY/PHYSIOLOGY LAB

Elevation D

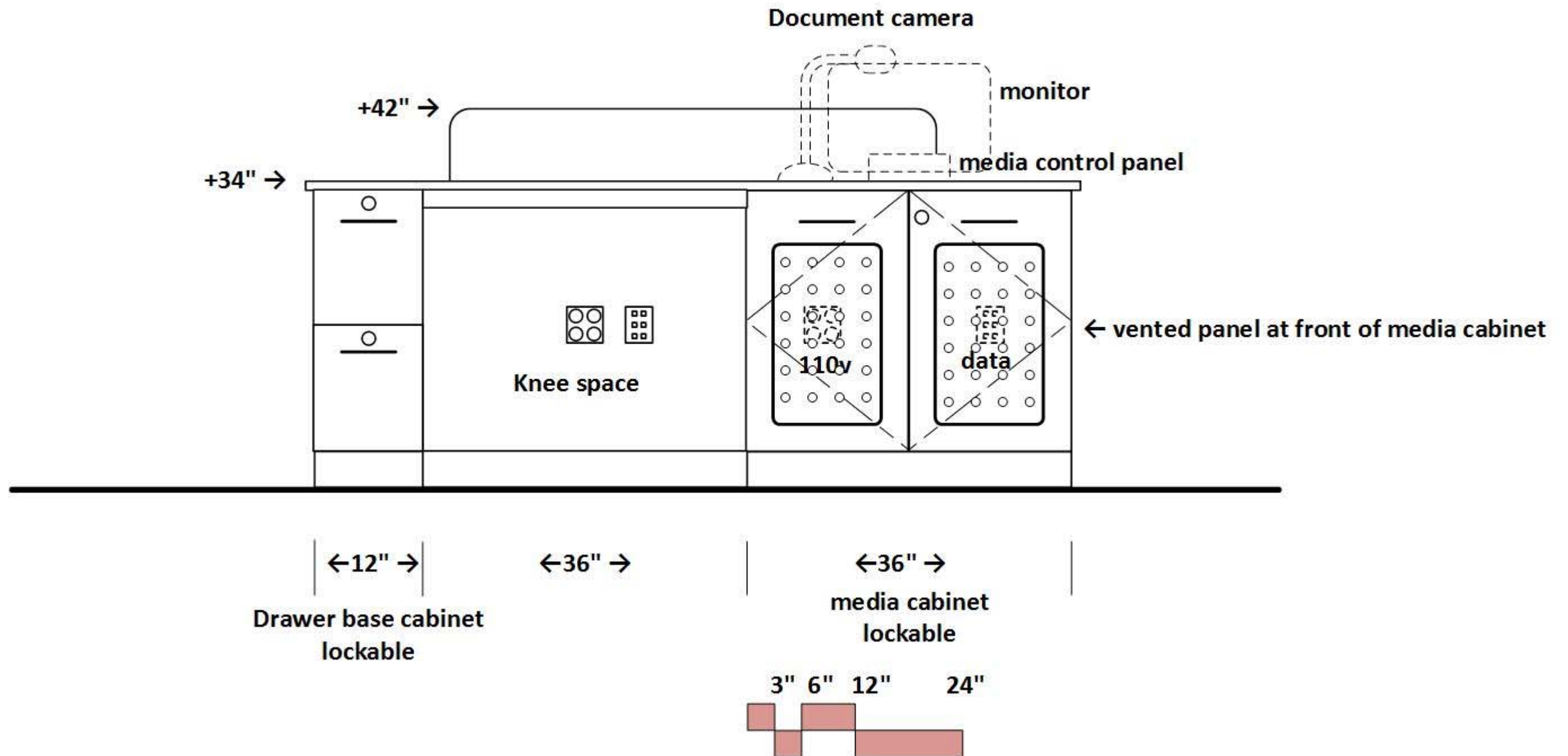
Mirror Image for 2nd Anatomy/Physiology Lab



ANATOMY/PHYSIOLOGY LAB

Elevation E

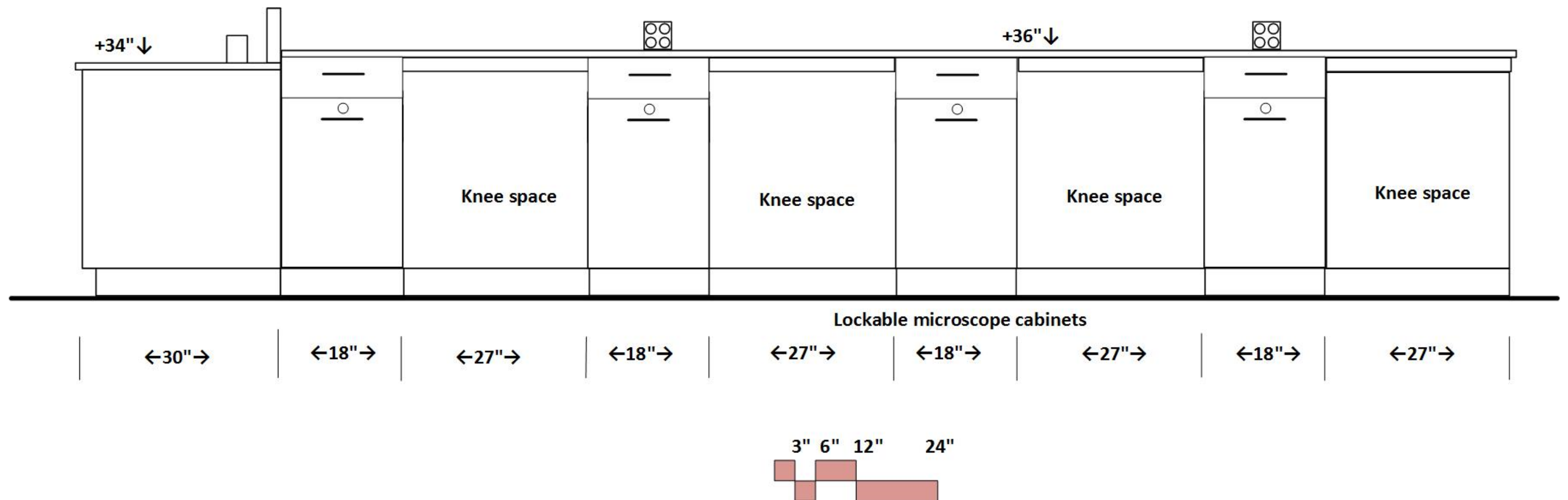
Mirror Image for 2nd Anatomy/Physiology Lab



ANATOMY/PHYSIOLOGY LAB

Elevation F

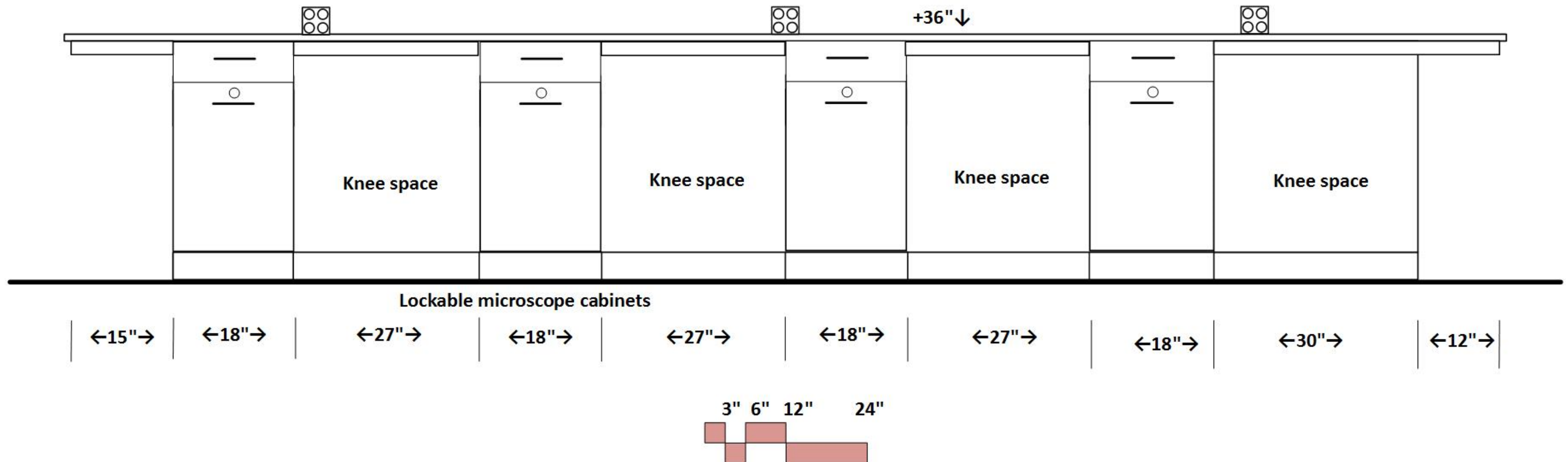
Mirror Image for 2nd Anatomy/Physiology Lab



ANATOMY/PHYSIOLOGY LAB

Elevation G

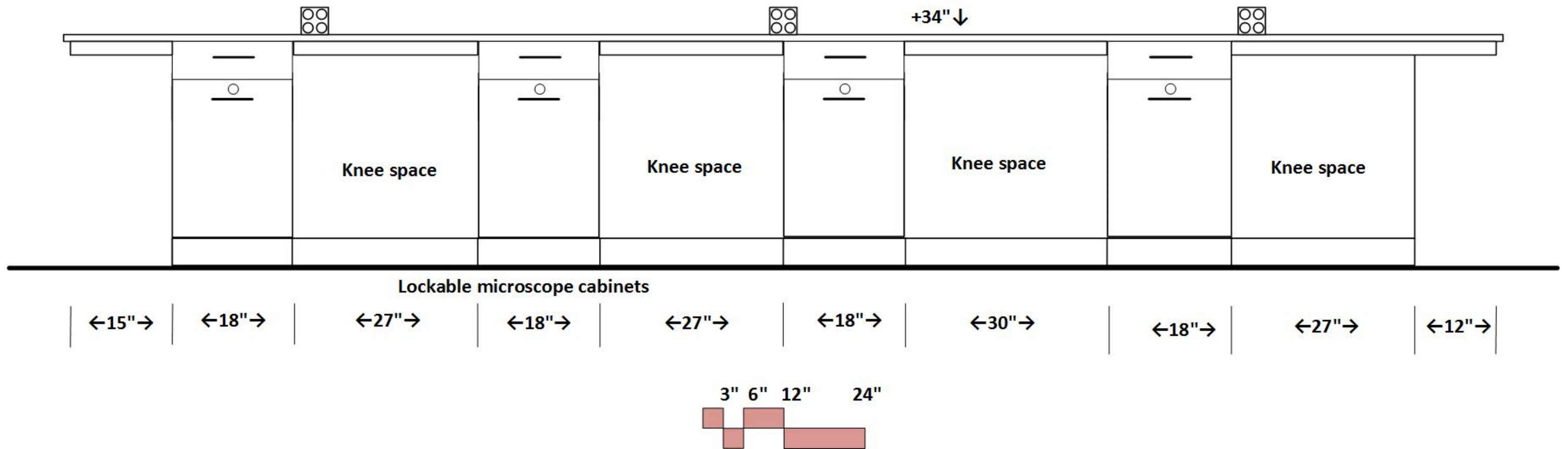
Mirror Image for 2nd Anatomy/Physiology Lab



ANATOMY/PHYSIOLOGY LAB

Elevation H

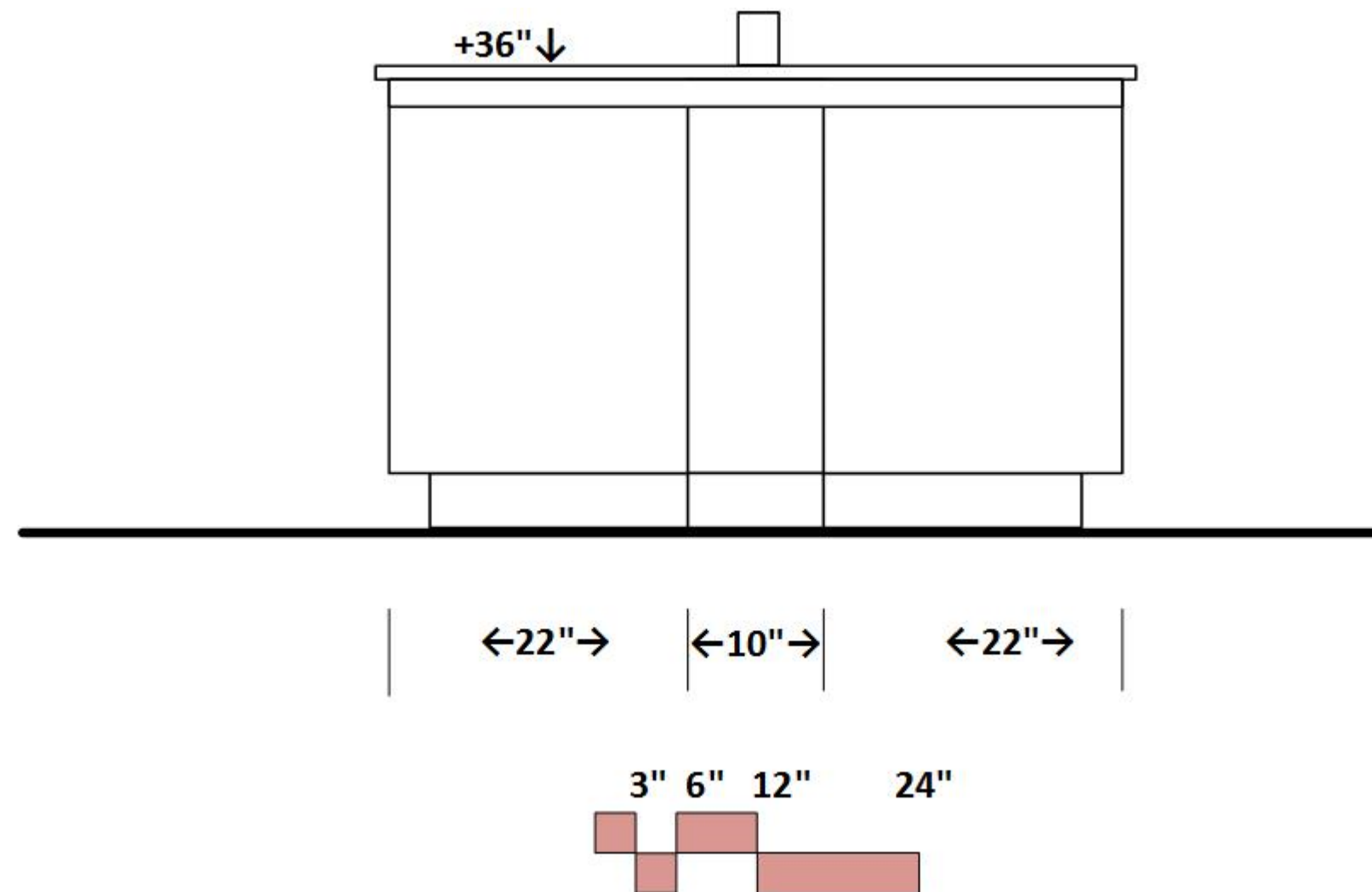
Mirror Image for 2nd Anatomy/Physiology Lab



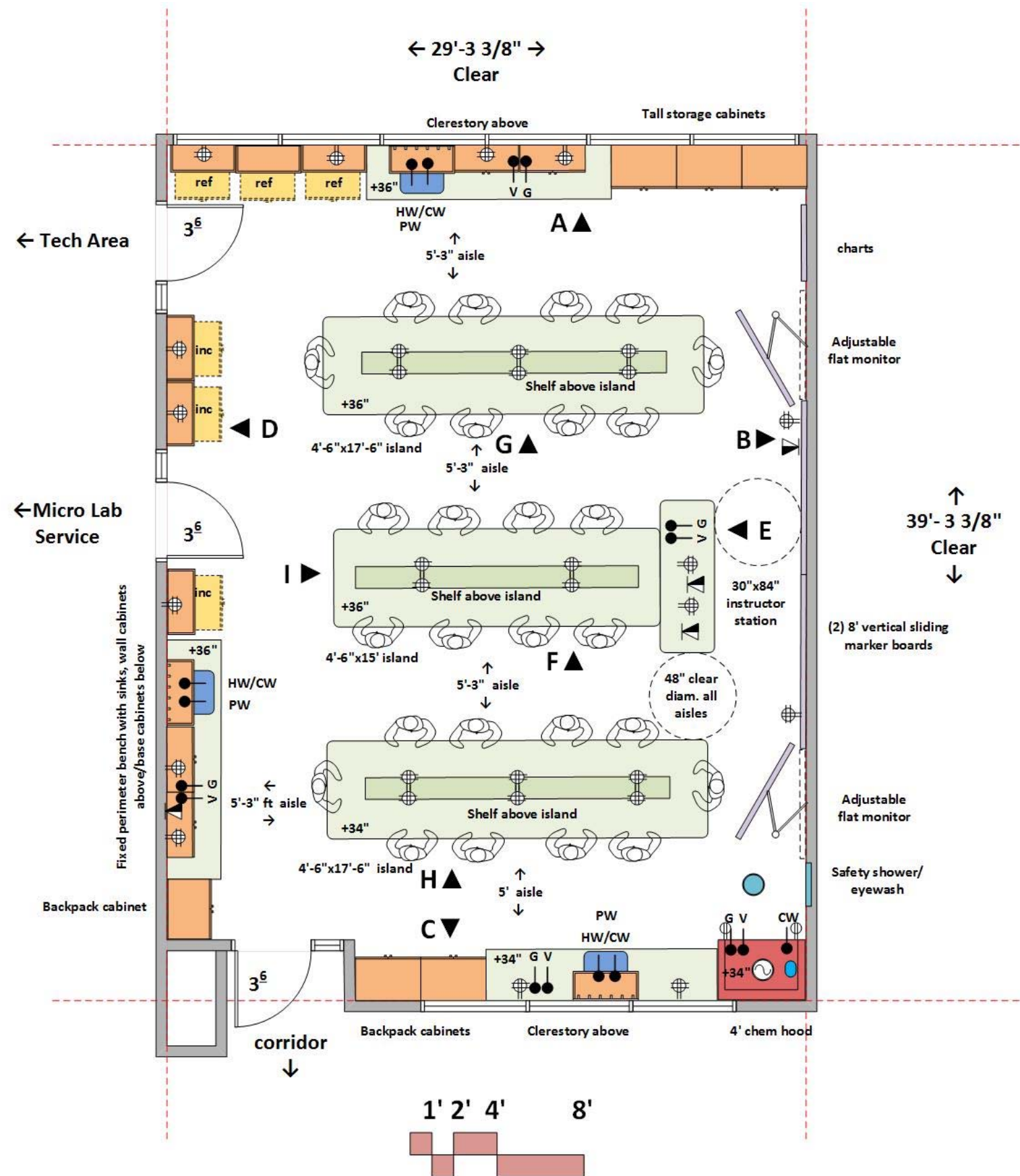
ANATOMY/PHYSIOLOGY LAB

Elevation I

Mirror Image for 2nd Anatomy/Physiology Lab



MICROBIOLOGY LABORATORY



ARCHITECTURAL

Occupancy: B
 Floor: Vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶/x8⁰ framed glass
 Windows: clerestory
 Daylight attenuation: at exterior windows
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm
 Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air
 Up to 12 air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 Low and high exhaust
 (4) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Task lights below wall cabinets
 Provide light switches at door

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Pure water at sinks
 Natural gas and vacuum at fume hood and benches
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

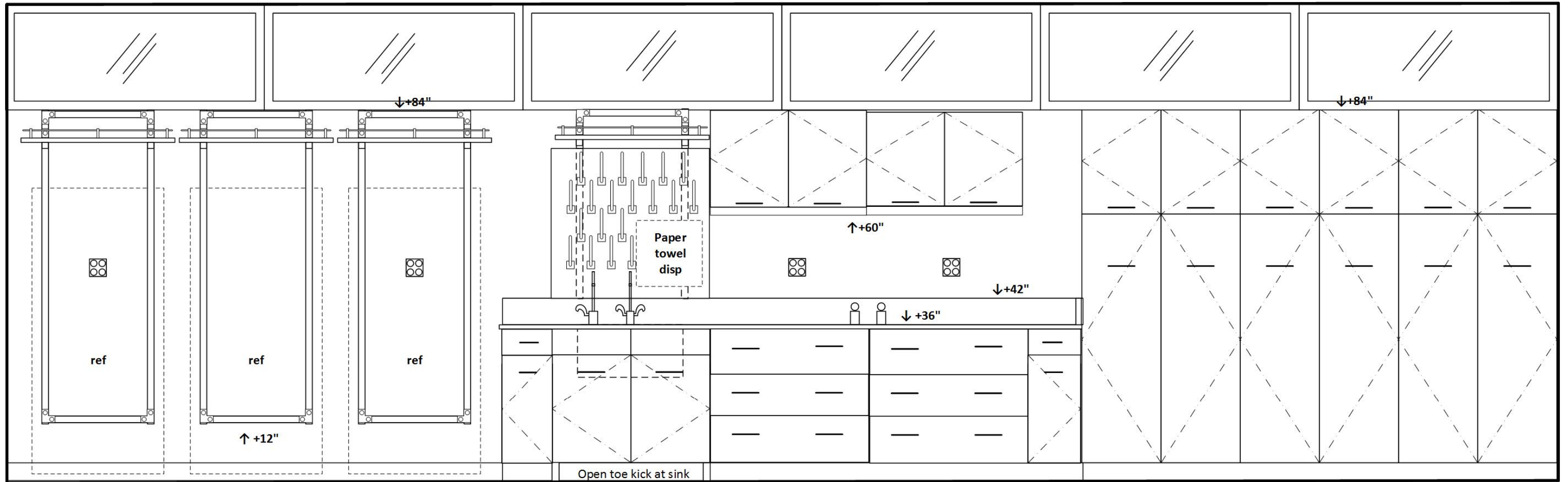
Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 Epoxy resin tops and sinks
 Faucets & fittings
 Safety shower/eyewash
 Fire Extinguisher
 Projection screens
 Marker boards

OWNER FURNISHED EQUIPMENT

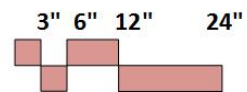
Chairs
 Benchtop analytical instruments
 Projection system

MICROBIOLOGY LABORATORY

Elevation A

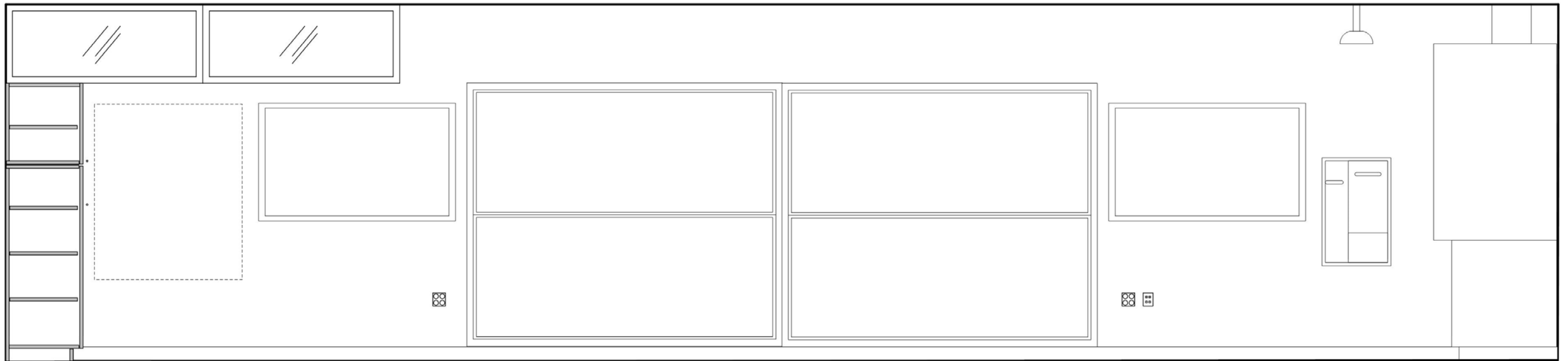


←36" → ←36" → ←36" → ←12" → ←36" → ←36" → ←12" → ←36" → ←36" → ←36" →

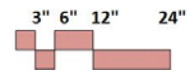


MICROBIOLOGY LABORATORY

Elevation B

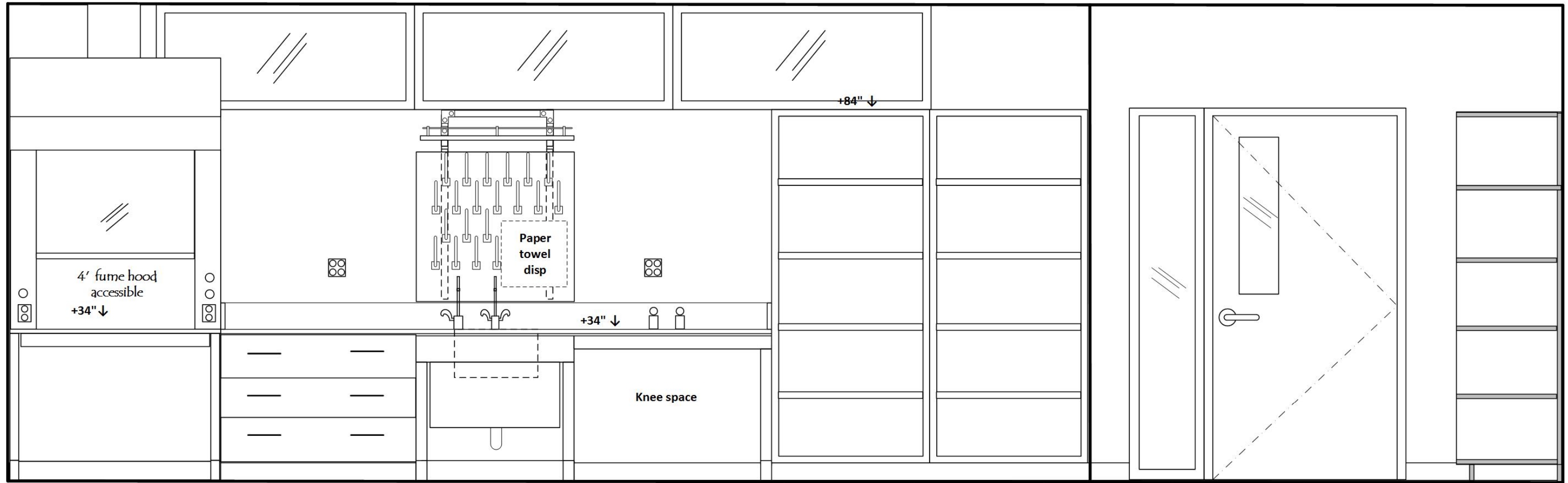


←24"→



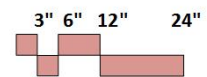
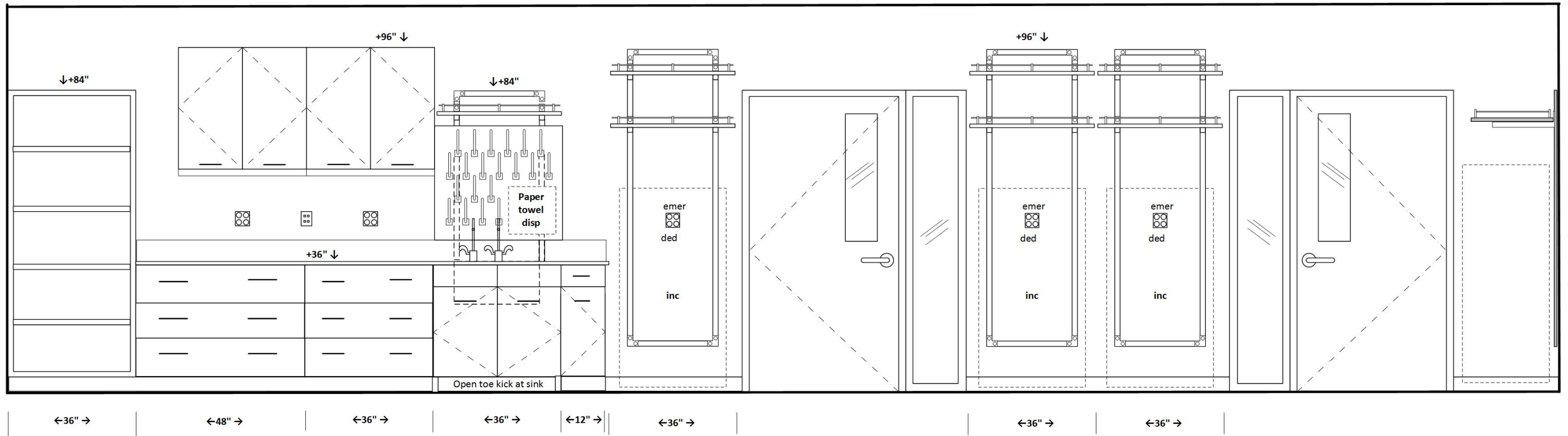
MICROBIOLOGY LABORATORY

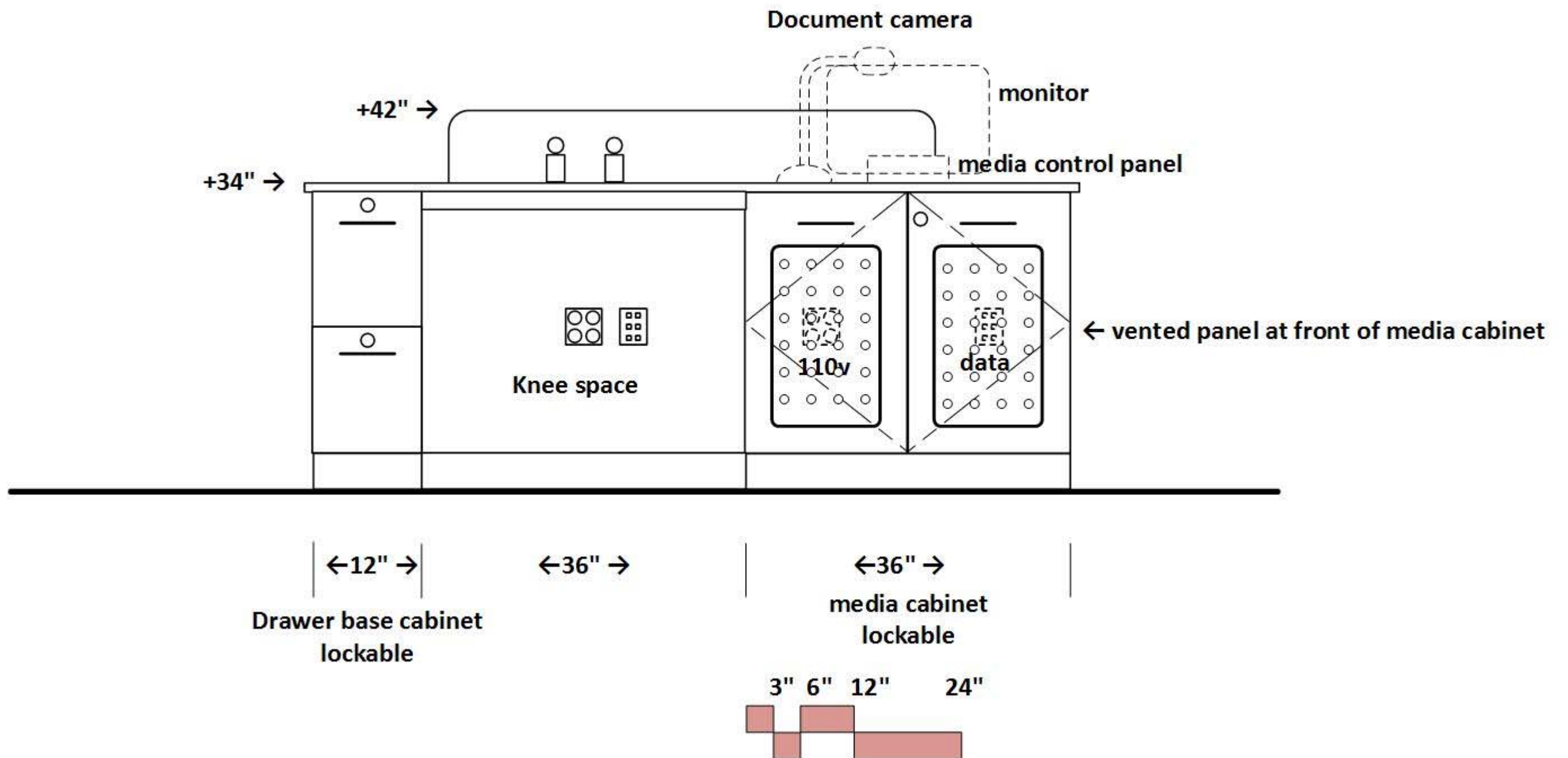
Elevation C



MICROBIOLOGY LABORATORY

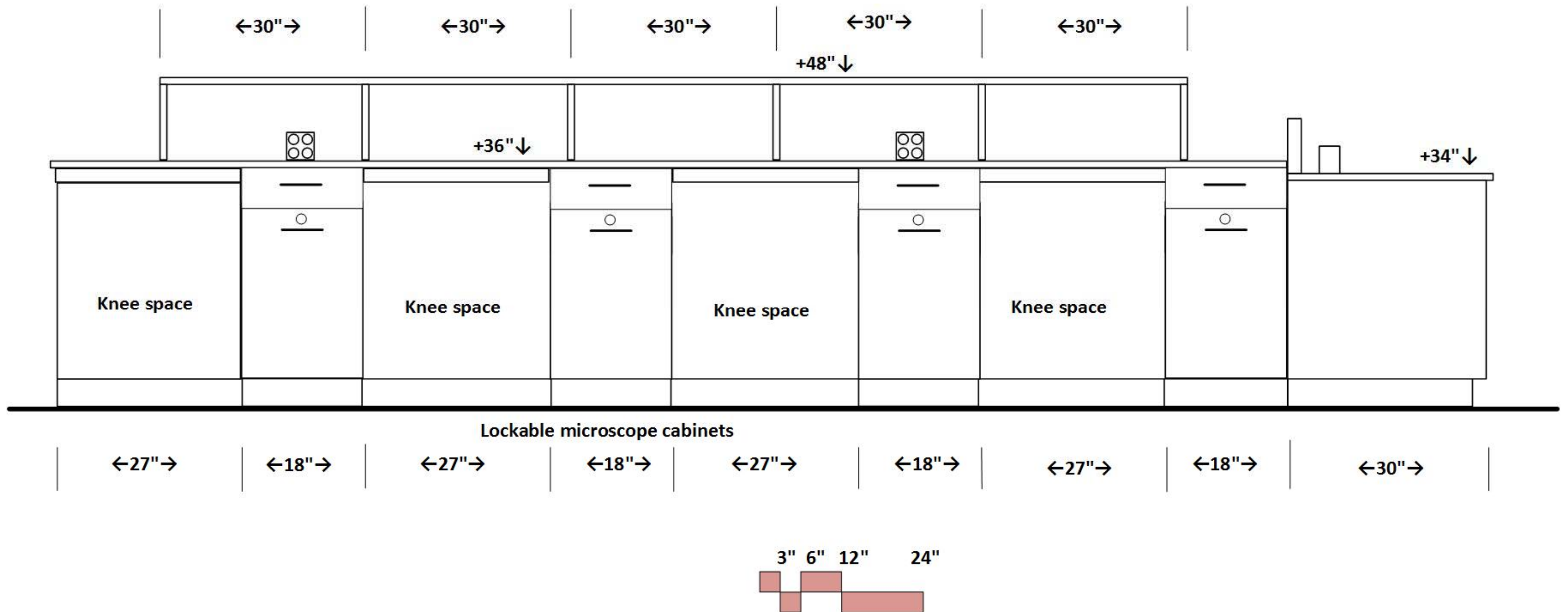
Elevation D





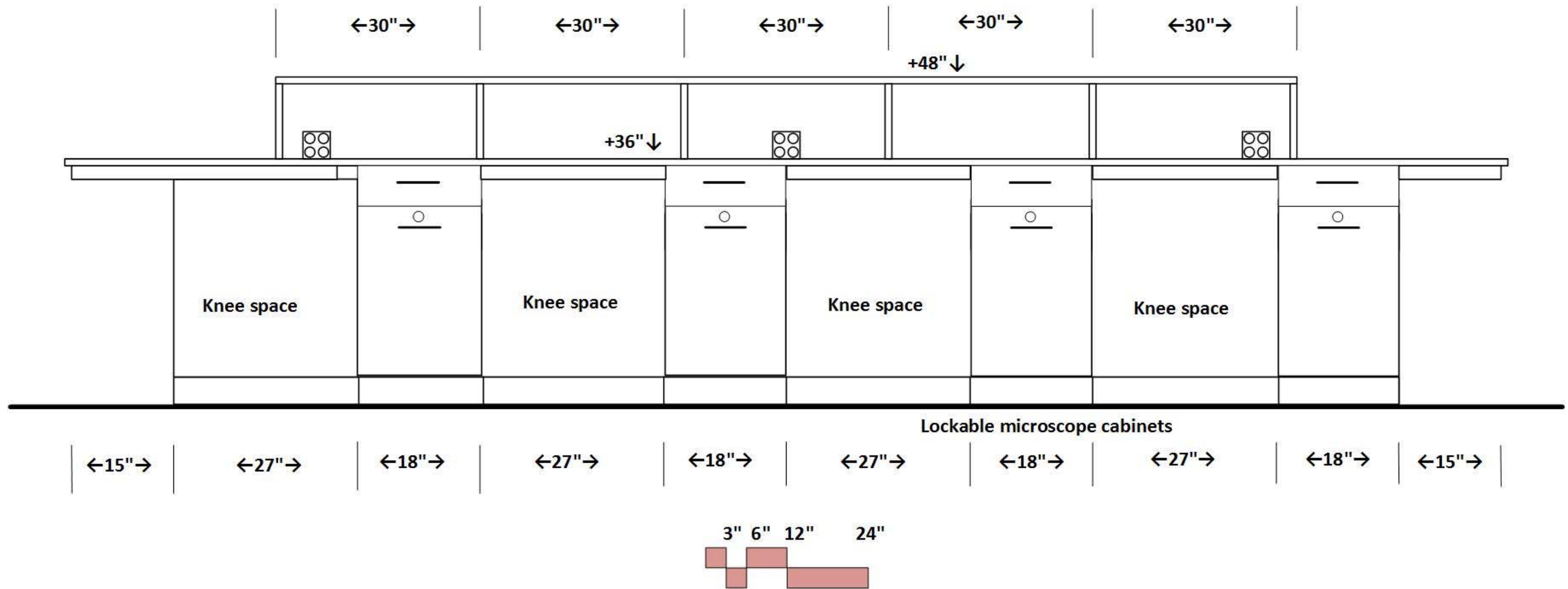
MICROBIOLOGY LABORATORY

Elevation F



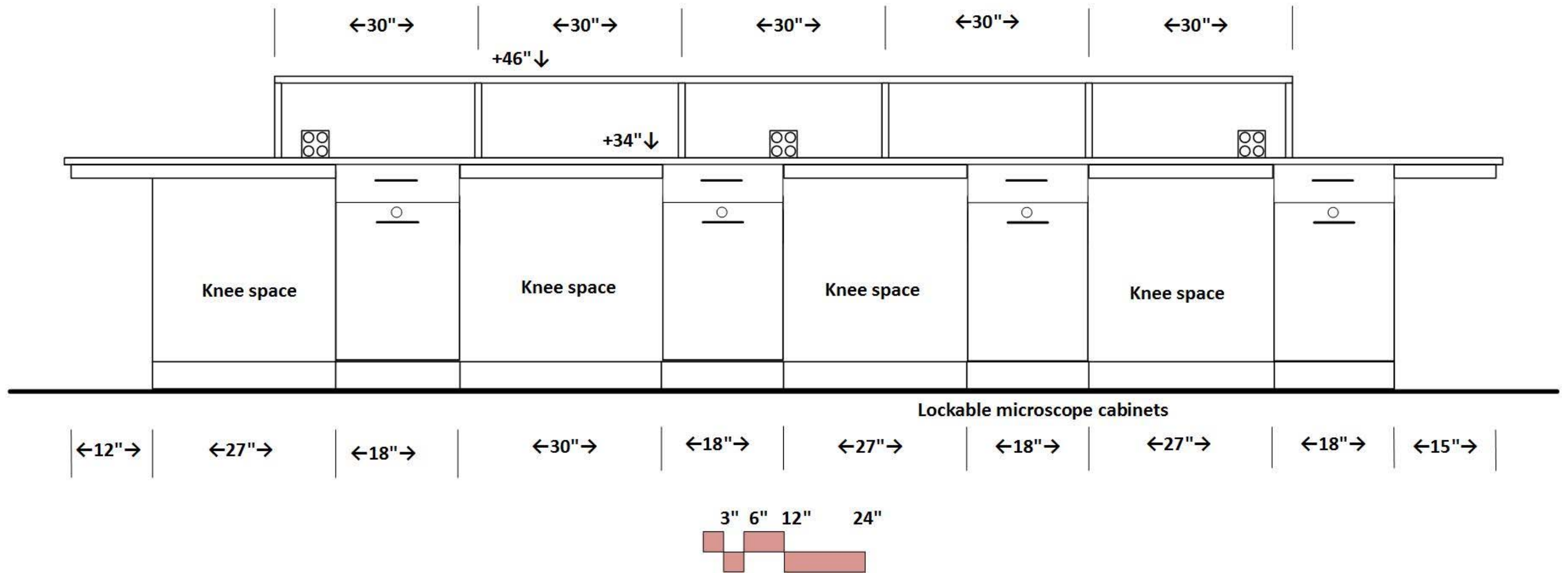
MICROBIOLOGY LABORATORY

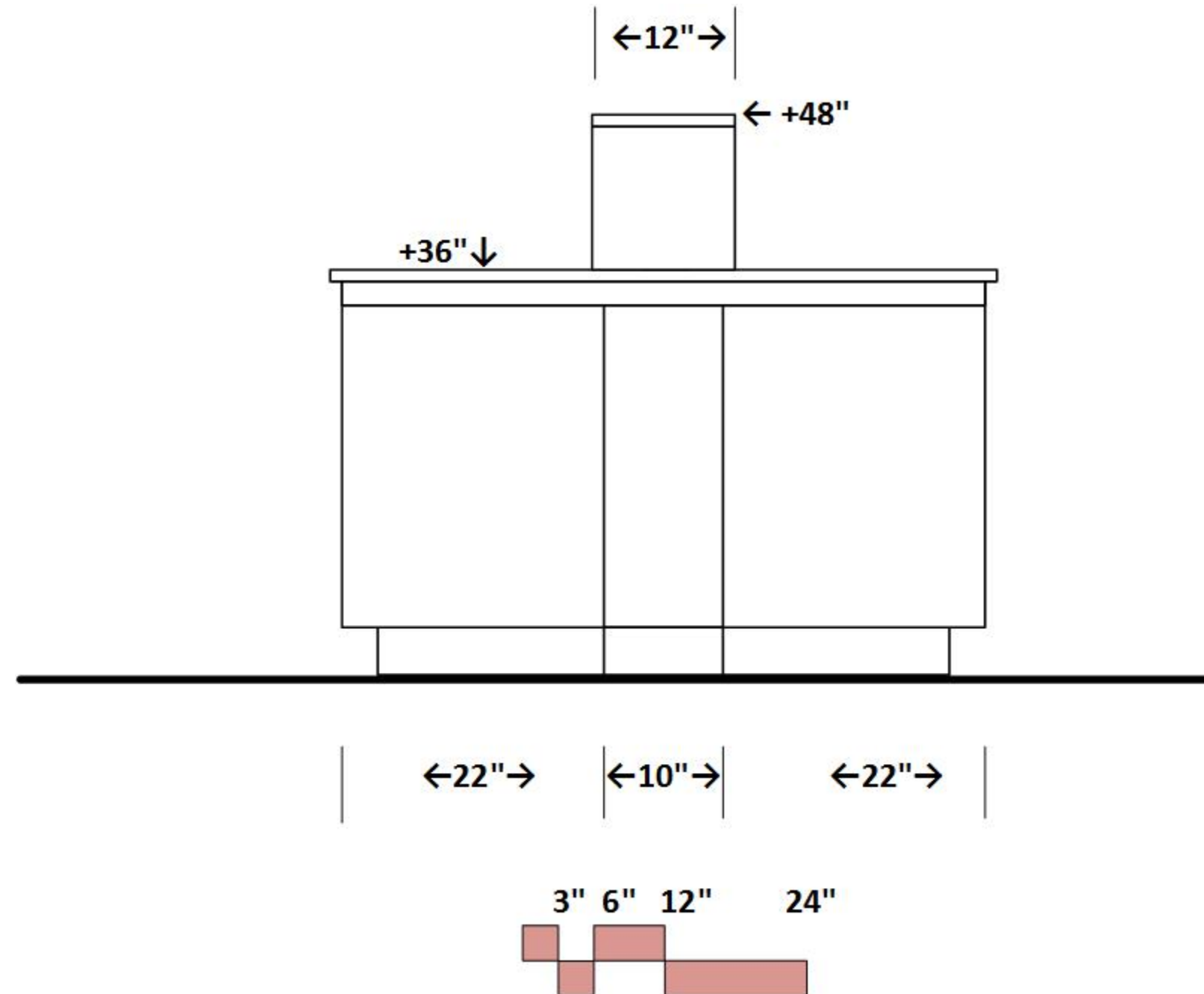
Elevation G



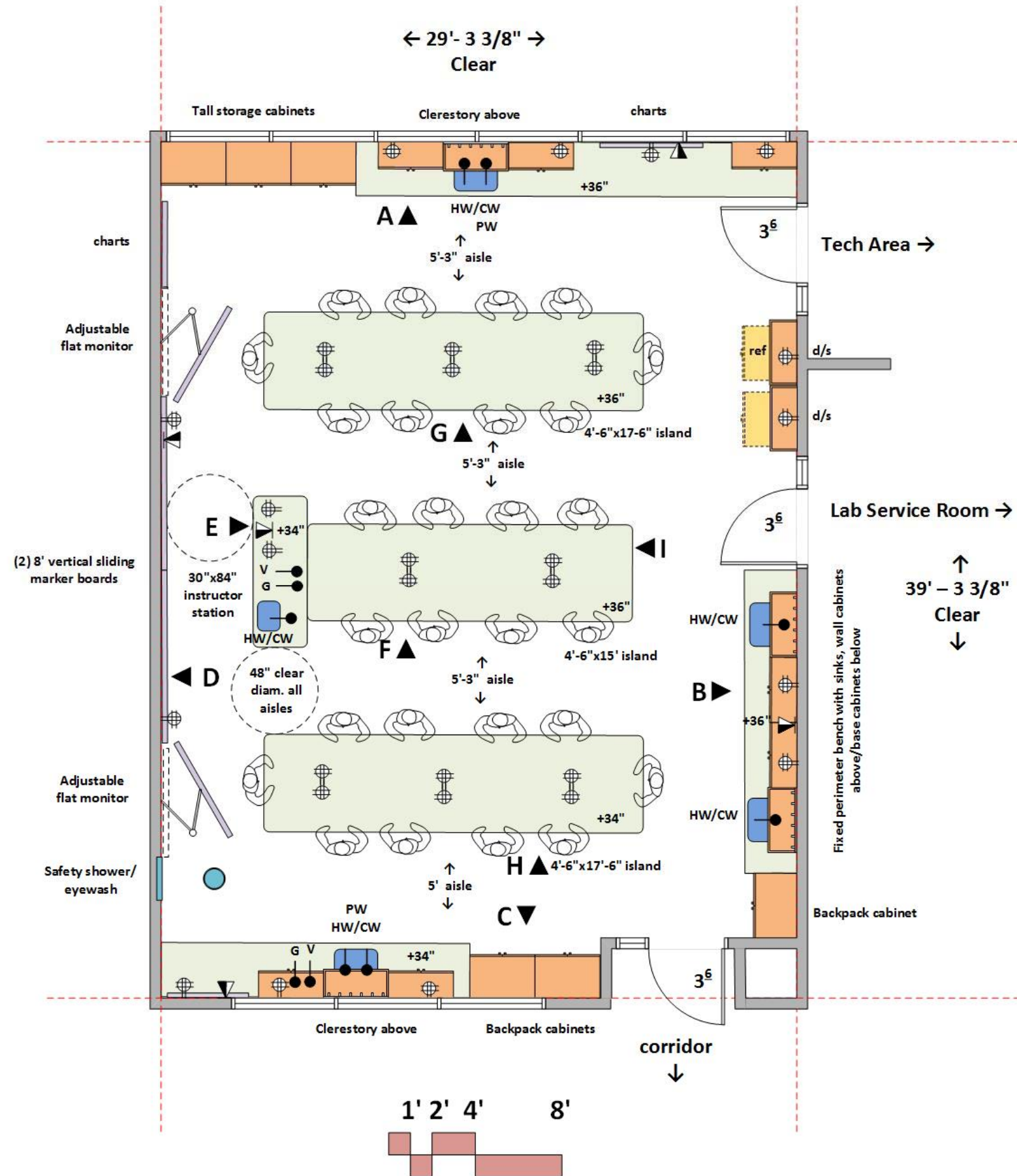
MICROBIOLOGY LABORATORY

Elevation H





ZOO/BOT/MARINE LABORATORY



ARCHITECTURAL

Occupancy: B
Floor: Vinyl tile
Walls: gypsum board and enamel paint
Ceiling: 10'-0" acoustic tile
Doors: 3⁶/x8⁰ framed glass
Windows: at exterior wall
Daylight attenuation: at exterior windows
Acoustic Attenuation: NC 40 or less
Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm; Temperature: 66-74 deg. F, +/- 2 deg. F
100% exhaust- no recirculation of air; Exhaust on emergency power supply
(6) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
(4) air changes per hour unoccupied
Pressure: Lab negative to corridor
Humidity: Ambient
Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
Data & Wireless data
Lighting: indirect LED @ 650 LUX with multi-level switching
Task lights below wall cabinets
Provide light switches at door

PLUMBING

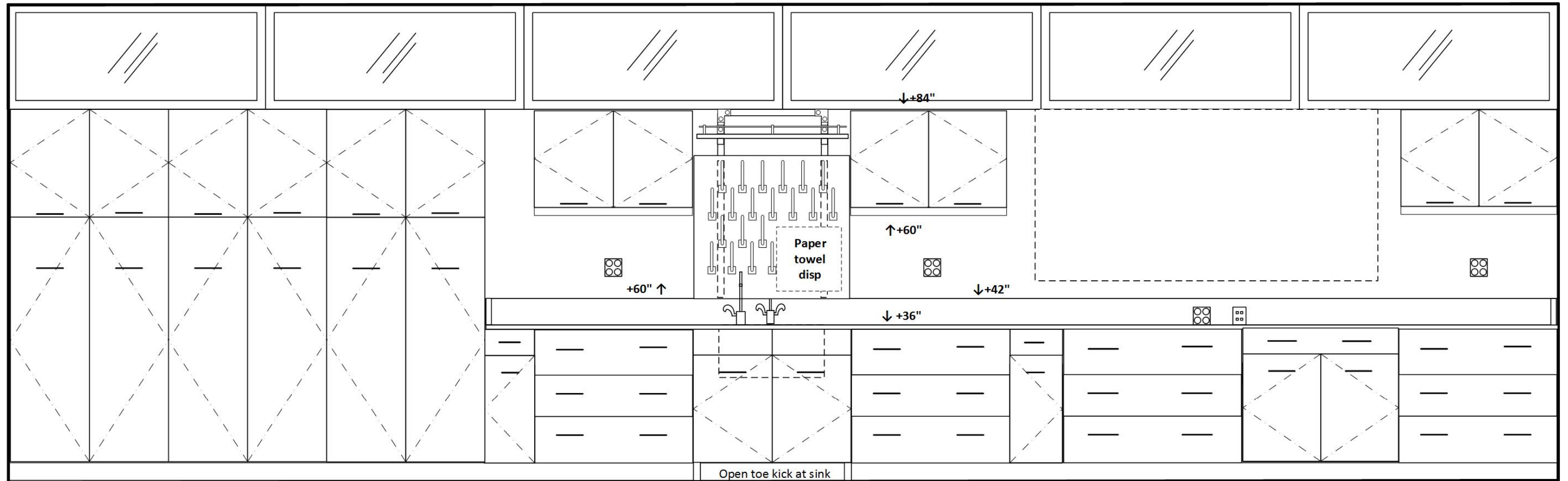
Hot/Cold water (HW/CW) at sinks with vacuum breakers
Pure water at sinks
Natural gas and vacuum
Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
Epoxy resin tops and sinks
Faucets & fittings
Safety shower/eyewash; Fire Extinguisher
Projection screens
Marker boards

OWNER FURNISHED EQUIPMENT

Chairs
Benchtop analytical instruments
Projection system

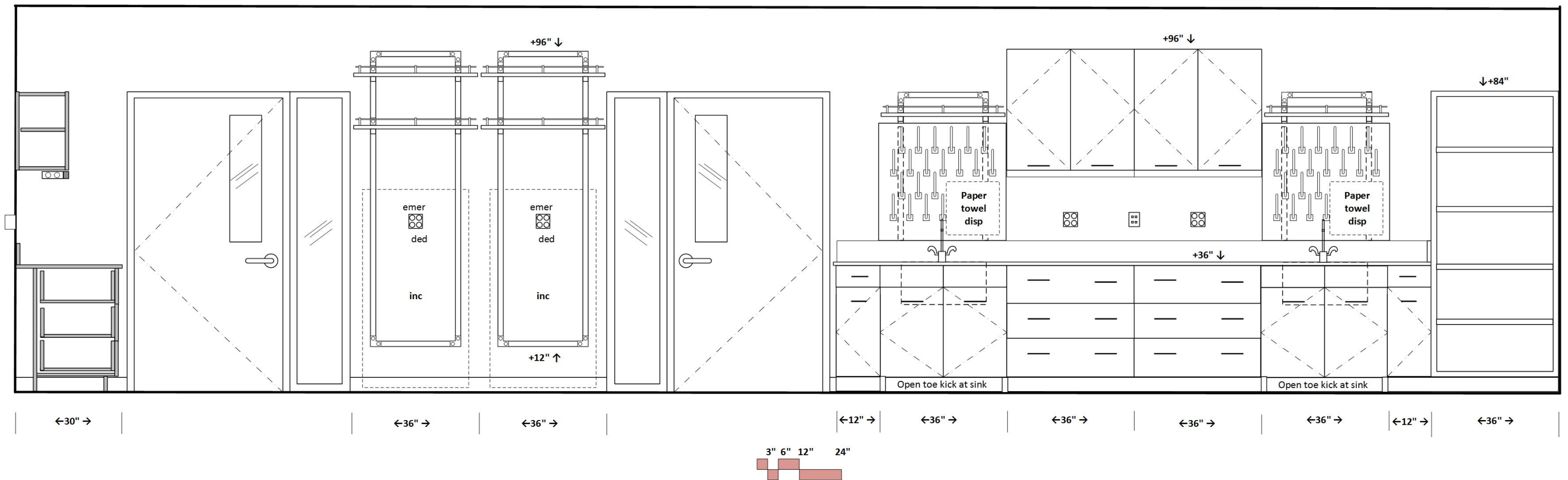


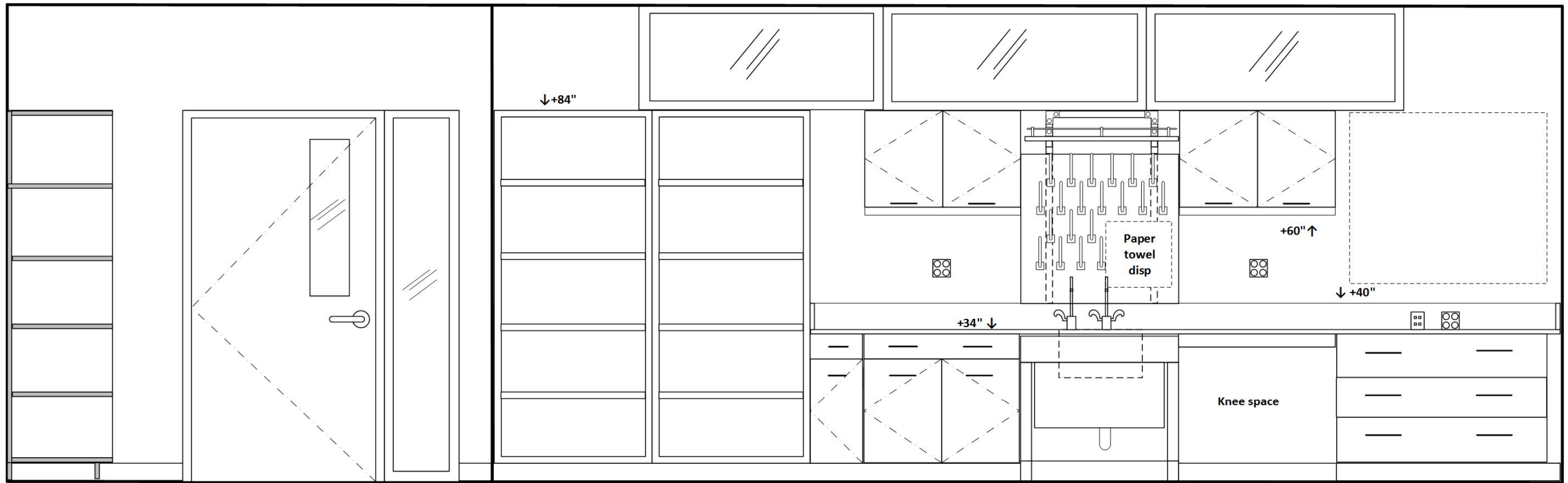
$\leftarrow 36'' \rightarrow$ $\leftarrow 36'' \rightarrow$ $\leftarrow 36'' \rightarrow$ $\leftarrow 12'' \rightarrow$ $\leftarrow 36'' \rightarrow$ $\leftarrow 36'' \rightarrow$ $\leftarrow 36'' \rightarrow$ $\leftarrow 12'' \rightarrow$ $\leftarrow 42'' \rightarrow$ $\leftarrow 36'' \rightarrow$ $\leftarrow 36'' \rightarrow$



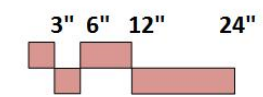
ZOO/BOT/MARINE LABORATORY

Elevation B





←24" → ←36" → ←36" → ←36" → ←36" → ←36" → ←51" →



Accessible sink station

Knee space

Paper towel disp

↓+84"

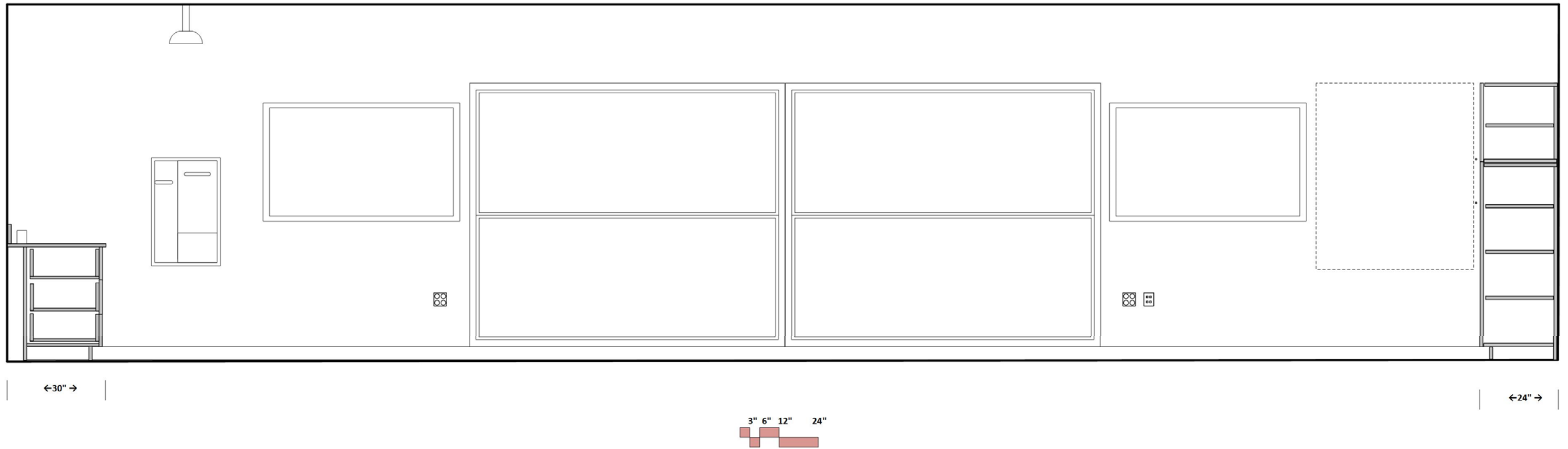
+60" ↑

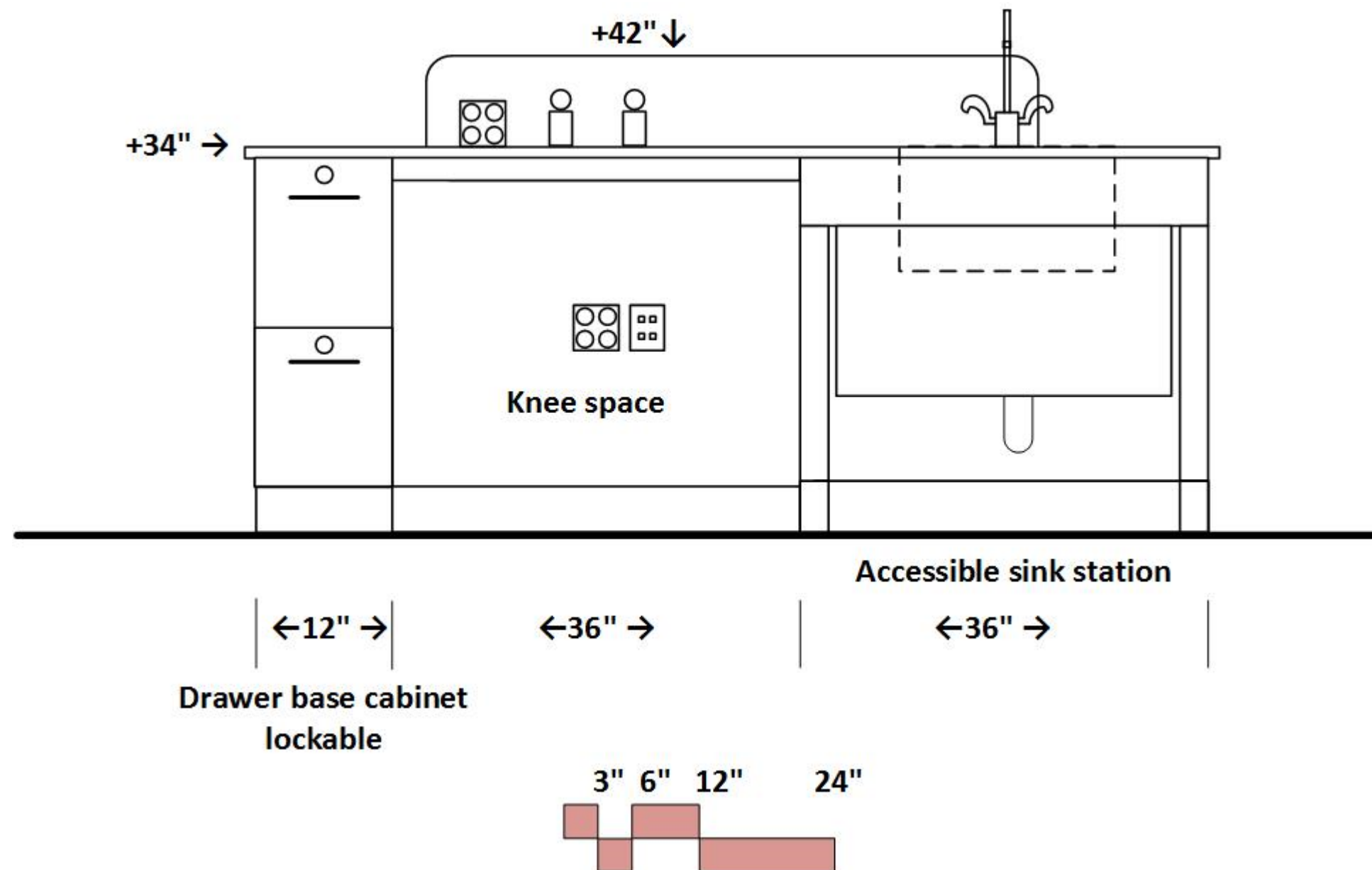
↓+40"

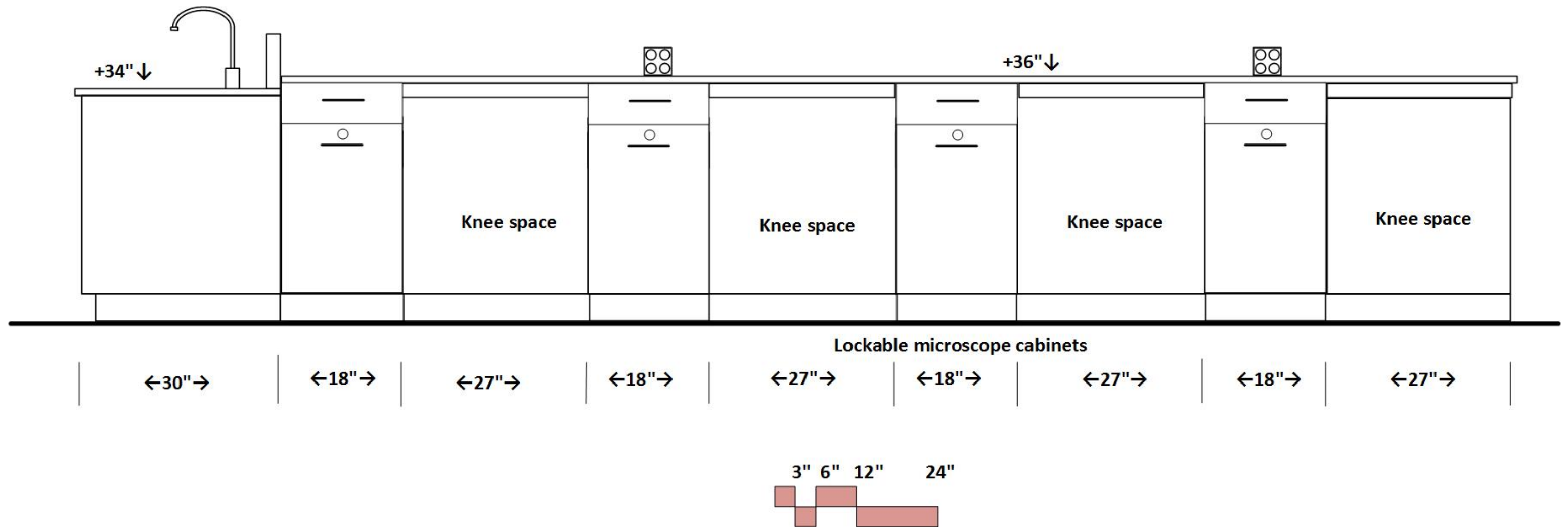
+34" ↓

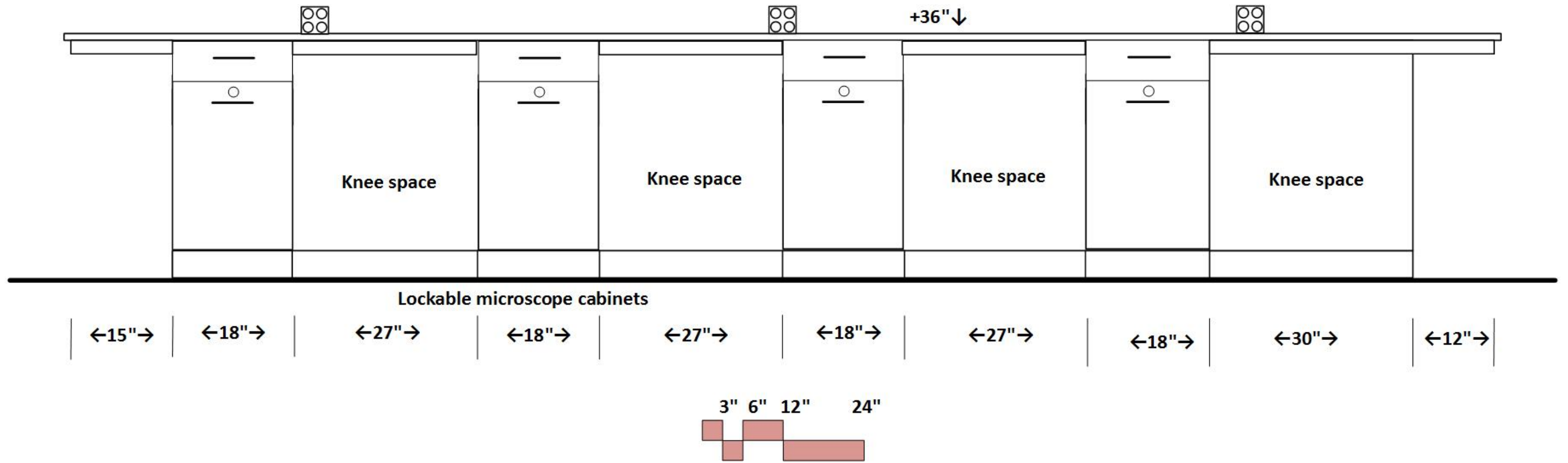
ZOO/BOT/MARINE LABORATORY

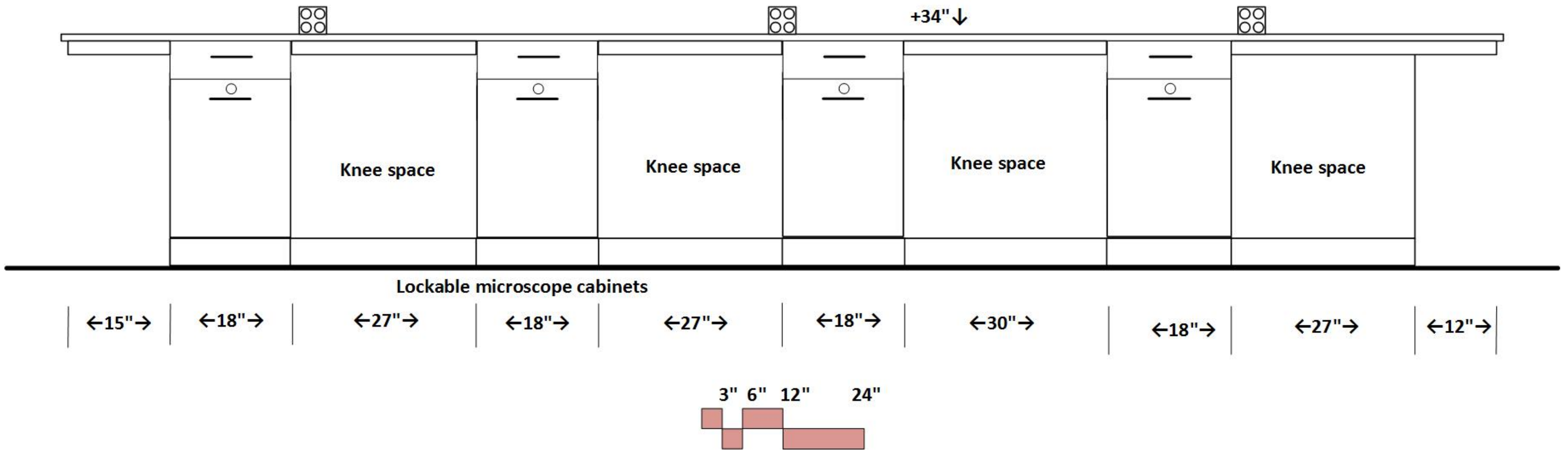
Elevation D

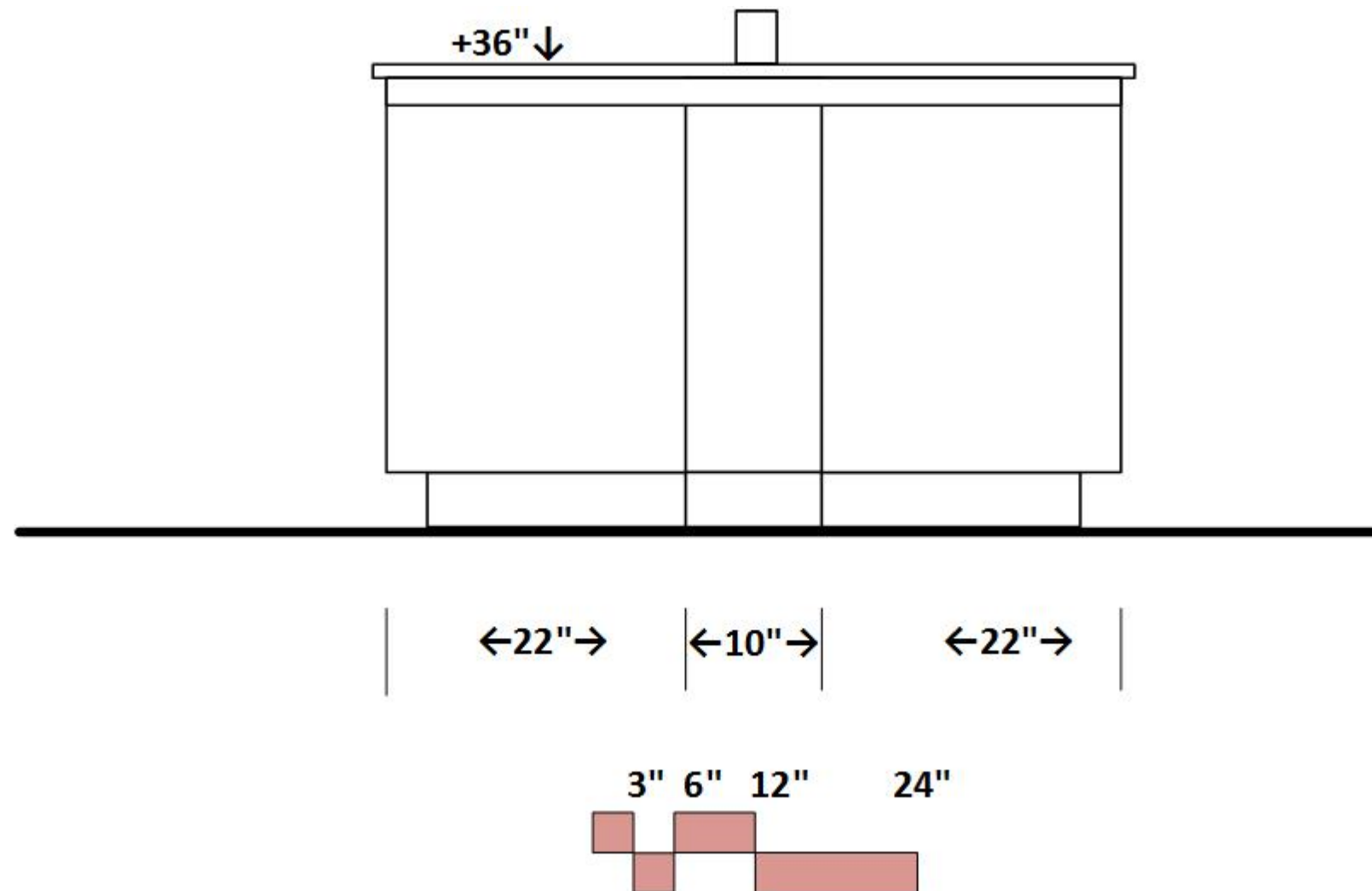




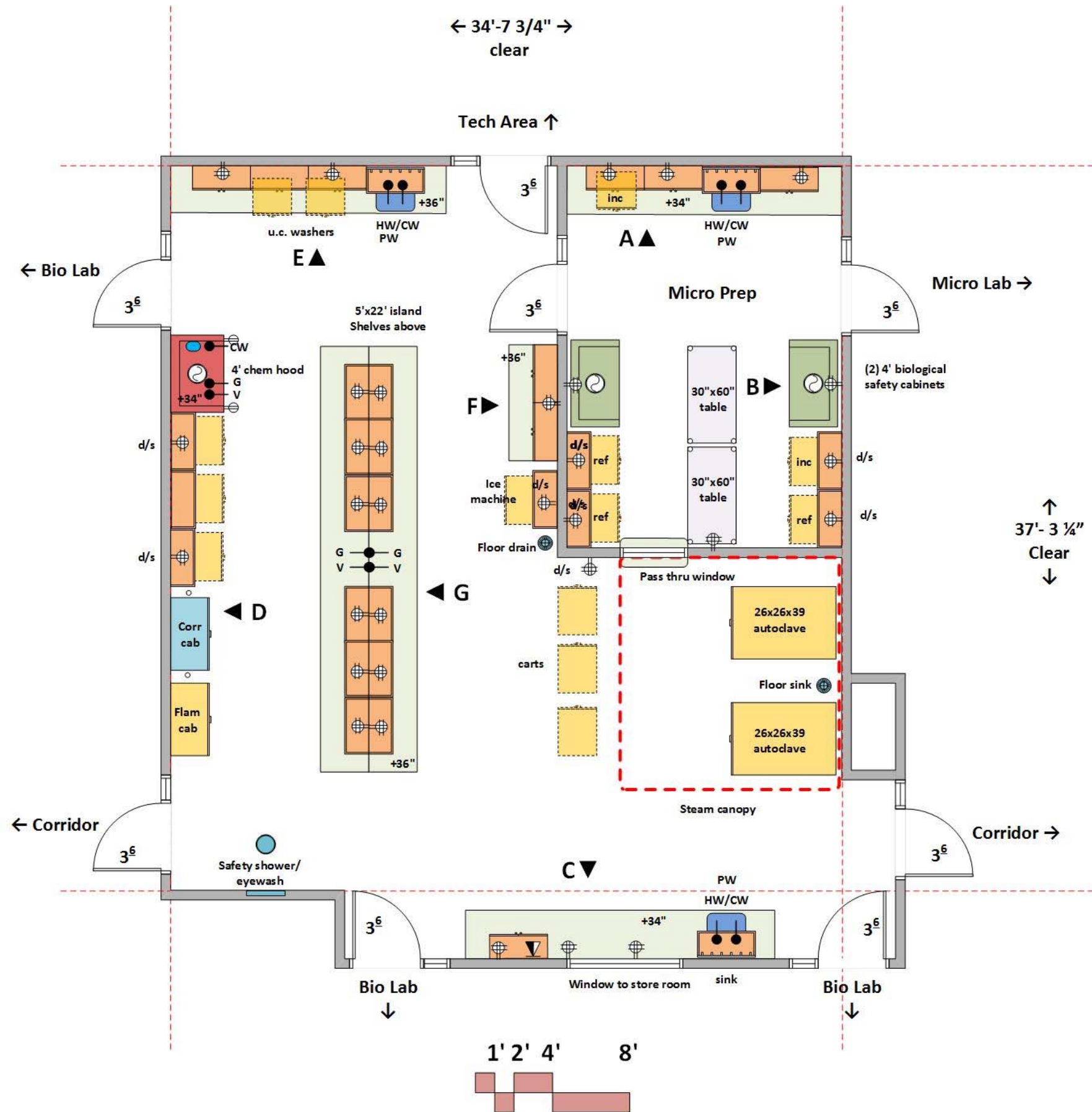








BIOLOGY LAB SERVICE



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 10'-0" acoustic tile
 Doors: 3⁶/x8⁰ framed glass
 Windows: at exterior wall
 Daylight attenuation: vertical perforated aluminum blinds at windows
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm; Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air; Exhaust on emergency power supply
 (6) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (4) air changes per hour unoccupied
 Pressure: Lab negative to corridor
 Humidity: Ambient
 Equipment Heat Gain: 50 btuh/sf
 500 c.f.m. exhaust at each fume hood (VAV)
 500 c.f.m. exhaust at each biological safety cabinet (VAV)

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 208v 30 amp single phase outlets
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX
 Task lights below wall cabinets
 Provide light switches at door
 Emergency power at equipment

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Hot/Cold water at undercounter glassware washer
 Pure water at each sink
 Natural gas and Vacuum at fume hood and island bench
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

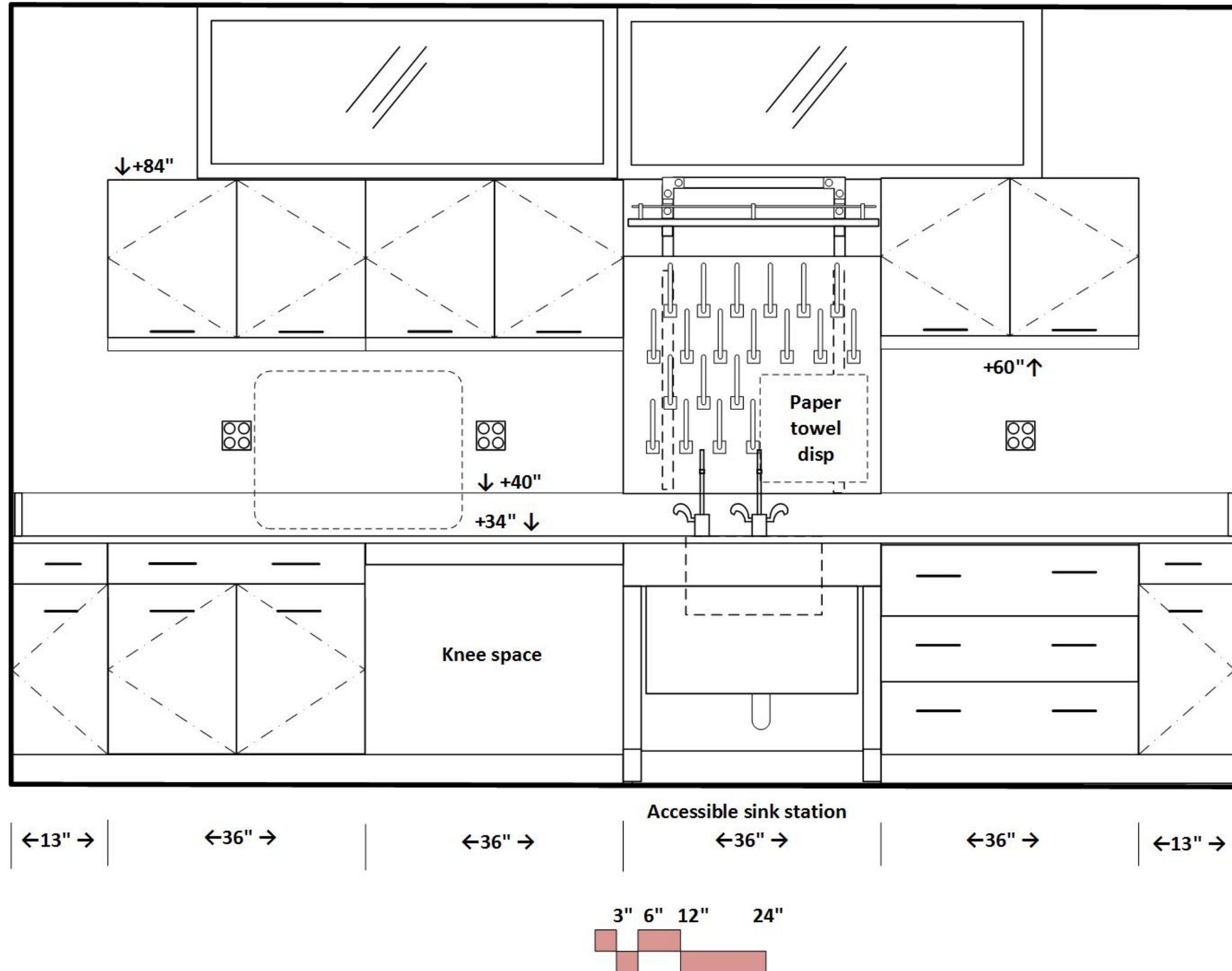
Wood (bamboo) casework - base cabinets, wall cabinets, tall cabinets
 Epoxy resin tops and sinks
 Provide large, deep sinks in Lab Service Rooms
 Faucets & fittings
 Chemical fume hood
 Biological safety cabinets- Class II Type C1 with thimble exhaust
 Safety shower/eyewash; Fire Extinguisher
 Undercounter glassware washer
 Autoclaves
 Ice machine and filter
 Steam canopy above autoclaves

OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop analytical instruments
 Refrigerators; Incubators

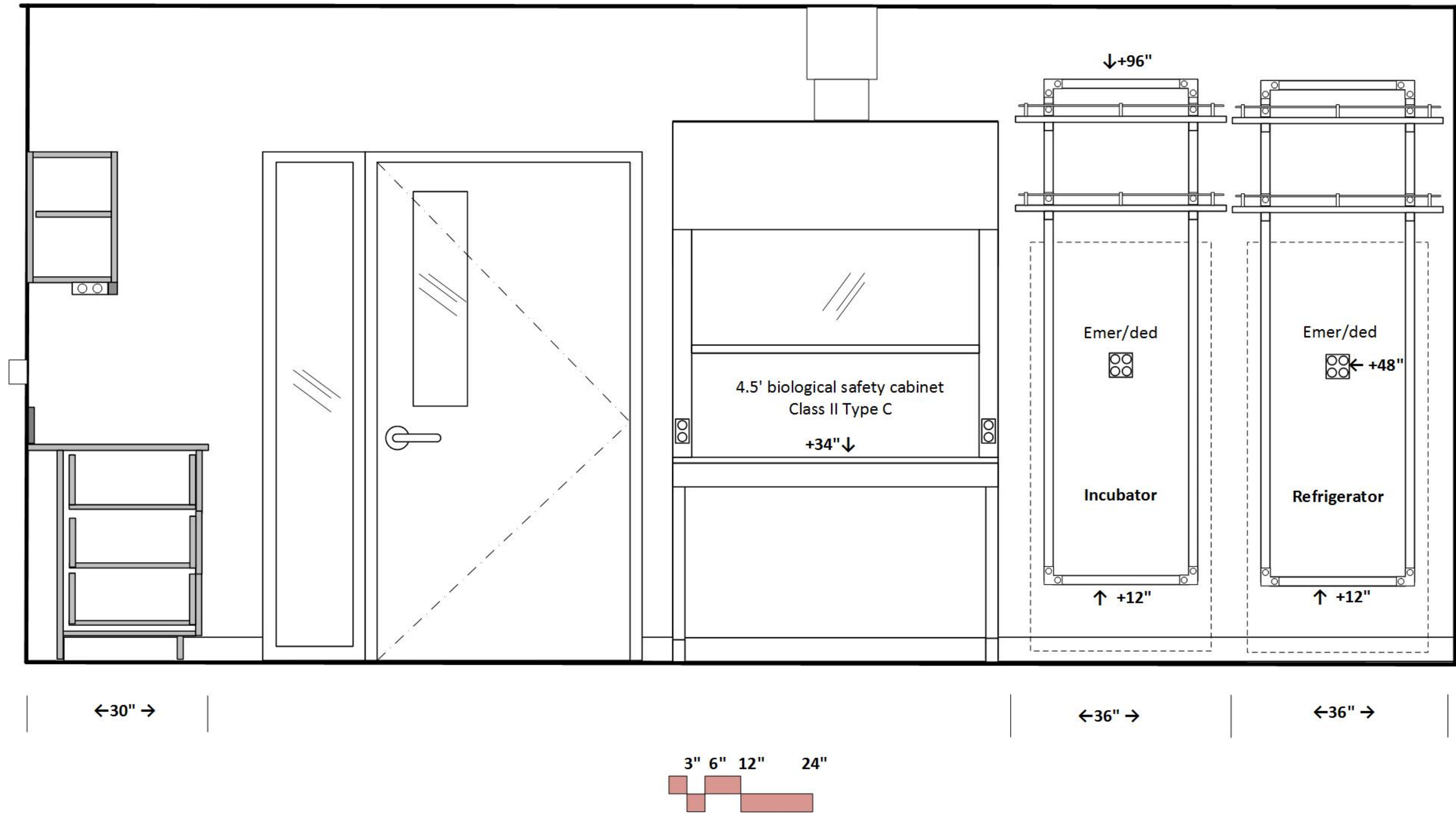
BIOLOGY LAB SERVICE

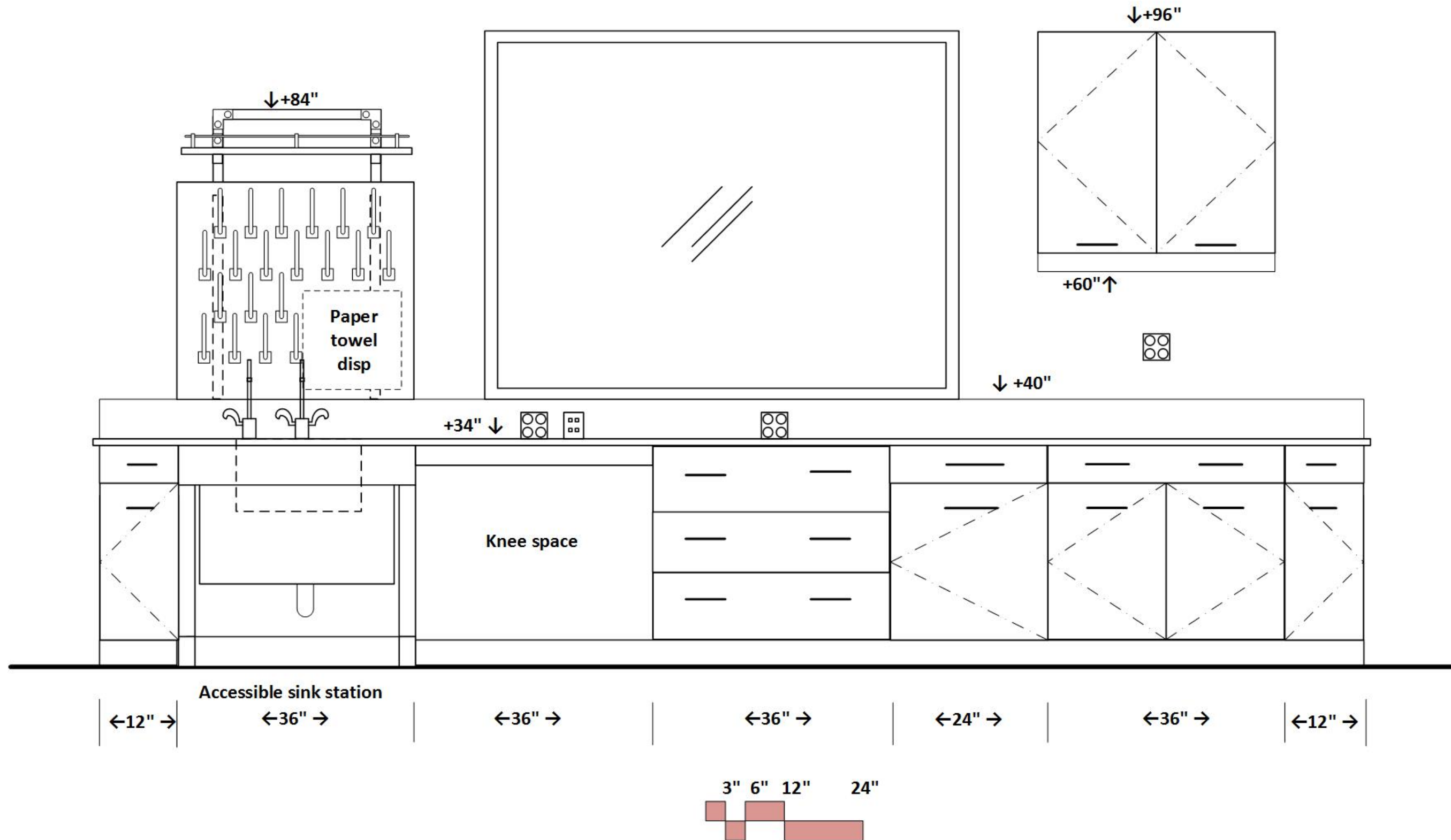
Elevation A



BIOLOGY LAB SERVICE

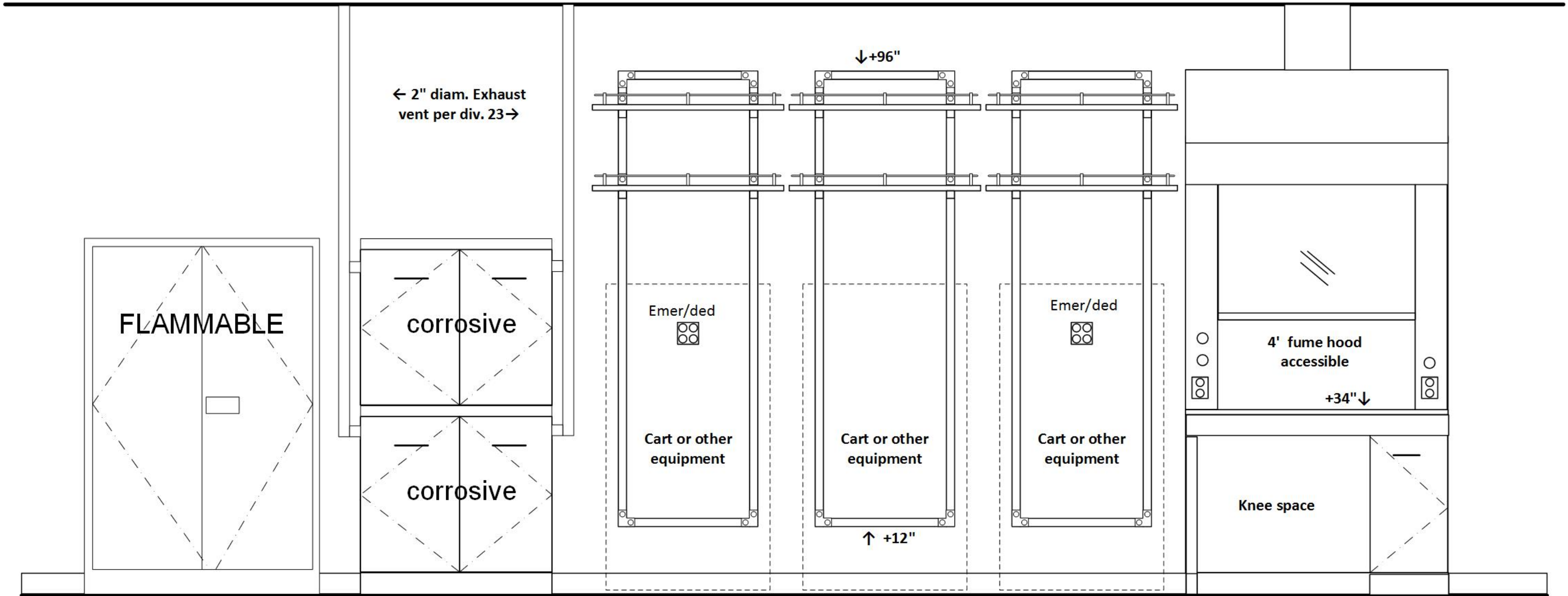
Elevation B





BIOLOGY LAB SERVICE

Elevation D



←43" →

←35" →

←36" →

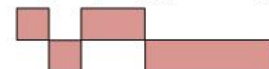
←36" →

←36" →

←36" →

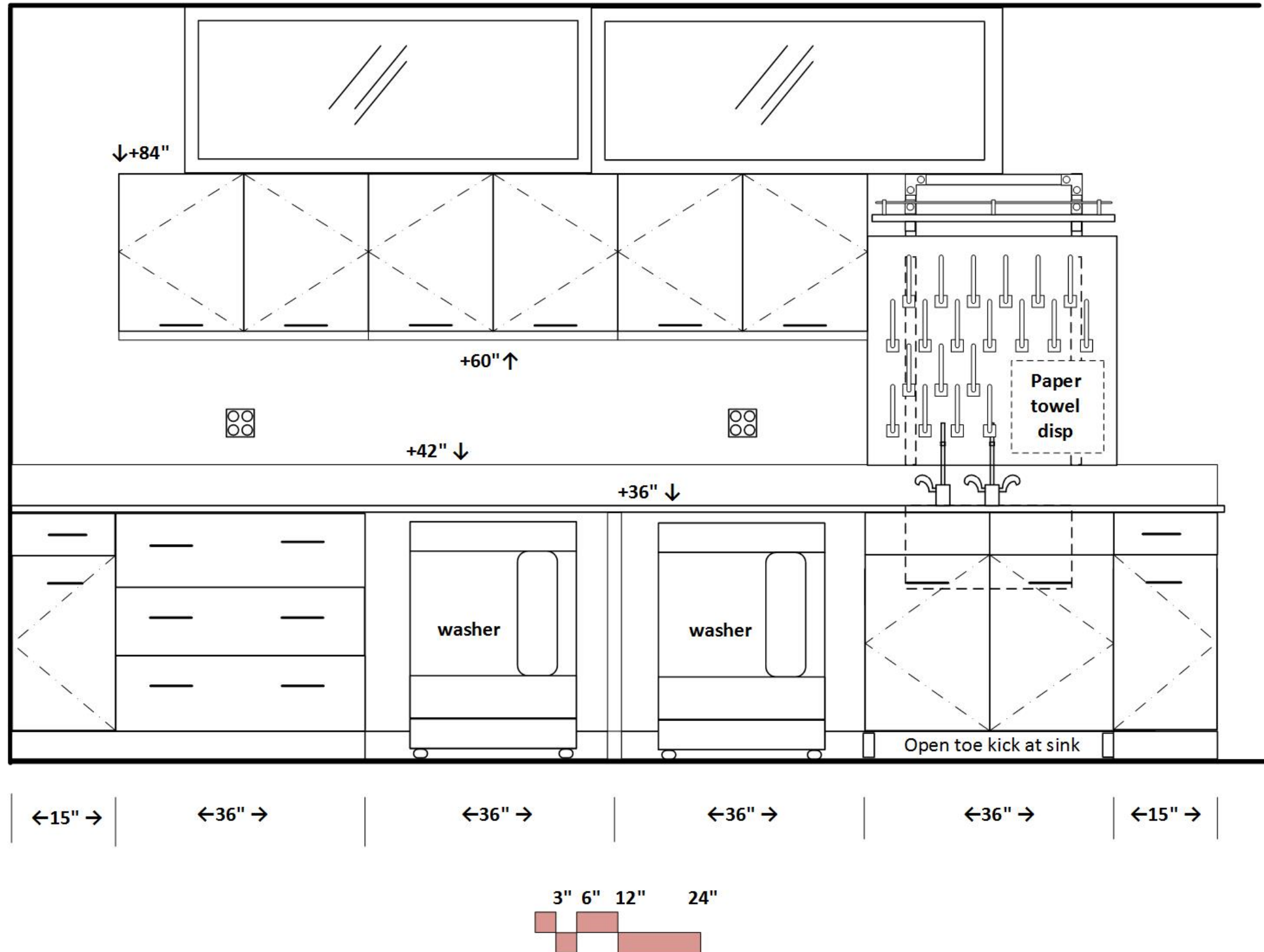
←12" →

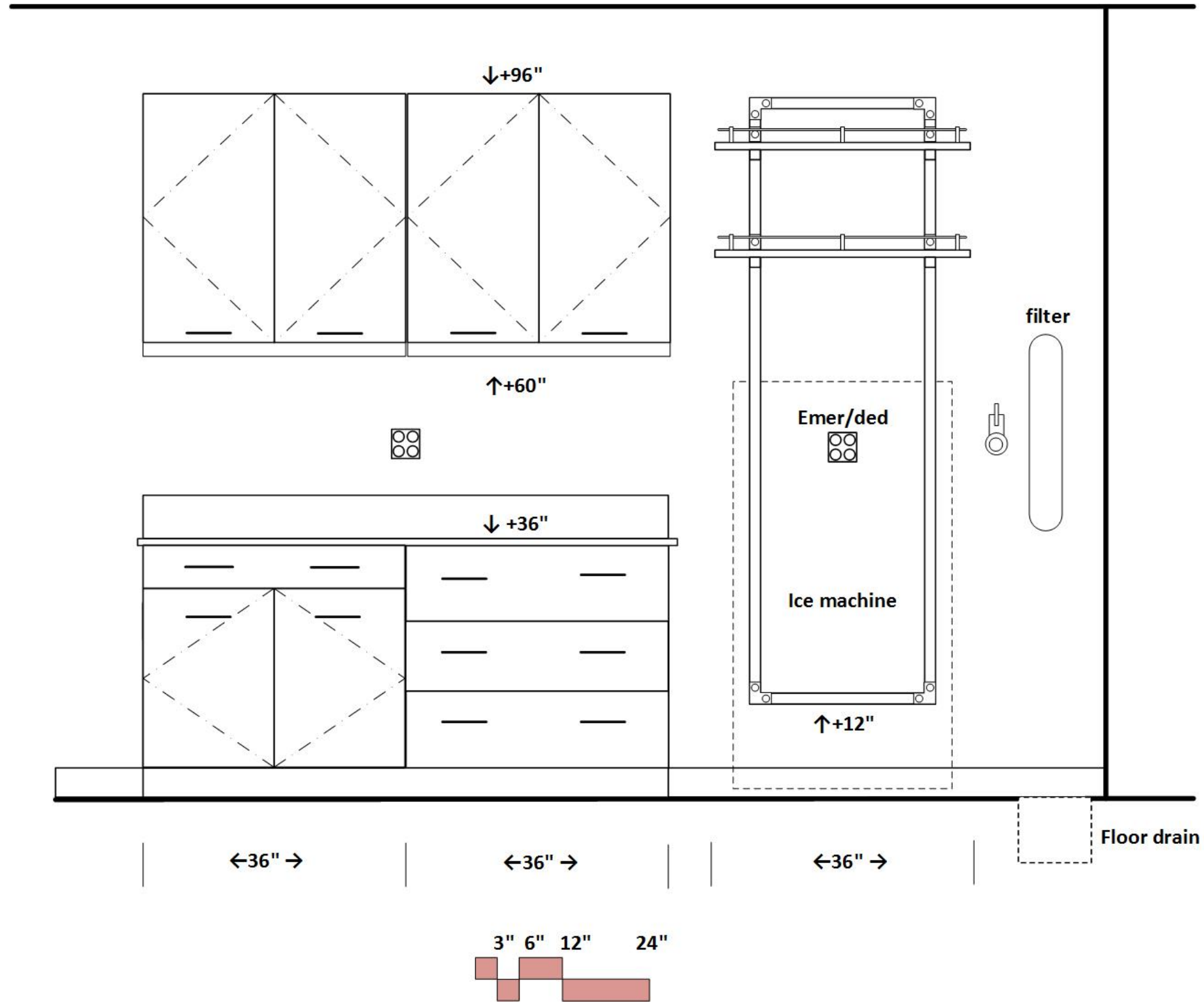
3" 6" 12" 24"



BIOLOGY LAB SERVICE

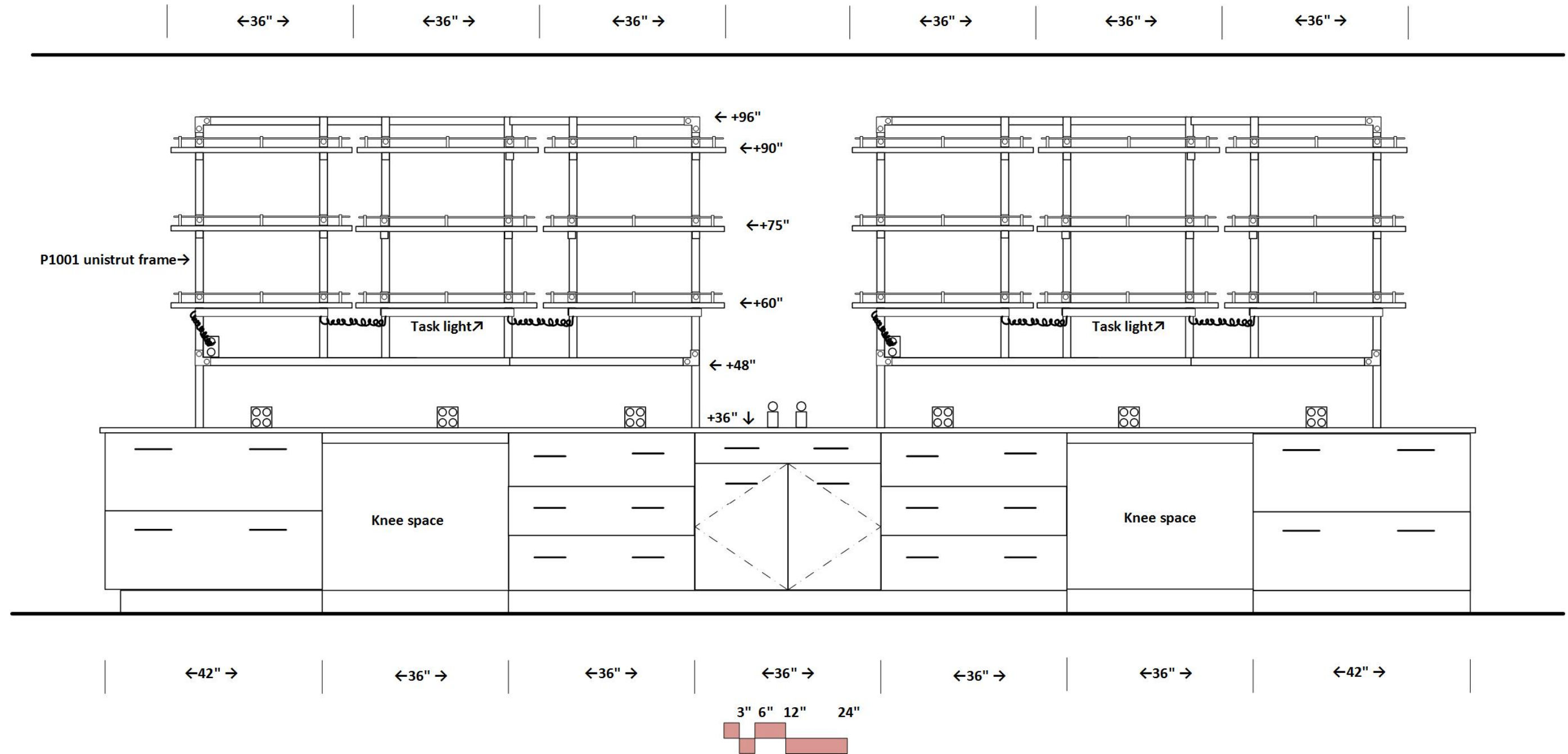
Elevation E



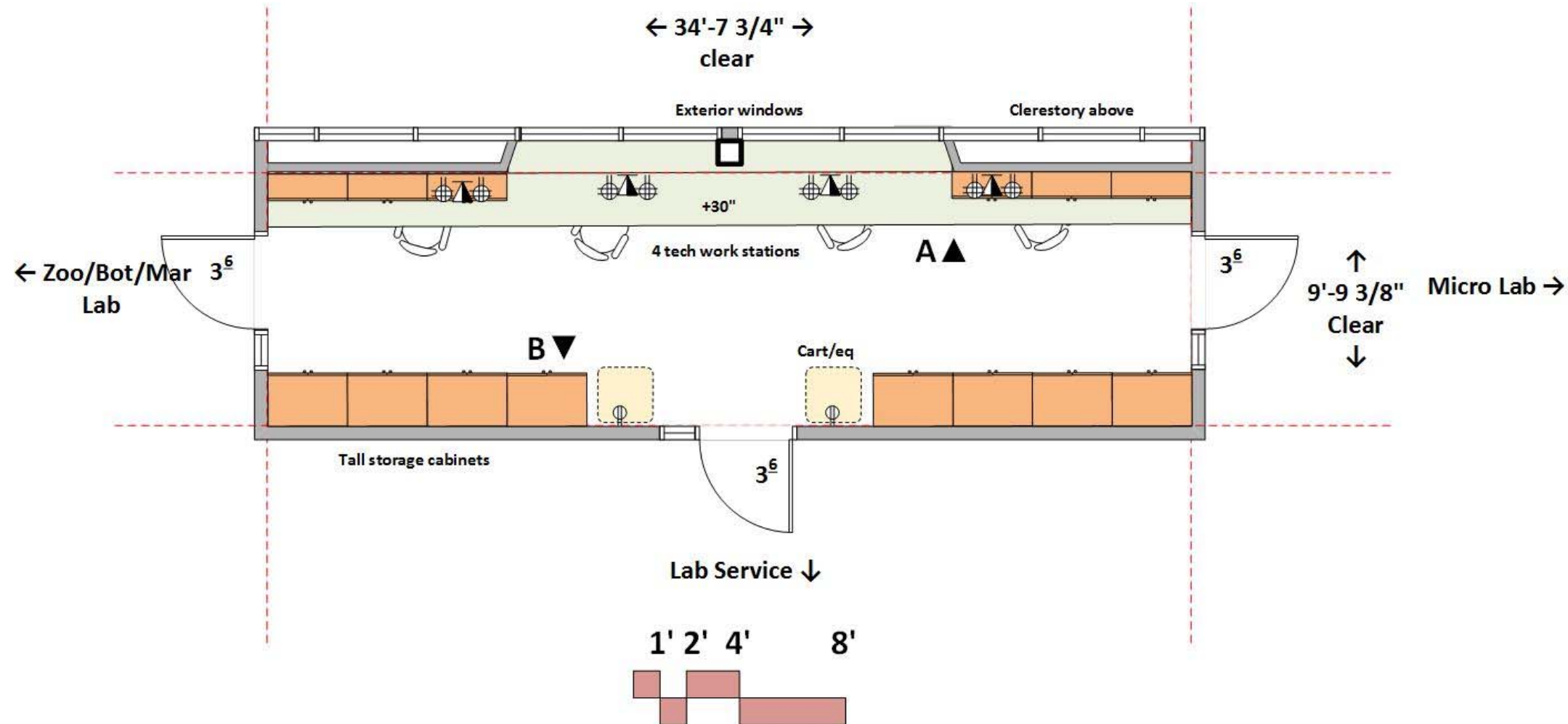


BIOLOGY LAB SERVICE

Elevation G



BIOLOGY TECH AREA



ARCHITECTURAL

Occupancy: B
 Floor: vinyl tile
 Walls: gypsum board and enamel paint
 Ceiling: 9' acoustic tile
 Doors: 3⁶/x8⁰ framed glass
 Windows: at exterior wall
 Daylight attenuation: at windows
 Acoustic Attenuation: NC 40 or less

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm; Temperature: 66-74 deg. F, +/- 2 deg. F
 100% exhaust- no recirculation of air; Exhaust on emergency power supply
 (4) air changes per hour minimum occupied (air change rate may be higher due to equipment heat gain)
 (2) air changes per hour unoccupied
 Pressure: Positive to adjacent labs
 Humidity: Ambient
 Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX
 Task lights below wall cabinets
 Provide light switches at door opening

PLUMBING

None

CONTRACTOR FURNISHED EQUIPMENT

Wood (bamboo) casework - base cabinets, wall cabinets
 Phenolic resin tops

OWNER FURNISHED EQUIPMENT

Chairs
 Carts

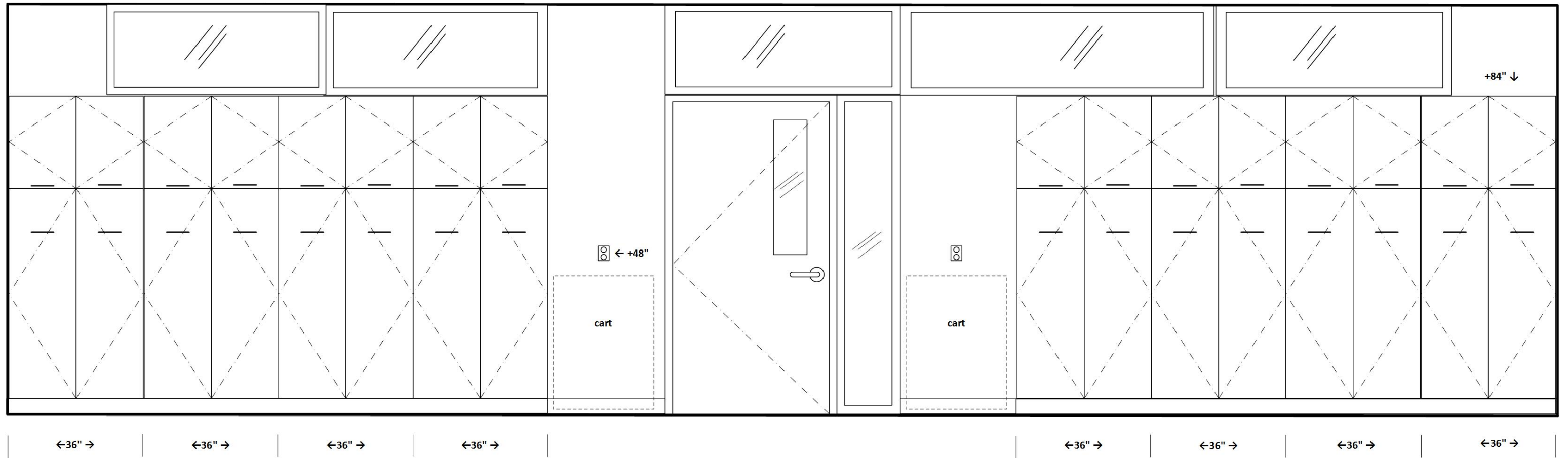
BIOLOGY TECH AREA

Elevation A

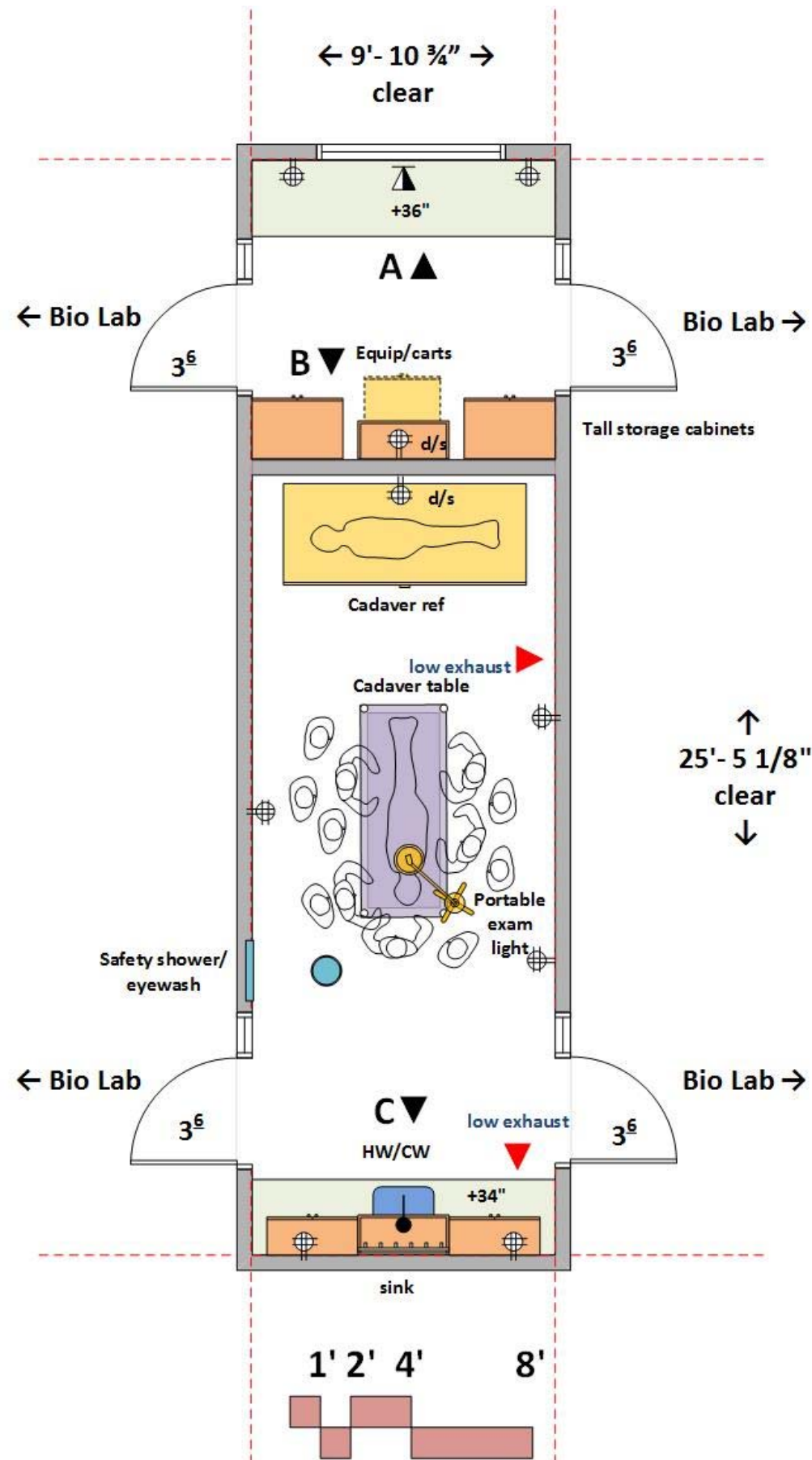


BIOLOGY TECH AREA

Elevation B



CADAVER/STORE ROOMS



ARCHITECTURAL

Occupancy: B
 Floor: troweled epoxy with covered base
 Walls: gypsum board and enamel paint
 Ceiling: 10'-0" mylar acoustic tile
 Doors: 3⁶x8⁰ framed glass
 Windows: None
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 6 am to 11 pm;
 Cadaver Temperature: 66-74 deg. F, +/- 2 deg. F
 Store Temperature: 72 deg. F +/- 2 deg. F
 100% exhaust- no recirculation of air; Exhaust on emergency power supply
 (20) air changes per hour minimum occupied Cadaver Room
 (12) air changes per hour unoccupied Cadaver Room
 (6) air changes per hour minimum occupied Store Room
 (4) air changes per hour minimum unoccupied Store Room
 Low exhaust at perimeter wall- 50% low exhaust/50% at ceiling Cadaver Room
 Pressure: negative to corridor
 Humidity: Controlled 30-50% relative Cadaver Room
 Humidity: Ambient Store Room
 Equipment Heat Gain: 25 btuh/sf

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Task lights below wall cabinets
 Exam light at ceiling
 Provide light switches at door
 Emergency power at equipment

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Natural gas; Vacuum
 Domestic water and drain at safety shower/eyewash

CONTRACTOR FURNISHED EQUIPMENT

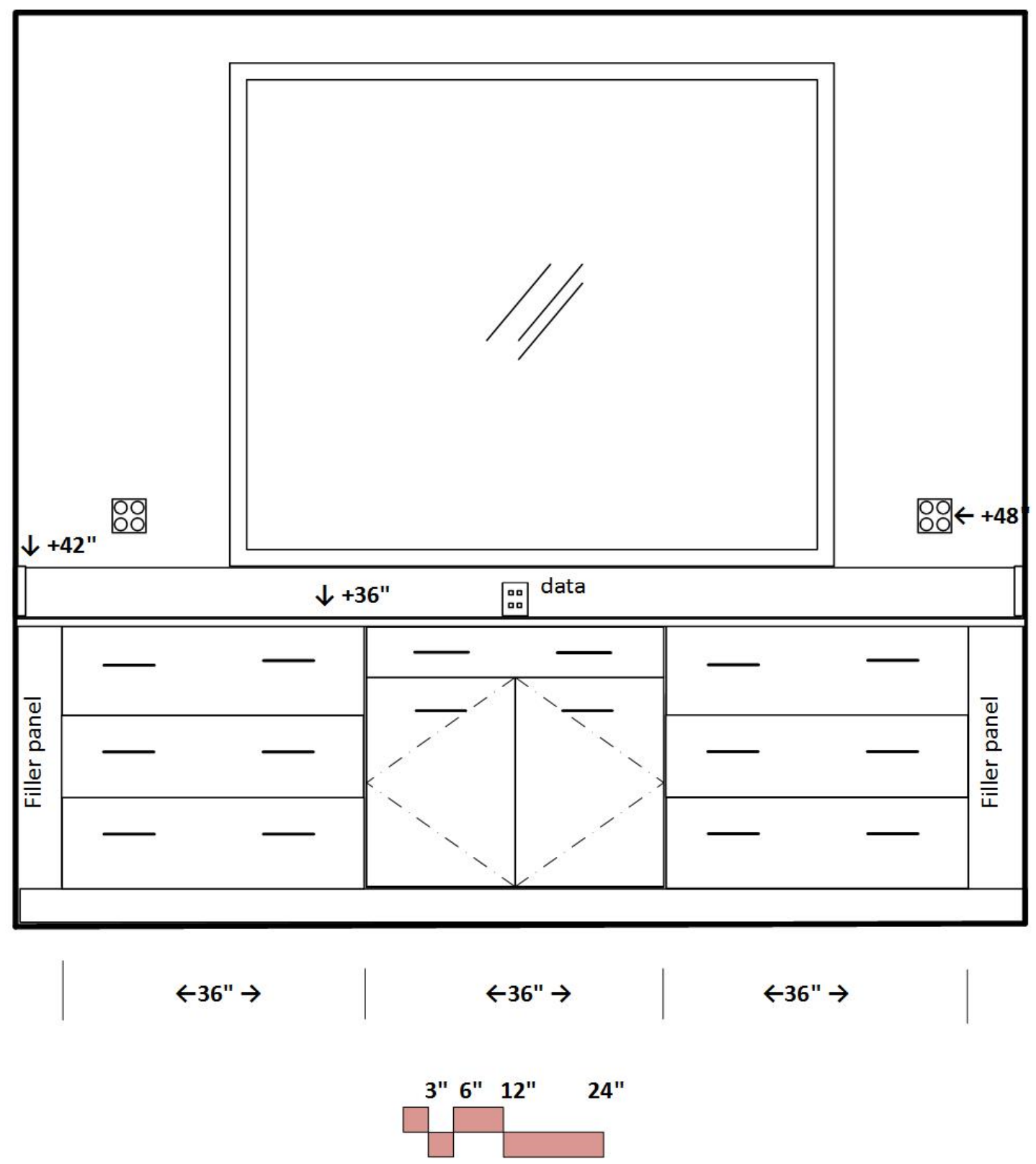
Wood casework Store Room
 Cadaver Room: 316L stainless steel casework - base cabinets, wall cabinets, tall cabinets; 316L stainless steel tops and sinks; 316L stainless steel casework hardware
 Faucets & fittings
 Provide large, deep sinks in Lab Service Rooms
 Safety shower/eyewash
 Fire Extinguisher
 Cadaver refrigerator
 Exam light

OWNER FURNISHED EQUIPMENT

Chairs
 Benchtop analytical instruments
 Cadaver gurneys

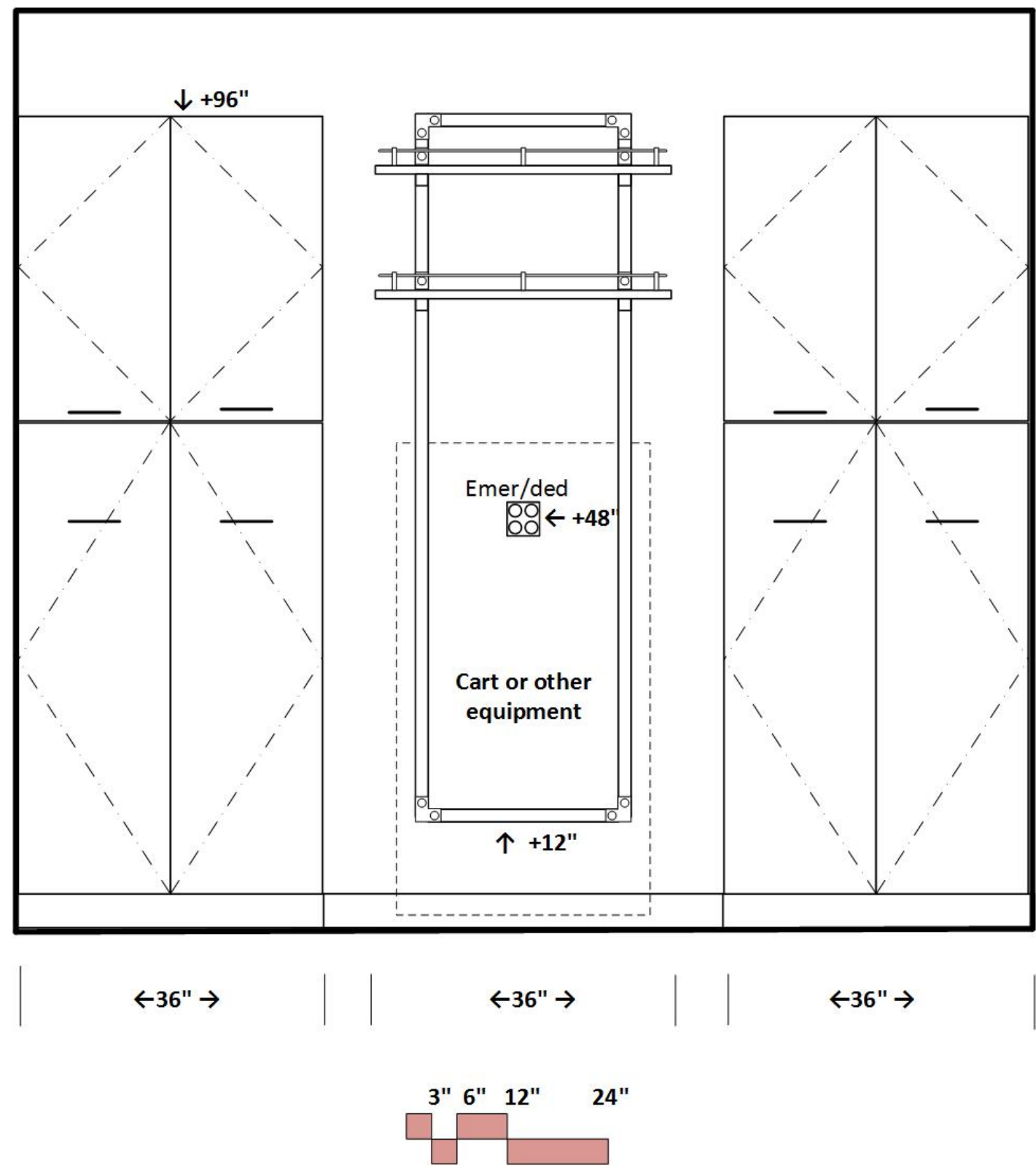
CADAVER/STORE ROOMS

Elevation A



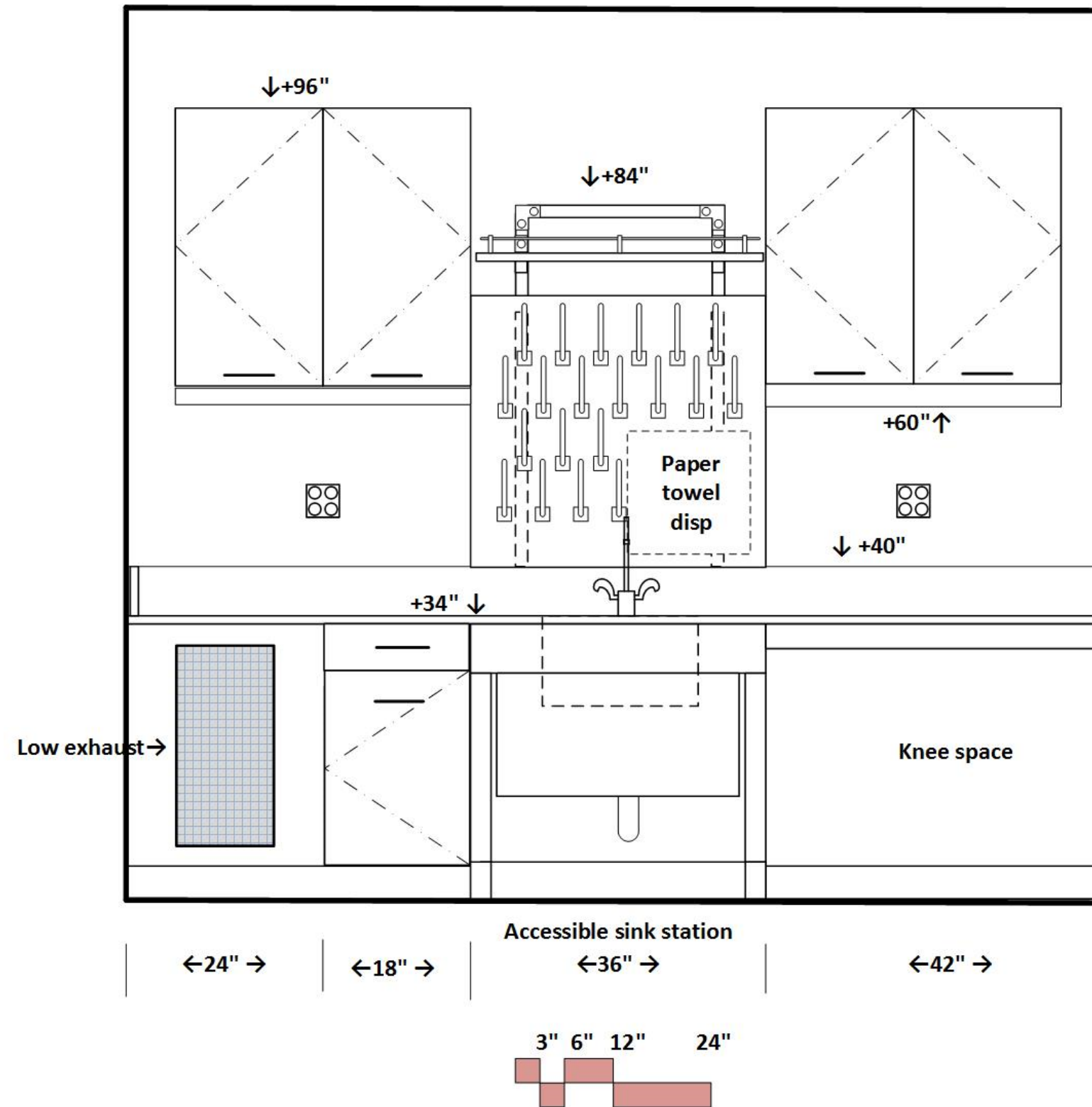
CADAVER/STORE ROOMS

Elevation B



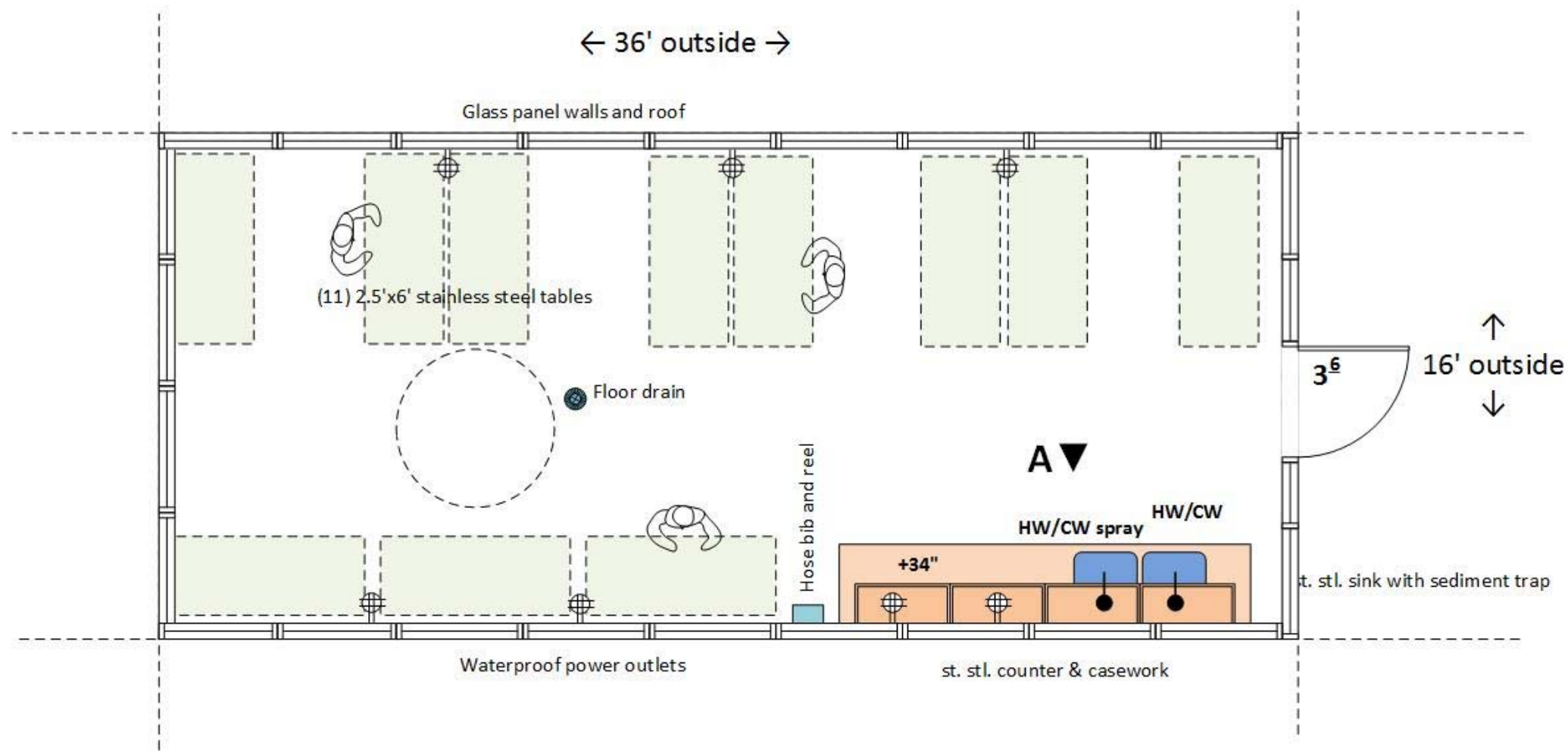
CADAVER/STORE ROOMS

Elevation C



GREENHOUSE

Consider adding herbarium and store/prep room to greenhouse during design phase



ARCHITECTURAL

Occupancy: B
 Floor: sealed concrete
 Walls: engineered greenhouse glass panels
 Ceiling: engineered greenhouse glass panels
 Doors: 3⁶x8⁰ framed glass
 Windows: walls and ceiling
 Acoustic Attenuation: NC 40 or less
 Security: key or card reader access

STRUCTURAL

Vibration attenuation: 4,000 microinches per second or less

MECHANICAL

Hours of operation: 24/7
 Temperature: 65 deg F-80 deg F
 Humidity: Controlled 30-90% relative

ELECTRICAL

110v fourplex and duplex outlets (maximum of four duplex per circuit)
 Data & Wireless data
 Lighting: indirect LED @ 650 LUX with multi-level switching
 Provide light switches at door

PLUMBING

Hot/Cold water (HW/CW) at sinks with vacuum breakers
 Cold water at hose bib
 Floor drain

CONTRACTOR FURNISHED EQUIPMENT

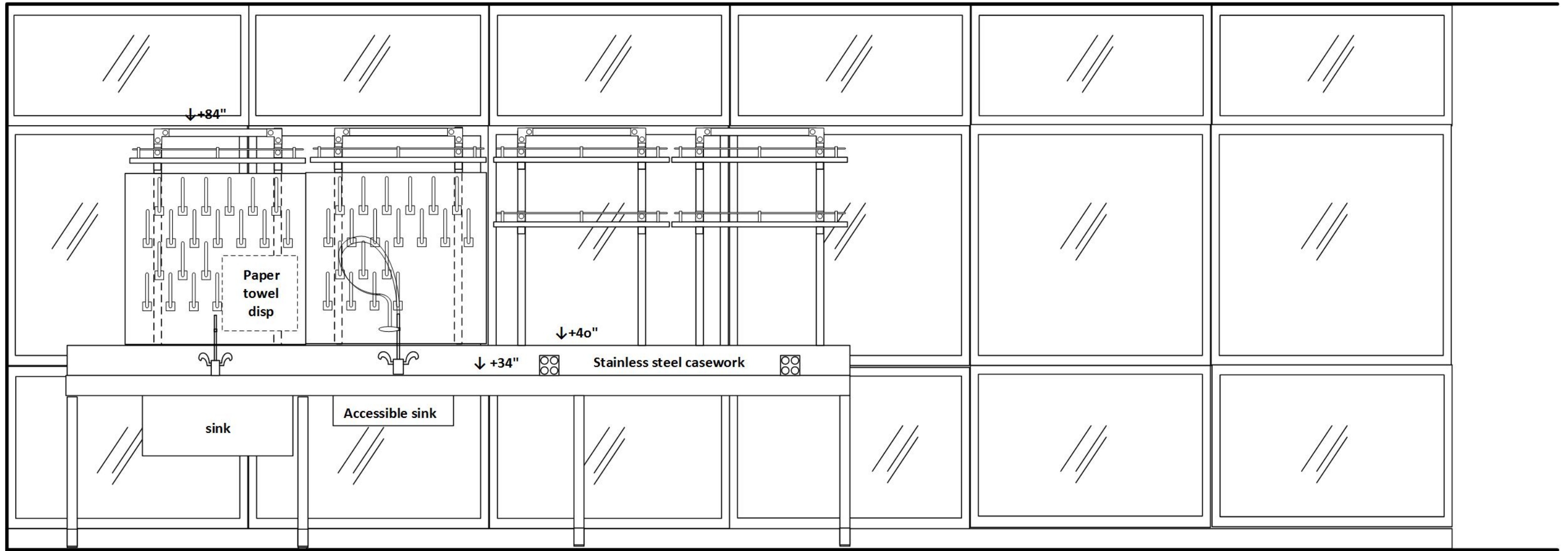
Stainless steel casework, sink
 casework hardware
 Faucets & fittings

OWNER FURNISHED EQUIPMENT

Stainless steel tables

GREENHOUSE

Elevation A



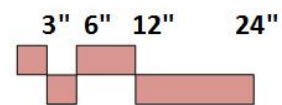
←48" →

←54" →

←54" →

←36" →

←36" →



FUME HOOD CUT SHEET

All fume hoods Variable Air Volume (VAV)
Design for 28" sash opening

Protector® XStream™ Laboratory Hoods



Protector XStream Laboratory Hood 9840600 is shown with Spill Stopper Work Surface 9849800, Protector Acid Storage Cabinet 9901100 and Protector Standard Storage Cabinet 9900100. Blower, ductwork, work surface and base cabinets must be ordered separately.

All models conform to the following regulations and standards:

- SEFA 1-2002
- NFPA 45-2000
- ASTM E84-01
- ASHRAE 110-95
- ANSI Z9.5-1993
- UL 3101-1/61010-1
- CAN/CSA C22.2 No. 1010.1
- UL 1805
- CE Conformity Marking (230 volt models)[†]

Fixture models feature:

- Two pre-plumbed service fixtures with forged brass valves, lower right side with brass tubing for gas and lower left side with copper tubing for cold water. Components for converting either or both fixtures to air and vacuum are provided. **Inlet tubing is not provided.**
- One pre-wired 115 volt, 20 amp electrical duplex receptacle on lower right side.

All models require (not included):

- **Remote Blower.** See back pocket.
- **Ductwork.** See back pocket.
- **Work Surface.** See pages 92-95.
- **Base Cabinet or Stand.** See pages 96-106.

Optional accessories for on-site installation include:

- **Service Fixture Kits.** See page 107.
- **Electrical Duplex Kits.** See page 108.
- **Guardian Jr. and Digital Airflow Monitor Kits.** See page 108.
- **Distillation Grid Kits.** See page 110.
- **Sash Stop Kits.** See page 108.
- **Snuffer Fire Extinguishers.** See page 110.
- **Ceiling Enclosure and Rear Finish Panel Kits.** See page 109.

[†] U.S. Patent No. 6,461,233

[†] pending

[†] Heights of switches, electrical receptacle and service fixtures meet requirements of ADA.

Exclusive Feature

Ordering Information

Protector® XStream™ Laboratory Hoods

ASHRAE 110-95 tests show less than 0.05 ppm leak rate when tested at 4.0 fpm; at OSHA-approved 60, 80, and 100 fpm face velocity and sash positions of 18" and 28". To ensure performance at 60 fpm, Labconco engineers challenged the Protector XStream Hood at less

than ideal conditions such as 30 fpm cross drafts, modified ASHRAE test procedures and average face velocities lower than 60 fpm. Contact Labconco for a technical paper with complete ASHRAE test data.

Total Exhaust CFM and Static Pressure @ 18" Sash Opening (60% open)

Nominal Width	100 fpm		80 fpm		60 fpm		CFM Savings at 60 fpm vs. 100 fpm	Total Average Annual Dollar Savings at 60 fpm vs. 100 fpm*
	s.p.	s.p.	s.p.	s.p.	s.p.	s.p.		
4 feet	470	0.11"	330	0.07"	230	0.04"	190	\$760
5 feet	610	0.13"	490	0.08"	370	0.05"	240	\$960
6 feet	750	0.15"	600	0.10"	450	0.06"	300	\$1200
8 feet	1060	0.12"	850	0.08"	640	0.04"	420	\$1680

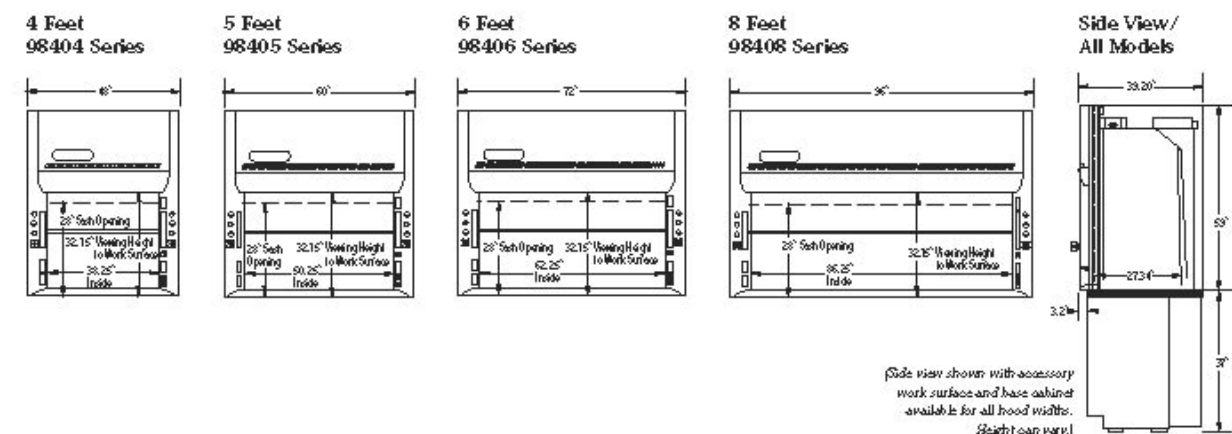
Total Exhaust CFM and Static Pressure @ 28" Sash Opening (100% open)

Nominal Width	100 fpm		80 fpm		60 fpm		CFM Savings at 60 fpm vs. 100 fpm	Total Average Annual Dollar Savings at 60 fpm vs. 100 fpm*
	s.p.	s.p.	s.p.	s.p.	s.p.	s.p.		
4 feet	730	0.25"	590	0.13"	440	0.08"	290	\$1160
5 feet	960	0.30"	770	0.19"	580	0.11"	380	\$1520
6 feet	1180	0.36"	940	0.23"	710	0.13"	470	\$1880
8 feet	1660	0.28"	1330	0.18"	1000	0.10"	660	\$2640

*Based on average annual dollars per CFM usage of \$4.00; fume hood operating 24 hours a day and 5 days per week (6240 hours per year).

Catalog Number	Nominal Width	Electrical Requirements	Exterior Depth	Interior Working Depth	Fluorescent Lamps	Service Fixtures	Electrical Duplex	Exhaust Collar(s)	Shipping Wt. lbs./kg
9840400	4 feet	115 volts, 60 Hz	39.20"	27.3"	(2) 25 watt	None	None	12.81" ID	400/181
9840401	4 feet	115 volts, 60 Hz	39.20"	27.3"	(2) 25 watt	2	1	12.81" ID	400/181
9840402**	4 feet	230 volts, 50 Hz	39.20"	27.3"	(2) 25 watt	None	None	12.81" ID	400/181
9840403**	4 feet	230 volts, 50 Hz	39.20"	27.3"	(2) 25 watt	2	None	12.81" ID	400/181
9840500	5 feet	115 volts, 60 Hz	39.20"	27.3"	(2) 32 watt	None	None	12.81" ID	460/209
9840501	5 feet	115 volts, 60 Hz	39.20"	27.3"	(2) 32 watt	2	1	12.81" ID	460/209
9840502**	5 feet	230 volts, 50 Hz	39.20"	27.3"	(2) 32 watt	None	None	12.81" ID	460/209
9840503**	5 feet	230 volts, 50 Hz	39.20"	27.3"	(2) 32 watt	2	None	12.81" ID	460/209
9840600	6 feet	115 volts, 60 Hz	39.20"	27.3"	(2) 32 watt	None	None	12.81" ID	520/236
9840601	6 feet	115 volts, 60 Hz	39.20"	27.3"	(2) 32 watt	2	1	12.81" ID	520/236
9840602**	6 feet	230 volts, 50 Hz	39.20"	27.3"	(2) 32 watt	None	None	12.81" ID	520/236
9840603**	6 feet	230 volts, 50 Hz	39.20"	27.3"	(2) 32 watt	2	None	12.81" ID	520/236
9840800	8 feet	115 volts, 60 Hz	39.20"	27.3"	(4) 25 watt	None	None	(2) 12.81" ID	700/318
9840801	8 feet	115 volts, 60 Hz	39.20"	27.3"	(4) 25 watt	2	1	(2) 12.81" ID	700/318
9840802**	8 feet	230 volts, 50 Hz	39.20"	27.3"	(4) 25 watt	None	None	(2) 12.81" ID	700/318
9840803**	8 feet	230 volts, 50 Hz	39.20"	27.3"	(4) 25 watt	2	None	(2) 12.81" ID	700/318

**International electrical configuration



All models feature:

- Modified by-pass airflow design.
- Ergonomic air foil with aerodynamic Clean-Sweep* airflow openings.
- Upper Dilution Air Supply.*
- Glacier white, dry powder epoxy-coated steel exterior.
- Chemical-resistant, fiberglass-reinforced, composite panel liner and pre-set Rear Downflow Dual Baffle System* with flame spread less than 25 per ASTM E-84
- 3/16" thick tempered safety glass vertical-rising sash with epoxy-coated aluminum sash handle with large radius and perforations.*

- Removable front and side panels and front and interior service access panels for access to plumbing and electrical wiring.
- Pre-wired T8 fluorescent lighting, ADA-compliant light and blower switches for 115 volt, 60 Hz operation.
- Sash stop located at 18" sash opening position.
- Epoxy-coated stainless steel, 12.81" ID exhaust connection(s).

Contact Labconco at 800-821-5525 or 816-333-8811 for ordering information on explosion-proof lighting and other sash configurations and for blower sizing assistance.

BIOLOGICAL SAFETY CABINET CUT SHEET

Class II Type C1- with thimble exhaust

PURIFIER[®] AXIOM[™] CLASS II BIOSAFETY CABINETS

Performance Features

- NEW** Two operation modes: Type A mode for standard microbiological use and Type B mode for connection to exhaust system when handling hazardous chemical vapors or radionuclides
- NEW** Dual Electronically Commutated Motors (ECM)
- Constant Airflow Profile[™] (CAP) Technology airflow monitoring system that provides constant and precise volume of air as required and automatically adjusts as filter load without relying on airflow or pressure sensors
- Low static pressure and volumetric rate exhaust requirements when in Type B mode. No dedicated exhaust system per BSC required as compared to contemporary Class II, Type B biosafety cabinets.
- Air-Wave[™] Entry System*
- Contain-Air[™] Negative Pressure Channel*
- MyLogic[™] Operating System that controls Smart-Start[™] System for allowing the user to program start up and shut down operations and Night-Smart[™] System for idling the blower when the sash is fully closed (Night-Smart operational in Type A mode only)
- Built-in interval or elapsed timer for experiment monitoring, fluorescent light or UV light control (on models with UV light)
- Digital clock
- Bright, 90-150 footcandle, glare-free fluorescent lighting located outside the contaminated work area
- Five year warranty

Safety Features

- LCD information center with "Filter Life Remaining" bar graph for each HEPA filter, status line for alarm conditions and alerts to warn when filter life diminishes to 20% and 0%
- NEW** Active Protection Protocol that maintains negative pressure ensuring user safety during normal shut down and exhaust failure (when connected to exhaust in Type B mode).**
- Electronic security lock (optional activation) that requires code to operate the cabinet
- Two electrical duplex receptacles, (single outlets on 230 volt models), located one on each side (GFCI on 115 volt models only)
- Intrinsically safe negative pressure design
- Fully-closing, clear 1/4" tempered safety glass sash
- Stainless steel inlet grille with Reserve-Air[™] Secondary Airflow Slots*
- Supply and exhaust 99.99+% efficient HEPA filters. Contact Labconco for optional 99.999% efficient ULPA filters.
- Leak-tight stainless steel interior

Comfort Features

- Interior-mounted, line-of-sight, full color LCD information center with easy-to-understand MyLogic[™] programming
- NEW** 22.6" (58 cm) maximum sash opening height and 27.0" (69 cm) viewing height
- Waterfall design curved inlet grille forearm support*



- NEW** Removable, type 304 stainless steel 3-piece work surface (including 2 flat sides and 1 dished center) with lift out knobs and clearly delineated working area (when handling chemicals)**
- NEW** Catch latch to hold center dished Chem-Zone[™] work surface in upright position for easy cleaning of catch pan and sump area
- 10° Angled sash with counterbalanced, anti-racking mechanism for ease of lifting
- ADA-compliant touchpad control on right-hand side post for manual activation of blower, light(s), timer, electrical receptacles, audible alarm mute and menu selection
- Flush-mounted stainless steel electrical receptacle covers with dampened hinges
- NEW** Two operational ADA-compliant sash heights. BSC can be programmed on location to have either 8" or 10" sash height.

Specifications

- NEW** Chem-Zone[™] work area with dedicated direct exhaust for use with hazardous vapors or radionuclides**
 - Nominal inflow velocity of 105 feet per minute (fpm) (0.53 m/sec)
 - Nominal downflow velocity of 65 fpm (0.33 m/sec)
- Powder-coated steel exterior
- NSF International-Listed[†] and modified ASHRAE 110 compliant
- ETL listed[†]
- CE conformity marking[†] (230 volt models)
- Class 5 conditions per ISO 14644-1 and -2 (formerly Class 100)

Options

- Unassembled, NSF-Approved, powder-coated steel telescoping base stand with fixed feet
- Accessory Package: 254 nm UV lamp, ADA-compliant service fixture(s) with ball-type valve(s), and NSF-Approved Vacu-Pass[™] Cord & Cable Portal
- 10" diameter stainless steel air-tight manual damper (recommended if connected to exhaust in Type B mode)
- Bag-In Bag-Out Exhaust Filter for use with radionuclides or harmful pharmaceutical compounding ingredients

Required Accessory

- Supporting base if unassembled stand option is not selected



*U.S. Patent No. 6,368,206

**Patent pending

†Pending

‡Exclusive Labconco feature

§Complies with Americans with Disabilities Act Standard for height of controls and receptacles



PURIFIER[®] AXIOM[™] CLASS II BIOSAFETY CABINETS

CATALOG NUMBER CONFIGURATOR

Use this key to configure the nine digit catalog number to order your Purifier Axiom Class II Biosafety Cabinet. For example, a 30441100 is a 4' Purifier Axiom Class II Biosafety Cabinet with 10" sash opening, service fixture, UV lamp, Vacu-Pass Portal, unassembled base stand and North America, 115 volt electrical receptacle and plug.



STEP 1: Select the width of your cabinet. This number is the fourth digit of your catalog number.

- 4 = 4' (Actual width = 54.3"/138 cm)
- 6 = 6' (Actual width = 78.3"/199 cm)

STEP 2: Select the sash opening height. This number is the fifth digit of your catalog number.

- 1 = 10" (25.4 cm)
- 8 = 8" (20.3 cm)

3 0 4

STEP 3: Select the Accessory Package option: service fixture(s), UV lamp and Vacu-Pass[™] Cord & Cable Portal. This number is the sixth digit of your catalog number.

- 0 = None
- 1 = Includes a right-side mounted factory-installed service fixture (two on 6' models, one on each side), UV lamp with timer, and right-side wall Vacu-Pass Portal.

STEP 4: Select non-welded telescoping base stand option. This number is the seventh digit of your catalog number.

- 0 = None
- 1 = Includes an non-welded telescoping base stand shipped with the cabinet.

STEP 5: Select the electrical receptacle and plug type. This number is the eighth and ninth digits of your catalog number.

- 00 = North America, 115 volts, 20 amps
- 10 = North America, 230 volts
- 20 = Japan, 100 volts, 20 amps
- 30 = Schuko, 230 volts
- 40 = China/Australia, 230 volts
- 50 = British (UK), 230 volts
- 70 = India, 230 volts

Technical Specifications

Nominal Width	4'	6'
Actual Width	54.2" (138 cm)	78.2" (199 cm)
Depth	32.0" (81 cm)	32.6" (83 cm)
Height	68.9" (175 cm)	68.9" (175 cm)
Shipping Weight (Cabinet only)	750 lbs. (340 kg)	1075 lbs. (488 kg)
Shipping Weight (Cabinet with Base Stand)	835 lbs. (379 kg)	1175 lbs. (533 kg)
Power Consumption	200 watts	325 watts
Exhaust Volume, 10" Sash Opening	480 CFM @ 0.3" s.p.	684 CFM @ 0.3" s.p.
Exhaust Volume, 8" Sash Opening	387 CFM @ 0.3" s.p.	556 CFM @ 0.3" s.p.



LABCONCO CORPORATION • 8811 Prospect Avenue • Kansas City, MO 64132
800-821-5525 • 816-333-8811 • www.labconco.com
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2-17-8/20/14

SAFETY SHOWER CUT SHEET

Requires drain connection at eyewash inside wall cavity
Provide floor drain below each eyewash

- **SSBF2160** Recessed Safety Station with Drain Pan, Stainless Steel Shower Head
- **SSBF2162** Recessed Safety Station with Drain Pan and Daylight Drain, Stainless Steel Shower Head

APPLICATION: Recessed barrier-free eye/face wash and shower safety station with ceiling mounted concealed shower head and drain pan. Stainless steel cover provides attractive appearance and protects unit when not in use. When activated, cover serves as pan to collect waste water and return it into unit for drainage.

ADA COMPLIANCE: When installed at recommended mounting heights, unit complies with ADA requirements for accessibility by handicapped persons.

SHOWER HEAD: 10" diameter with flange for flush mounting in ceiling. Shower head is stainless steel (SSBF2160) or polished chrome plated cast brass (SSBF2160PCC)

SHOWER VALVE: 1" IPS brass stay-open ball valve with stainless steel "panic bar" actuator.

COVER/DRAIN PAN: 16 gauge stainless steel combination cover and drain pan. Grasping "panic bar" handle and opening cover pulls spray head assembly down from vertical to horizontal position, activating water flow. While unit is in operation, waste water is collected in drain pan and returned into cabinet for drainage. Unit remains in operation until cover is returned to closed position.

EYE/FACE WASH SPRAY HEAD ASSEMBLY: Two FS-Plus™ spray heads mounted on supply arms. Each spray head has individually adjustable flow control and filter to remove impurities from water.

EYE/FACE WASH VALVE: 1/2" IPS brass rotating plug-type valve. Furnished with Teflon® coated O-ring seals and in-line strainer to protect valve from debris and foreign matter.

MOUNTING: 16 gauge stainless steel cabinet with flanged rim for recessed mounting in wall. Unit fits in standard 3 5/8" deep wall.

SUPPLY: 1" NPT female inlet.

WASTE: 2" NPT female outlet.

SIGN: Furnished with ANSI-compliant identification sign.

QUALITY ASSURANCE: Unit is completely assembled and water tested prior to shipment.

NOTE: ANSI Z358.1-2004 specifies that shower heads be installed no more than 96" above the finished floor. This unit should therefore not be installed in ceilings over 8 feet. For higher ceiling heights, we recommend the SSBF2150 or SSBF2170 units.

U.S. PATENT 5,768,721

Available Options

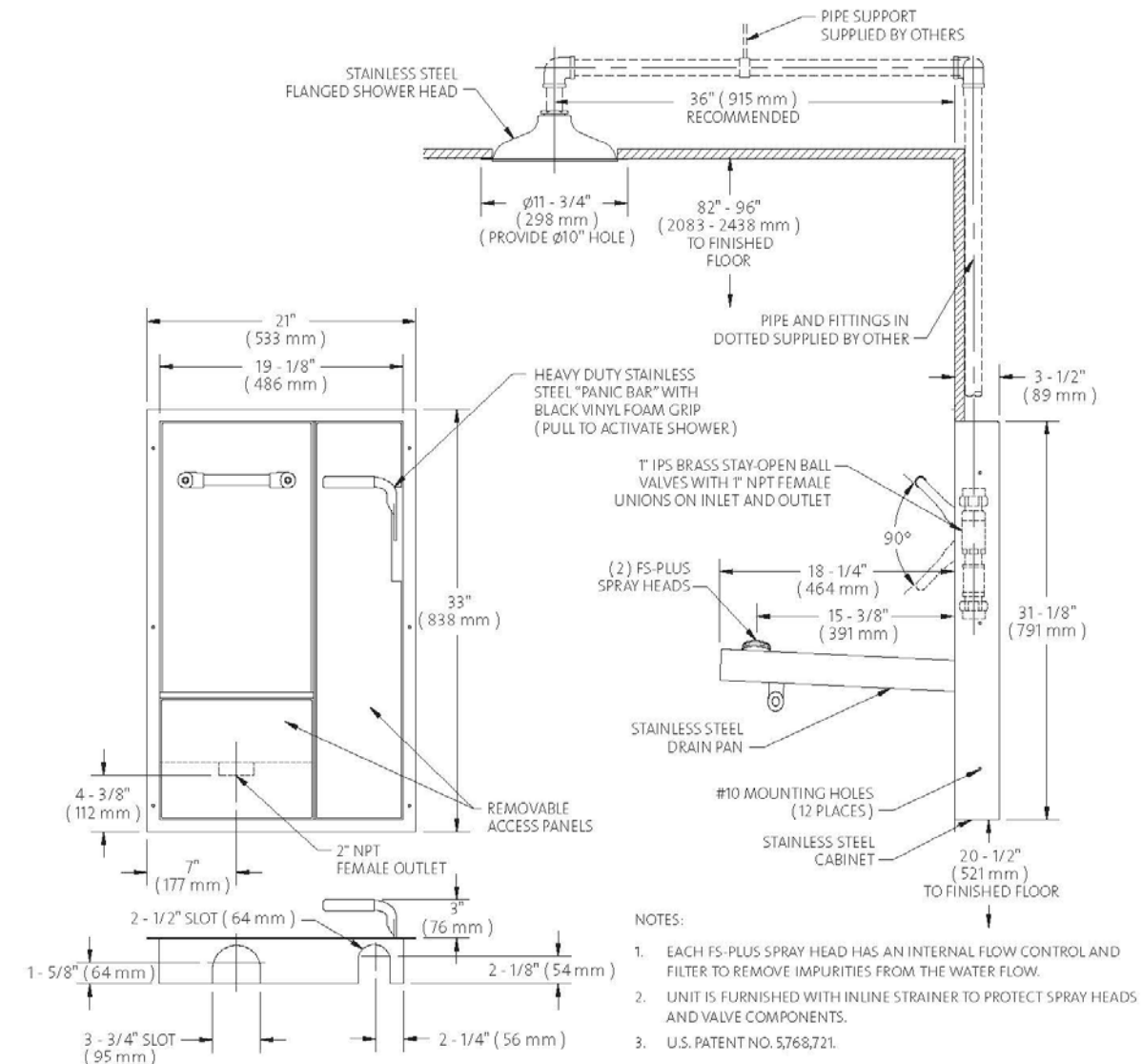
- **PCC** All-polished chrome plated brass construction.
- **AP250-065 MODESTY CURTAIN**
- **AP280-230 ELECTRIC LIGHT AND ALARM HORN**
- **TMV** AP3800 thermostatic mixing valve.



Note: Shown with optional AP280-230 electric light and alarm horn unit (sold separately).



- **SSBF2160** Recessed Safety Station with Drain Pan, Stainless Steel Shower Head
- **SSBF2162** Recessed Safety Station with Drain Pan and Daylight Drain, Stainless Steel Shower Head



- NOTES:
1. EACH FS-PLUS SPRAY HEAD HAS AN INTERNAL FLOW CONTROL AND FILTER TO REMOVE IMPURITIES FROM THE WATER FLOW.
 2. UNIT IS FURNISHED WITH IN-LINE STRAINER TO PROTECT SPRAY HEADS AND VALVE COMPONENTS.
 3. U.S. PATENT NO. 5,768,721.

THIS SPACE FOR ARCHITECT/ENGINEER APPROVAL

Due to continuing product improvement, the information contained in this document is subject to change without notice. All dimensions are ± 1/4" (6mm). rev. 0308

Sign Included



WaterSaver Faucet Co. 312 666 5500 TELEPHONE
701 West Erie Street 312 666 5501 FACSIMILE
Chicago, IL 60654 wsflab.com

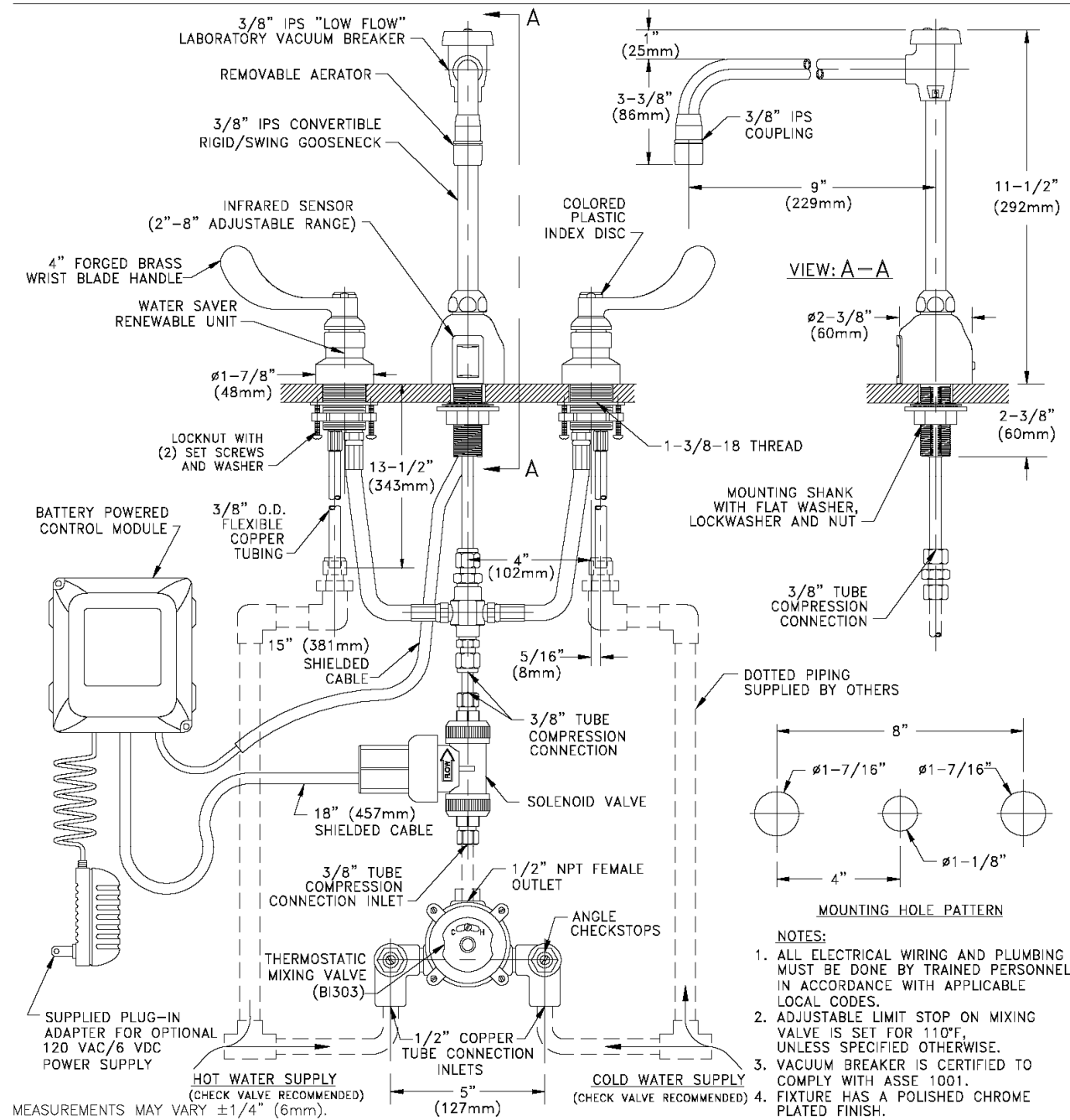
ETL Listed 101496. Units have been tested to and comply with ANSI Z358.1-2004

WaterSaver Faucet Co. 312 666 5500 TELEPHONE
701 West Erie Street 312 666 5501 FACSIMILE
Chicago, IL 60654 wsflab.com

ETL Listed 101496. Units have been tested to and comply with ANSI Z358.1-2004

HOT/COLD WATER FAUCET CUT SHEET

L4544-9VB55BH303
 DUAL ACTIVATION FAUCET, DECK MOUNTED, 9" RIGID/SWING VACUUM BREAKER GOOSENECK, OPTIONAL BATTERY OR PLUG-IN ADAPTER POWER SUPPLY, WRIST BLADE HANDLES, AERATOR, THERMOSTATIC MIXING VALVE



Faucet operates as hands free with infrared sensor or manually with blade handles.

Requires duplex power outlet below each sink.

Drawing Number: _____

Revision Number: 101514-KJS

UNDERCOUNTER WASHER CUT SHEET

Requires 208v power
Location: Lab Service

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 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

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.

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.

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

Attractive and durable Type 304 stainless steel door and tank. Freestanding models also have stainless steel sides and top.



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.

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.

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

Consolidated Sterilizers

Designed to Transform Your Laboratory

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 stainless steel or nickel-clad steel vessel construction in 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.

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. The radial-arm, solid-silicone door gasket is selected for durability; the gasket is easily replaced if required.

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. All cycles are easily managed and documented.

Green and Environmentally Friendly.

Unique, new water-saving technologies reduce water consumption without compromising performance.

Model	Chamber Dimensions (w x h x f-b)	Volume (per chamber)
 SSR-2A	16" x 16" x 26" 40.6 x 40.6 x 66 cm	3.9 cu. ft. 109 liters
 SSR-3A	20" x 20" x 38" 50.8 x 50.8 x 96.5 cm	8.8 cu. ft. 249 liters
 SR-24A	24" x 24" x 36" 61 x 61 x 91.4 cm	12 cu. ft. 340 liters
 SR-24B	24" x 24" x 48" 61 x 61 x 122 cm	16 cu. ft. 453 liters
 SR-26A	26" x 26" x 39" 66 x 66 x 99 cm	15.25 cu. ft. 430 liters



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 clinical, life science, biotechnology, pharmaceutical, and commercial/industrial applications. Model PT-24A-ADVPRO shown with ADV-PRO programmable logic controller.

AUTOCLAVE CUT SHEET

Model SR-26A- Requires 480v power

Consolidated Sterilizer Systems Controller Options—The Advantage Series™ Programmable Logic Controllers

Catalog Number	ADV-PRO	ADV-PLUS	ADV-PB
Description	Color Touchscreen Display	Monochrome Touchscreen Display	Monochrome Touchscreen Display with Push Buttons

Operator Interfaces

	6" (15.2 cm), 18-bit Color	10" (25.4 cm), 18-bit Color	6" (15.2 cm), Monochrome	3" (7.6 cm), Monochrome
Display	320 x 240 pixels	640 x 480 pixels	320 x 240 pixels	128 x 64 pixels
Resolution	Swing-Arm, Front Panel and Remote Panel		Front Panel and Remote Panel	Front Panel and Remote Panel
Mounting Options	Pressure (psig, kg/cm ²) Vacuum (inHg, mmHg)		Pressure (psig, kg/cm ²) Vacuum (inHg, mmHg)	Pressure (psig, kg/cm ²) Vacuum (inHg, mmHg)
Chamber Process Gauges	Optional			
Dual Control Display for Pass-thru Models	Optional			
Remote Cycle Start Switch for Pass-thru Models	Optional	Optional	Optional	Optional

Industry Standard and Custom Sterilizer Cycles

Gravity	Yes	Yes	Yes
Fluid with Automatic Jacket Blowdown	Yes	Yes	Yes
Pre-Vacuum	Optional	Optional	
Post-Vacuum	Optional	Optional	Optional
Low Temperature	Optional	Optional	
Bowie-Dick (Air Removal Test)	Optional		
Vacuum Leak Test	Optional		
Air-Over-Pressure	Optional		
Effluent Decontamination	Optional		
Total Programmable Cycles	Up to 20, maximum	Up to 6, maximum	Up to 2, maximum

Green Features

Energy Saver Calendar for Scheduled On/Off Steam Supply	Optional	Optional	
WaterEco™ System for Reduced Water Consumption	Optional	Optional	Optional

Sterilizer Control and Process Integrity

Configurable Cycle Parameters	Standard	Standard	Standard
Improper Parameter Rejection	Standard	Standard	Standard
Multi-layered Password Security for Configuration Protection	Standard		
Two-Point Calibration of Sensors	Standard	Standard	Standard
Door Interlock to Prevent Inadvertent Cycle Start†	Pass-thru Models Only	Pass-thru Models Only	Optional Audible Warning Only
Automatic Condensate Exhaust Management for all Cycles	Standard	Standard	Standard
Memory Backup of Configuration	Standard	Optional	Optional
Fully Integrated SCADA System	Standard	Optional	Optional

Sterilizer Cycle Quality Reporting

Graphic Display of Cycle Progress	Standard	Standard	Standard
Thermal Printer (48 characters per line)	Standard	Standard	
Impact Printer (48 characters per line)	Optional	Optional	Standard
Ethernet	Standard		
RS-232	Optional	Optional	
RS-485	Optional	Optional	
Fully-integrated SCADA System	Optional	Optional	Optional

Printed Documentation of Sterilizer Cycles

User Defined Cycle Name	Yes		
Start Time and Date	Yes	Yes	
Cycle Type	Yes	Yes	Yes
Chamber Temperature/Pressures	Yes	Yes	Yes
Cycle Summary	Yes	Yes	Yes

Audible Alarms (also displayed on touchscreen)

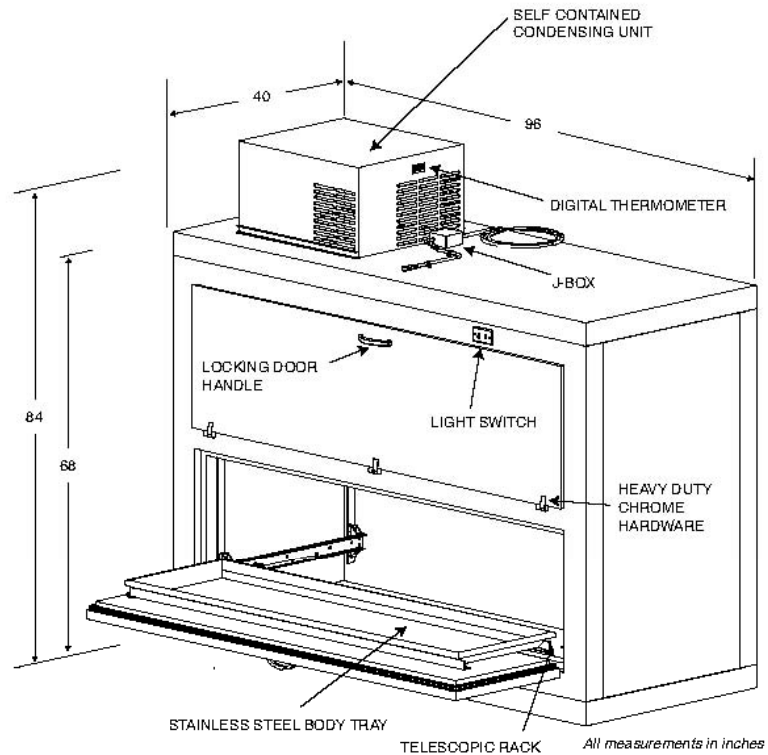
Cycle Completed; Recycle Alarm; Over Temperature Alarm; Over Pressure Alarm; Time Limit Alarm; Chamber Drain Alarm; Jacket/Chamber Flow Failure	Standard	Standard	Standard
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MORTECH
MANUFACTURING CO.

MORTUARY REFRIGERATOR SYSTEMS
SELF CONTAINED & WALK IN UNITS

MODEL 1036-R116 TWO BODY SIDE ACTING REFRIGERATOR



MODEL 1036-R116
Standard Design Features

Exterior: Front - .032 Type 304 stainless steel with a No. 4 finish. Top, Sides, and Back - 20 gauge stucco embossed aluminum

Interior: Walls and Ceiling - 20 gauge stucco embossed aluminum Floor - 14 gauge smooth aluminum

Dimensions: Width 96; Depth 40; Height 84 inches

Insulation: 4.0 inch foamed in place urethane (UL listed, Class 1)
Hardware: Chrome plated

Doors: (2) 84.0 x 22.0, flush style with magnetic gasket

Carriage Frame: (2) Smooth and quiet rack slide rails using special Delrin rollers
Removable Tray: (2) 18 gauge Type 304 stainless steel

Lighting: 1 - vapor proof light with switch

Thermometer: 1 - digital thermometer

Refrigeration: Drop-in self-contained refrigeration system with digital thermometer and easy to adjust temperature controller

Operating Temperature: 38 degrees F

Electrical: 115v, 60Hz, single phase (other voltage by request)

Freezer Model available
Model 1036-F116
Freezer Operating Temperature
0 degrees Fahrenheit

10-08

411 North Aerojet Avenue • Azusa, CA 91702 • www.mortechmfg.com
Tel (800) 410-0100 • (626) 334-1471 • Fax 9626) 334-1704

EXAM LIGHT CUT SHEET Floorstand



- Provides 10 times the life of halogen light sources
- Uses half the power of halogen light sources

Summary of technical data	
Illuminance:	45,000 lux (4181 fc) at 1 meter
Color temperature:	4300 K
CRI (Color Rendering Index):	92
Diameter of lighthead:	20" (51 cm)
Light field diameter:	13" - 15" (33 cm - 38 cm)
Depth of illumination:	54" (137 cm)
Focusing:	Adjustable using center handle
Number of LED modules:	3
Light sources:	Light Emitting Diodes (LED)
Rated life of LED lamp:	20,000 hours
Swivel radius of lamp housing - ceiling mounted:	63" (160 cm) max.
Height movement of lamp housing - ceiling mounted:	41" (104 cm) vertical movement
Minimum ceiling height/maximum ceiling height:	8 ft./12 ft. (244 cm/366 cm)
Power:	84 Watts
Mounting options:	Single ceiling, double ceiling
Total weight:	Floor version 43 lbs. (19.5 kg), single ceiling version 44 lbs. (19.9 kg)
Seismic calculations available:	Yes
Certifications/approvals:	UL60601-1 / IEC 60601-1 / IEC 60601-1-2 / IEC 60601-2-41 CAN/CSA C22.2 601-1 M90 CE marked
Product warranty:	5-year parts and labor
Origin:	Assembled in USA

Note: The optical data are nominal values based on measurements calculated according to UL/IEC performance standards at 120V

Ordering Information

120V Model	230/240V Model	230/240V SP Model*	100V Model	Description
ALEDFL	ALEDFL03	ALEDFL25	ALEDFL01	Floorstand
ALEDSC	ALEDSC03	ALEDSC25	ALEDSC01	Single Ceiling Mount
ALEDDC	ALEDDC03	ALEDDC25	ALEDDC01	Double Ceiling Mount
ALEDW	ALEDW03	ALEDW25	ALEDW01	Wall Mount
Accessories				
1017040				Sterilizable / Autoclavable Handle
0008100PK				Disposable Handle Covers, 25/Box

*SP Model refers to Spanish Language Manuals.

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LIT-0048 Rev 04 burtonmedical.com

Philips Burton
11500 Melrose Avenue
Franklin Park, IL 60131
Burtonmedical.com



C0322 – 300 lb Cube Ice Machine

Prodigy® Modular Cube Ice Maker



Shown on B3225 bin.

Features

Prodigy® cubers use significantly less energy and water than other cube ice machines, exceeding Federal energy efficiency regulations.

AutoAlert™ indicator lights constantly communicate about operating status and actually signal your staff when it's time to descale, sanitize, and more—making upkeep practically foolproof.

The patented WaterSense adaptive purge control delivers maximum reliability by reducing scale buildup for a longer time between cleanings.

Preventative maintenance is simpler than ever with easily-removed panels allowing clear access to internal components and a diagnostic code display insuring the right fix the first time. Reusable air filter is easily removable from the outside.

All external panel components are crafted for optimal aesthetic appeal through superior fit and finish.

An optional advanced feature Smart-Board™ provides NAFEM data protocol and additional operational data that can be displayed on-screen or transmitted remotely, resulting in early alert and fast diagnosis of operating issues.

An optional Vari-Smart™ ultrasonic ice level control sensor allows you flexibility to program ice levels, for up to 7 days, keeping just the right amount of freshly made ice in the bin.

24 Hour Volume Production

Air Cooled			Water Cooled		
AHRI	AHRI		AHRI	AHRI	
70°F/21°C	Air	90°F/32°C	70°F/21°C	Air	90°F/32°C
50°F/10°C	Water	70°F/21°C	50°F/10°C	Water	70°F/21°C
lb/kg		lb/kg	lb/kg		lb/kg
356/162		255/116	366/166		280/127

Modular Bin Options

Model Number	Dimensions W" x D" x H"	AHRI Certified Bin Capacity lb/kg	Application Capacity lb/kg	Finish	Ship Weight lb/kg
B3225	22 x 34 x 44	290/132	370/168	SS	140/64



Bin: B3225

Cube Ice



Small Cube 7/8" x 7/8" x 3/8" (2.22 x 2.22 x .95 cm)
Medium Cube 7/8" x 7/8" x 7/8" (2.22 x 2.22 x 2.22 cm)

Common ice form, ideal for mixed drinks.

Warranty

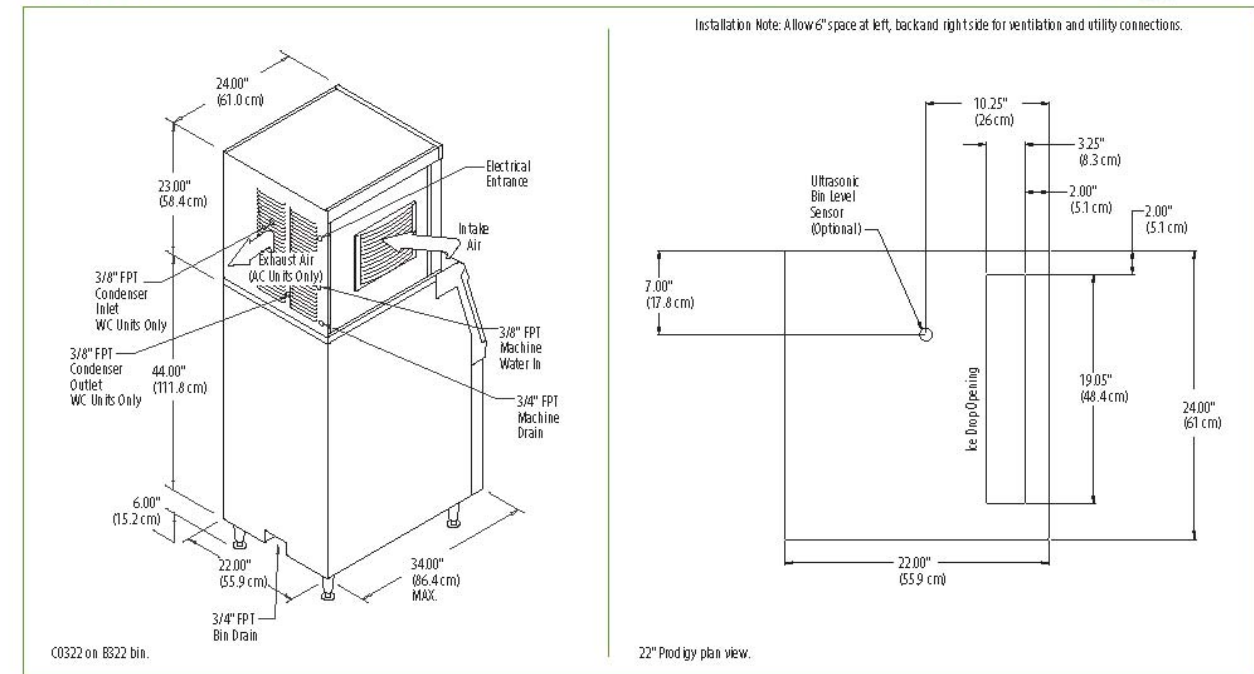
- 3 years parts and labor on all components.
- 5 years parts and labor on the evaporator.
- 5 years parts on the compressor and condenser.

Warranty valid in North, South & Central America. Contact factory for warranty in other regions.



C0322 – 300 lb Cube Ice Machine

ICE MACHINE CUT SHEET



Specifications

Model Number* Cube Size: medium or small	Condenser Unit	Basic Electrical Volts/Hz/Phase	Max. Fuse Size or HACR Circuit Breaker (amps)	Circuit Wires	Min. Circuit Ampacity	Energy Consumption kWh/100 lb (45.4 kg) 90°F/32°C/70°F/21°C	Water Usage Gallons/100 lb (liters/45.4 kg)	
							Potable 90°F/32°C/70°F/21°C	Condenser 90°F/32°C/70°F/21°C
C0322MA-1	Air	115/60/1	15	2	12.7	6.6	19.0/72.0	-
C0322MA-32	Air	208-230/60/1	15	2	6.1	6.6	19.0/72.0	-
C0322MW-1	Water	115/60/1	15	2	11.9	5.2	18.3/69.4	163.0/617.0
C0322SA-1	Air	115/60/1	15	2	12.7	6.6	19.0/72.0	-
C0322SW-1	Water	115/60/1	15	2	11.9	5.2	18.3/69.4	163.0/617.0

* = ENERGY STAR®

All Models

Dimensions (W x D x H):
Unit: 22" x 24" x 23" (55.9 x 61.0 x 58.4 cm)
Shipping Carton: 25.5" x 27.5" x 28" (64.8 x 69.9 x 71.1 cm)
Shipping Weight: 145 lb / 66 kg
BTUs per hour: 5,200

Accessories



Model Number	Description
KVS	Vari-Smart™ Ice Level Control - Program ice bin levels to match ice needs.
KSBU	Smart-Board™ Advanced Control - Use additional operational data for fast diagnosis.
KSBU-N	Smart-Board™ Advanced Control with Network - Network capable.
KPAS	Prodigy Advanced Sustainability kit- Includes KVS and KSBU-N

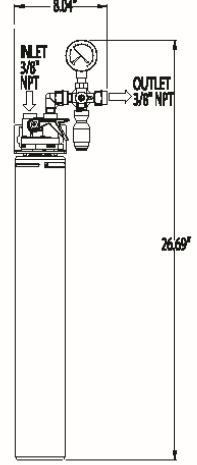

* Scotsman recommends all ice machines have water filtration. See Scotsman Sanitation Matrix for details.

Operating Requirements

	Minimum	Maximum
Air Temperatures	50°F (10°C)	100°F (38°C)
Water Temperatures	40°F (4.4°C)	100°F (38°C)
Remote Cond. Temps	-20°F (-29°C)	120°F (49°C)
Water Pressures	20 PSIG (1.4 bar)	80 PSIG (5.5 bar)
Electrical Voltage	-10%	+10%

ICE MACHINE FILTER CUT SHEET

 <p>EV9324-01 Insurice Single-i2000² System</p>		
<p>Delivers premium quality water for ice applications</p>		
 <p>Insurice Single-i2000² System: EV9324-01 i2000² Replacement Cartridge: EV9612-22</p>		<p>BENEFITS</p> <ul style="list-style-type: none"> Reduces water-related ice machine problems caused by scale build-up from dirt and dissolved minerals (as tested by Everpure) New and improved Micro-Pure II media inhibits the growth of bacteria Reduces chlorine taste and odor and other offensive contaminants Self-contained scale inhibitor feed keeps ice machines functioning at full capacity (as tested by Everpure) Reduces maintenance and service costs by reducing scale* and clogging of distribution lines, evaporator plate and pump (*as tested by Everpure) Precoat submicron technology reduces dirt and particles as small as 1/2 micron in size and reduces possible health contaminants such as cysts Sanitary cartridge replacement is simple, quick and clean. Internal filter parts are never exposed to handling or contamination NSF Certified under NSF/ANSI Standards 42 and 53
<p>INSTALLATION TIPS</p> <ul style="list-style-type: none"> Choose a mounting location suitable to support the full weight of the system when operating Never use saddle valve for connection Use 3/8" water line Do not connect system to water-cooled condenser Install vertically with cartridges hanging down and allow 2-1/2" clearance below the cartridge for easy cartridge replacement Flush cartridges by running water through system for five minutes at full flow 	<p>OPERATION TIPS</p> <ul style="list-style-type: none"> Change cartridges on a regular 6 month preventative maintenance program Change cartridges when capacity is reached or when pressure falls below 10 psi Service flow rate must not exceed 1.67 gpm Always flush the filter cartridge at time of installation and cartridge change 	<p>APPLICATION/SIZING</p> <ul style="list-style-type: none"> For ice machine applications Most cubers up to 750 lbs./day Most flakers up to 1,500 lbs./day Rated Capacity: 9,000 gallons

<p>INSURICE SINGLE-I2000² SYSTEM</p>	
<p>SPECIFICATIONS</p> <p>Overall Dimensions: 26.69"H x 8.04"W x 5.25"D</p> <p>Inlet connection: 3/8"</p> <p>Outlet connection: 3/8"</p> <p>Service Flow Rate: Maximum 1.67 gpm (6.3 Lpm)</p> <p>Rated Capacity: 9,000 gallons</p> <p>Pressure Requirements: 10 - 125 psi (0.7 – 8.6 bar), non-shock</p> <p>Temperature: 35 - 100°F (2 - 38°C)</p> <p>No electrical connection required</p> <p>Shipping Weight: 6 lbs.</p> <p>Operating Weight: 9 lbs.</p>	
	
<p>WARRANTY</p> <p>Everpure water treatment systems (excluding replaceable elements) are covered by a limited warranty against defects in material and workmanship for a period of five years after date of purchase. Everpure replaceable elements (filter cartridges and water treatment cartridges) are covered by a limited warranty against defects in material and workmanship for a period of one year after date of purchase. See printed warranty for details. Everpure will provide a copy of the warranty upon request.</p>	
 <p>System Tested and Certified by NSF International against ANS/NSF Standard 42 and 53 for the reduction of:</p> <ul style="list-style-type: none"> Standard No. 42: Aesthetic Effects <ul style="list-style-type: none"> Chemical Unit Taste and Odor Reduction Chlorine Reduction Mechanical Filtration Unit Nominal Particulate Reduction, Class I: <ul style="list-style-type: none"> 99.2+% reduction of particles one-half micron and larger in size Standard No. 53: Health Effects <ul style="list-style-type: none"> Mechanical Filtration Unit Turbidity Reduction Cyst Reduction Asbestos Reduction 	
<p>EVERPURE</p> <p><i>Worldwide Headquarters:</i> EVERPURE, LLC 1040 Muirfield Drive Hanover Park, Illinois 60133 Toll Free (800) 323-7873 Tel (630) 307-3000 Fax (630) 307-3030 http://www.everpure.com</p> <p><i>In Europe:</i> Pentair Water Belgium B.V./B.A. Industriepark Wolfstee Toekomstlaan 30 B-2200 Herentals BELGIUM TEL: +32.(0).14.283.500 FAX: +32.(0).14.283.505</p> <p><i>In Japan:</i> Hashimoto MN Bldg. 7F 3-25-1 Hashimoto Sagami-hara-Shi Kanagawa 229-1103 JAPAN TEL: 81.(0)42-775-3011 FAX: 81.(0)42-775-3015</p>	