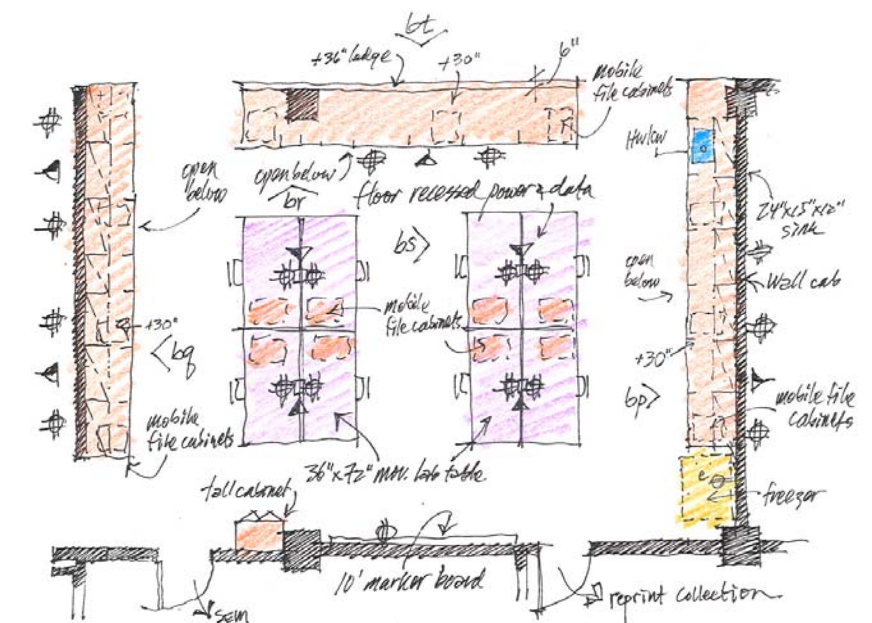


LABORATORY SKETCHBOOK

CALIFORNIA ACADEMY OF SCIENCES
GOLDEN GATE PARK, SAN FRANCISCO, CALIFORNIA
1 DECEMBER 2004



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Introduction

This sketchbook represents laboratory design as discussed in work sessions with CAS scientists held at CAS on 19 and 20 February 2004, 26 and 27 April 2004, and 22 June 2004. The Laboratory Design Sketchbook is a reference document to be used as a supplement to the AutoCAD construction document drawings. It is a comprehensive source of lab design information. It contains information for each different lab space, and outlines the architectural, mechanical, plumbing, electrical, and equipment requirements for each lab. There may be discrepancies between the design sketches and the AutoCAD drawings. The information contained herein is to show design intent and organization. The CAD plans reflect coordination issues that have been addressed which may supercede the information contained herein.

This document is available online at ftp.designforscience.com in the CAS folder.



Glen Berry, AIA
Principal
Design for Science

Outline Specifications

11601 Laboratory Casework

- Wood casework, Premium grade
- FSC certified
- Species: Steamed Beech
- Grade A on exposed surfaces
- Grade B on interior surfaces
- Core: Baltic Birch veneer core
- Edge: exposed layers of Baltic Birch
- Pulls: 8" aluminum wire
- Drawer glides: 150 lb. accuride
- Hinges: 3 knuckle heavy duty exposed
- Tops: 1" phenolic resin, black
- Pipe enclosure: phenolic resin
- Wall cabinets with glass doors where noted
- Mobile lab bench: P1001 unistrut frame with 2"x2" 12 gauge welded tube steel, epoxy powder coat finish, heavy duty lockable casters
- Mobile base cabinets: wood with heavy duty lockable casters
- Acceptable Manufacturers: ALC, Casework, Fisher-Hamilton, Kewaunee, Valley City
- Phenolic Resin casework in areas where high water use is anticipated (Aquatics Suite on B1, and Herp Bio and Aquatics Bio on B1).

11602 Laboratory Fume Hoods

- Constant Volume
- 100 f.p.m. face velocity
- Polypropylene where indicated
- Chemical storage cabinets below where indicated
- Sinks where indicated
- Services: Hot water, cold water, natural gas, 110v power where noted
- Acceptable Manufacturers: Mott, Labconco, Fisher-Hamilton, Kewaunee
- Snorkel exhaust unit where indicated- 100 c.f.m.

11603 Laboratory Fittings & Fixtures

- Satin chrome finish
- Accessible blade handles on all fittings
- Hot/Cold Water faucet: 180° swing gooseneck; vacuum breaker; aerator faucet tip
- Drench Hose: double spray type
- Sinks: 316L stainless steel, lip mount
- Drying racks: 316L stainless steel
- Acceptable Manufacturers: Watersaver, Chicago, Broen

11604 Laboratory Equipment

- Undercounter glassware washer
- Flammable storage cabinet
- Surgery tables
- Necropsy tables

Fume Hood Schedule

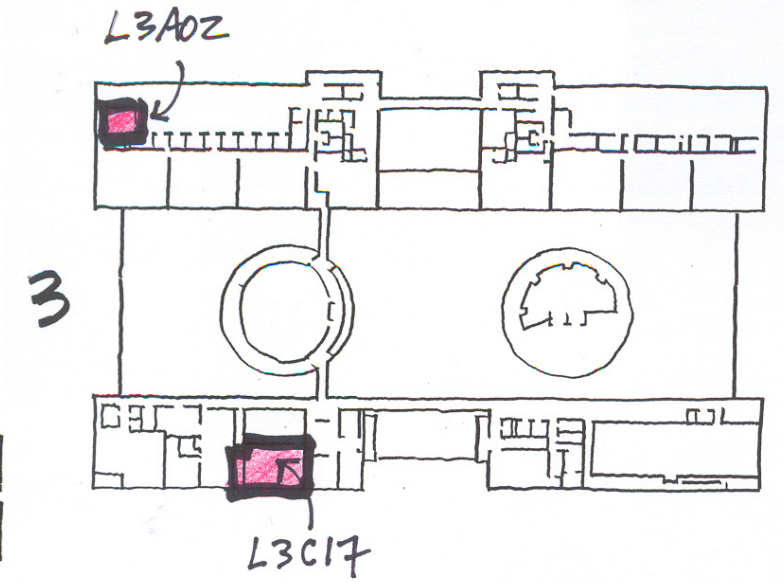
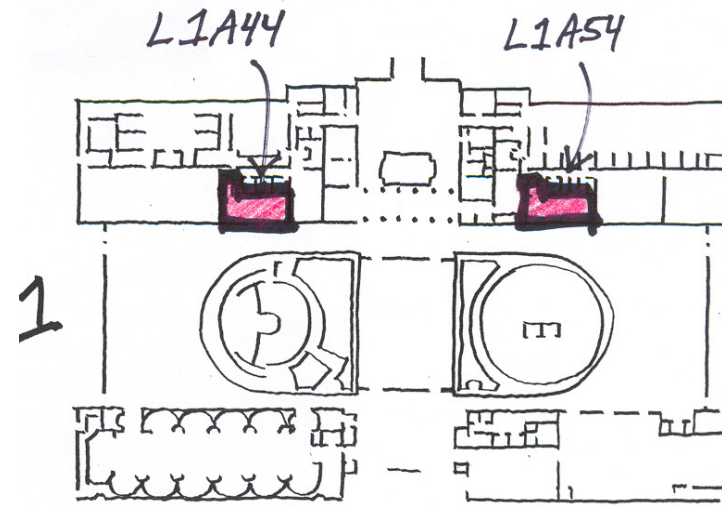
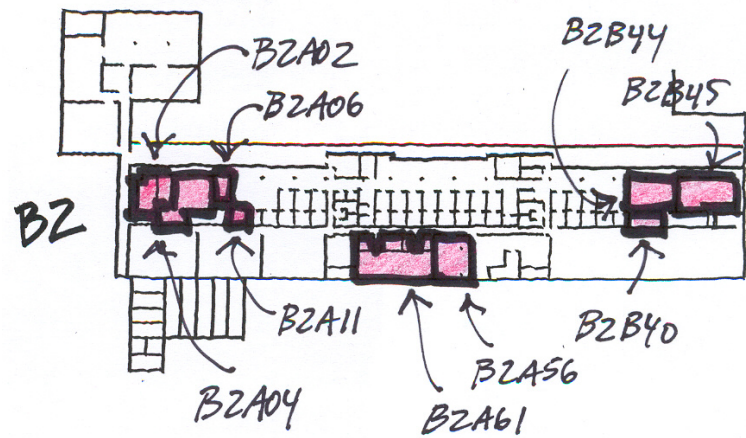
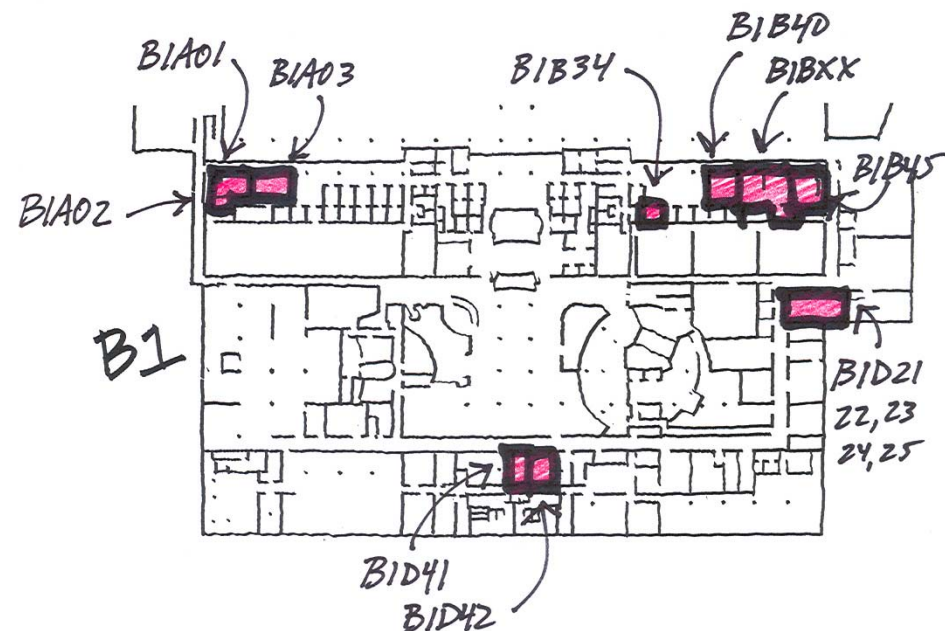
Designation	Location	Type	Length	Min. Clear interior depth	Work Surface Height	Face Velocity	Volume	Sink	Plumbing	Electrical	Base Cabinets (left to right)
	Level 3										
FH-1	Staff Lab L3A02	High Performance	72"	27"	36"	100 f.p.m.	Constant 750 c.f.m. @ 18" sash opening	15"wx15"lx12"d Epoxy Resin	Hot Water Cold Water Natural Gas (Pre plumbed)	(2) 110v duplex (prewired)	(1)Acid Cabinet 36"w (1)Sink Cabinet 36"w
	Level 1										
FH-2	Research Lab L1A44	Accessible High Performance	60"	27"	34"	100 f.p.m.	Constant 600 c.f.m. @ 18" sash opening	Cupsink Epoxy Resin	Cold Water Natural Gas (preplumbed)	(2)110v duplex (prewired)	(1)Acid Cabinet 15"w (1)Mobile Solvent Cabinet 27"w (1)Cup Sink Cabinet 15"w
FH-3	Research Lab L1A54	High Performance	60"	27"	36"	100 f.p.m.	Constant 600 c.f.m. @ 18" sash opening	Cupsink Epoxy Resin	Cold Water Natural Gas (preplumbed)1	(2)110v duplex (prewired)	(1)acid cabinet 15"w (1)solvent cabinet 30"w (1)cup sink cabinet 15"w
	Level B1										
FH-4	Cytology Lab B1A01	High Performance	60"	27"	36"	100 f.p.m.	Constant 600 c.f.m. @ 18" sash opening	Cupsink Epoxy Resin	Cold Water Natural Gas (preplumbed)	(2)110v duplex (prewired)	(1)cup sink cabinet 12"w (2)solvent cabinet 24"w
FH-5	Herp. & Icht. Prep B1BXX	High Performance with side vision panels	72"	27"	36"	100 f.p.m.	Constant 750 c.f.m. @18" sash opening	15"wx15"lx12"d Epoxy Resin	Hot Water Cold Water (preplumbed)	(2)110v duplex (prewired)	(1)sink cabinet 36"w (1)solvent cabinet 36"w
FH-6	Orn. & Mamm. Prep B1B45	High Performance	72"	27"	36"	100 f.p.m.	Constant 750 c.f.m. @ 18" sash opening	24"lx15"wx12"d Epoxy Resin With cover	Hot Water Cold Water (preplumbed)	(2)110v duplex (prewired)	(1)sink cabinet 36"w (1)acid cabinet 36"w
FH-7	Aquatics Water Testing B1D23 Aquatics Necropsy B1d24	High Performance	60"	27"	36"	100 f.p.m.	Constant 600 c.f.m. @ 18" sash opening	Cupsink Epoxy Resin	Cold Water (preplumbed)	(2)110v duplex (prewired)	(1)cup sink cabinet 12"w (1)solvent cabinet 24"w (1)acid cabinet 24"w
FH-8	Water Testing B1D54	High Performance	60"	27"	36"	100 f.p.m.	Constant 600 c.f.m. @18" sash opening	Cupsink Epoxy Resin	Cold Water Natural Gas (preplumbed)	(2)110v duplex (prewired)	(1)cup sink cabinet 12"w (1)solvent cabinet 24"w (1)acid cabinet 24"w
	Level B2										
FH-9	Geology Gross B2A02	Acid Digestion (Polypropylene construction)	72"	27"	36"	100 f.p.m.	Constant 750 c.f.m. @18" sash opening	None	None	(2)110v duplex (prewired)	(2)acid cabinets 36"w
FH-10	Inv. Zoo. & Geology Prep B2A04	Acid Digestion (Polypropylene construction)	96"	27"	36"	100 f.p.m.	Constant 1050 c.f.m. @18" sash opening	24"lx15"wx12"d Epoxy Resin	Hot Water Cold Water (preplumbed)	(2)110v duplex (prewired)	(1)cup sink cabinet 36"w (1)acid cabinet 30"w (1)solvent cabinet 30"w
FH-11	Diatom B2A06	Acid Digestion (Polypropylene construction)	60"	27"	36"	100 f.p.m.	Constant 600 c.f.m. @ 18" sash opening	None	None	(2)110v duplex (prewired)	(2)acid cabinets 30"w
FH-12	Molecular Biology Lab B2A61	High Performance	72"	27"	36"	100 f.p.m.	Constant 750 c.f.m. @18" sash opening	Cupsink	Cold Water Natural Gas (preplumbed)	(2)110v duplex (prewired)	(1)cup sink cabinet 12"w (1)acid cabinet 30"w (1)solvent cabinet 30"w

Sink Schedule

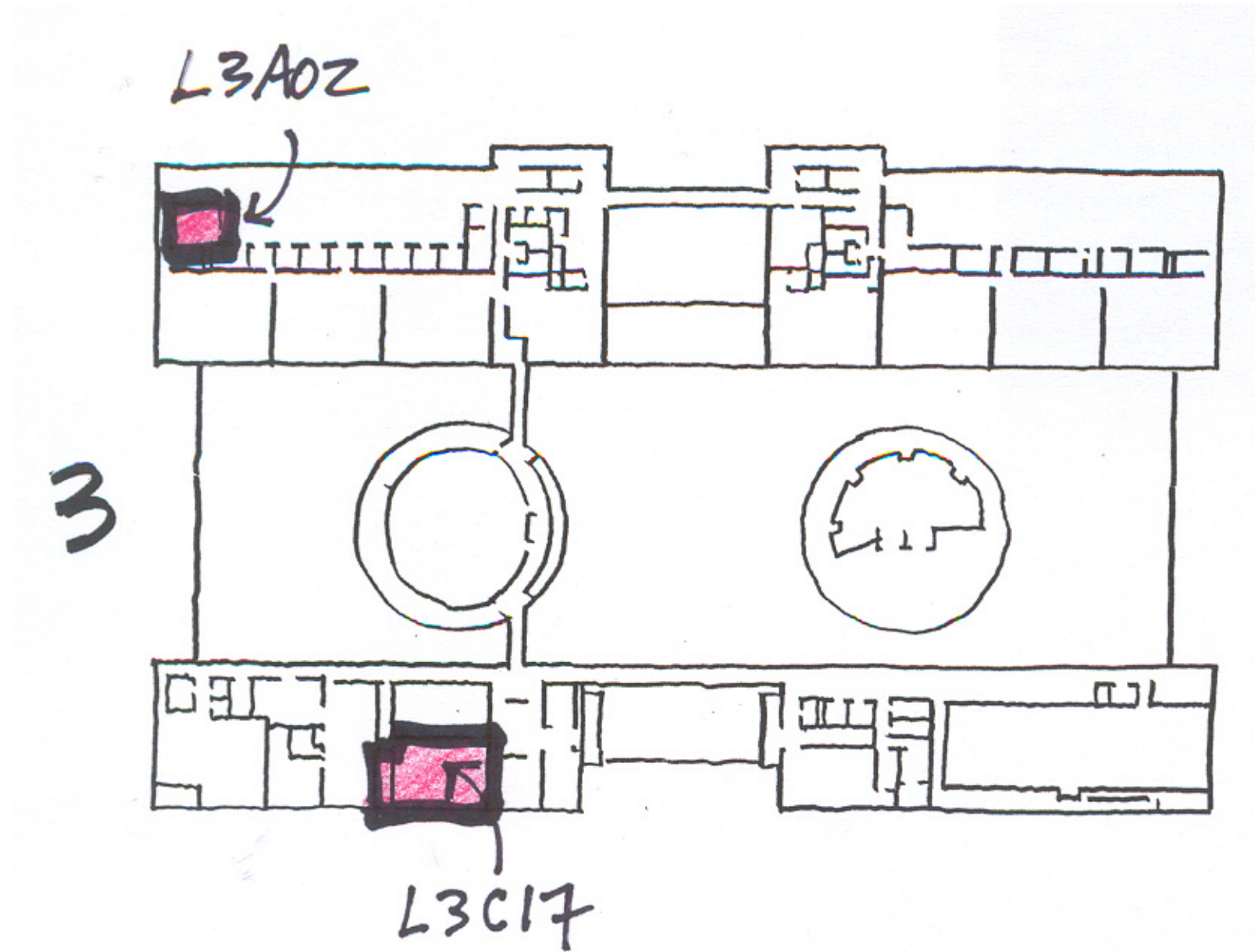
Note: Sink Schedule does not include sinks located inside fume hoods

Designation	Location	Material	Dimensions	Mount	Fittings
SK-1	Staff Lab L3A02 Aqua Pathology B1D46 Water Testing B1D54 Geology Fine B2A02 Diatom B2A06 Molecular Biology Lab B2A61 (5)	316L Stainless Steel	24"lx15"wx12"d	Lip overlay	Hot Water/Cold Water Drench Hose
SK-2	Lab Classroom L3C17 (2) Botany Prep Area B1A03 Anthropology Prep B1B40 Entomology Work Area B2B44 Entomology Lab B2B45	316L Stainless Steel	24"lx15"wx12"d	Lip overlay	Hot Water/Cold Water
SK-3	Cytology Lab B1A01 Herp. & Ichth. Prep B1BXX	316L Stainless Steel	Double Sink: 30"lx15"wx12"d	Lip overlay	Hot Water/Cold Water Drench Hose
SK-4	Orn. & Mamm. Prep B1B45	316L Stainless Steel	30"lx15"wx12"d	Lip overlay	Hot/Cold Water Disposal
SK-5	Herp. Bio Lab B1D41 Aqua. Bio. Inv. Zoo. & Geol. Lab B1D42	316L Stainless Steel	30"lx15"wx18"d	Lip overlay	Hot/Cold Water
SK-6	Aquatics Surgery B1D22 Aquatics Water Testing B1D23	316L Stainless Steel	24"lx15"wx12"d	Lip overlay	Hot/Cold Water
SK-7	Geology Gross B2A01 Aquatics Pathology B1D21 Research Project Lab L1A44 (2) Research Project Lab L1A54 (2)	316L Stainless Steel	30"lx15"wx12"d	Lip overlay	Hot/Cold Water Drench Hose

Labs by Floor



Level 3 Labs



L3A02: Staff Lab
L3C17: Classroom

Staff Lab L3A02

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36" x 84" / 36' x 84" sliding;
 Side door: 36" x 84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust;
 Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks and fume hood
 Cold Water (CW) at sinks and fume hood
 Drench Hose (DH) as sink
 Safety Shower/eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter and at center bench
 110v20a1ph duplex at perimeter and fume hood
 Standby power (e) at equipment space
 Data junction boxes at perimeter and at center bench
 Lighting: Direct/indirect 75 f.c. at work surface
 Task lighting below wall cabinets

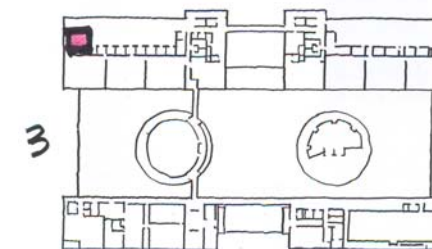
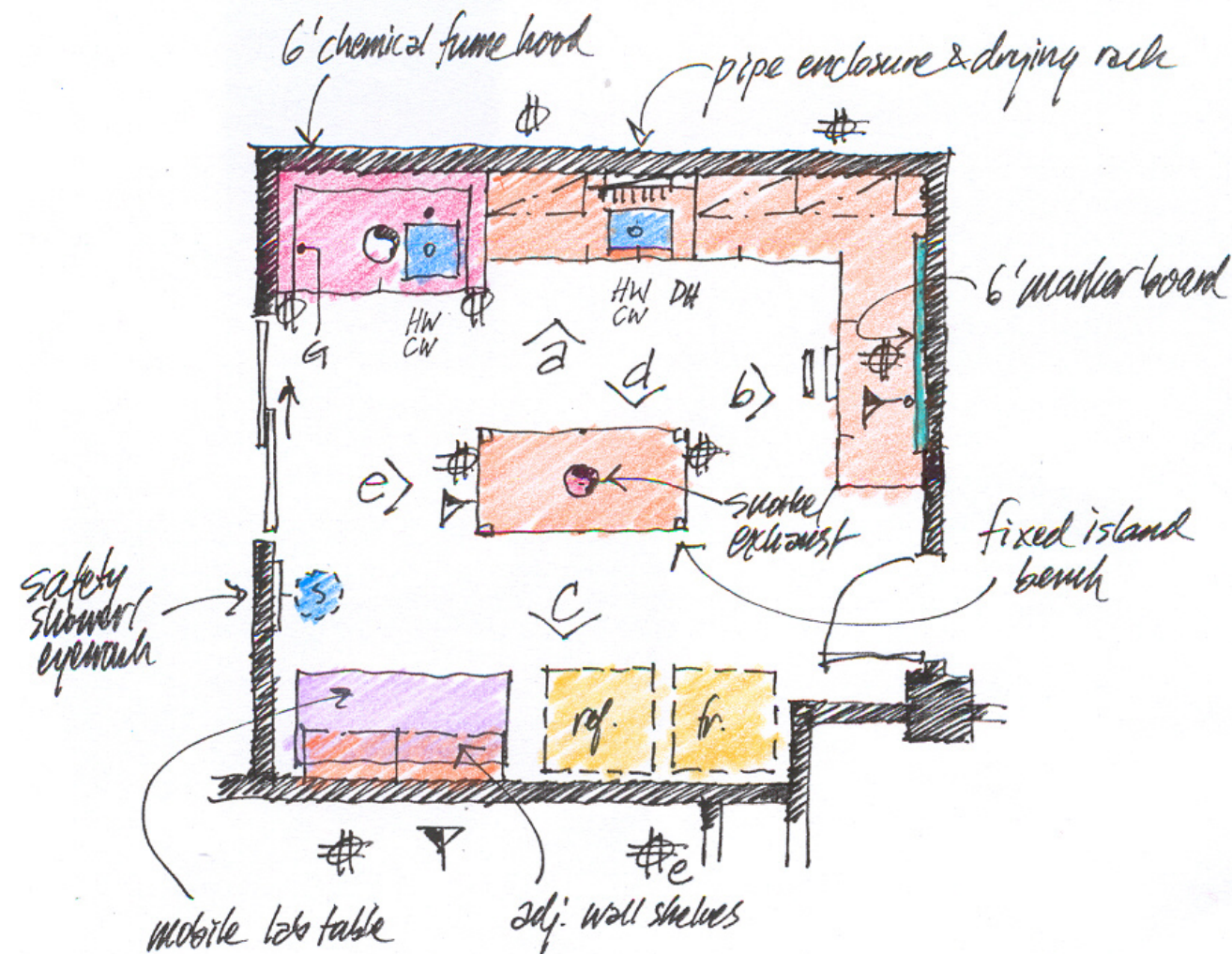
GROUP 1 EQUIPMENT (Contractor Furnished)

Fixed bench with sink, pipe enclosure
 Wall cabinets
 Base cabinets
 Tall storage cabinet
 Mobile lab bench
 Adjustable wall shelves
 Chemical fume hood

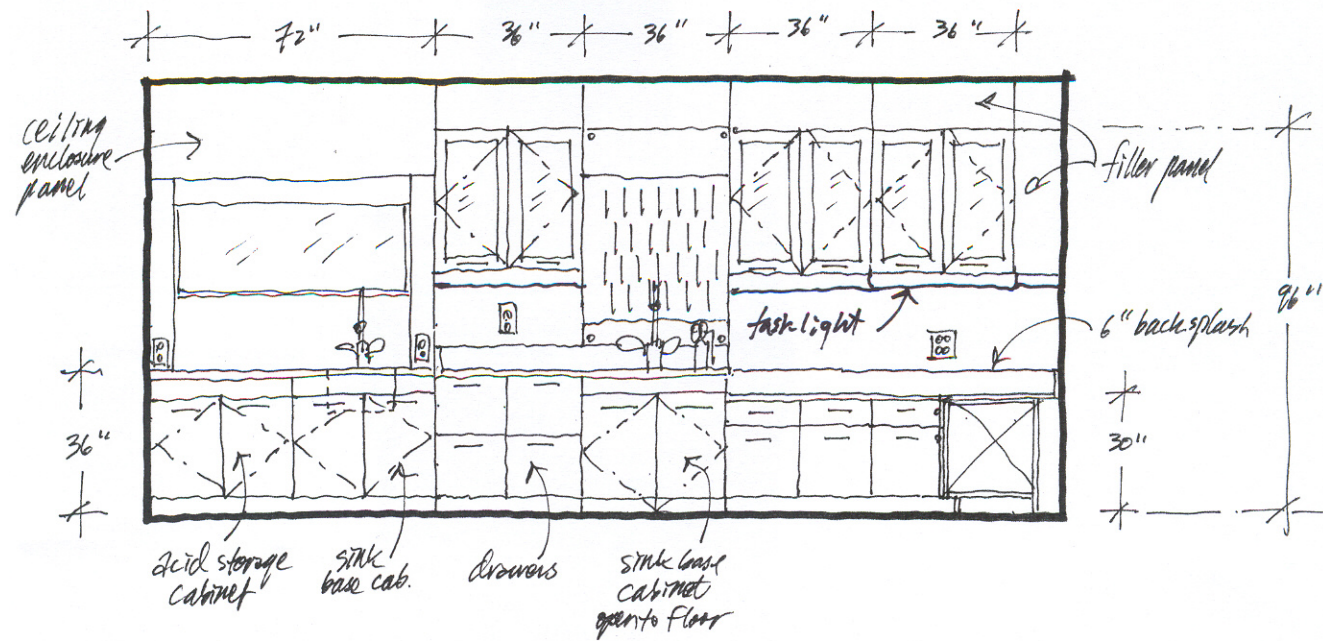
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SCIENTIFIC EQUIPMENT

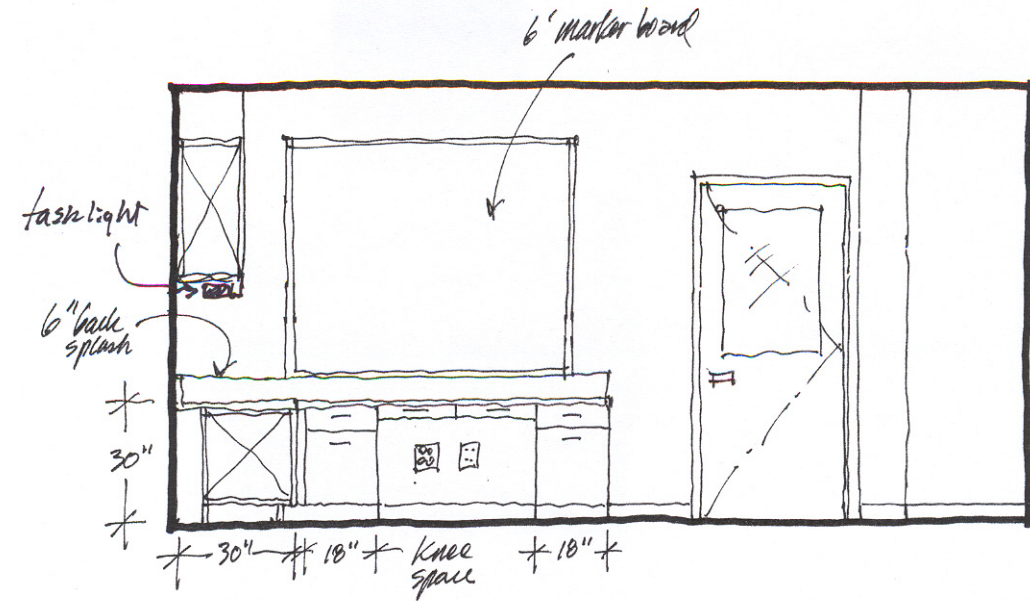
Computers;
 Benchtopy analytical Instruments;



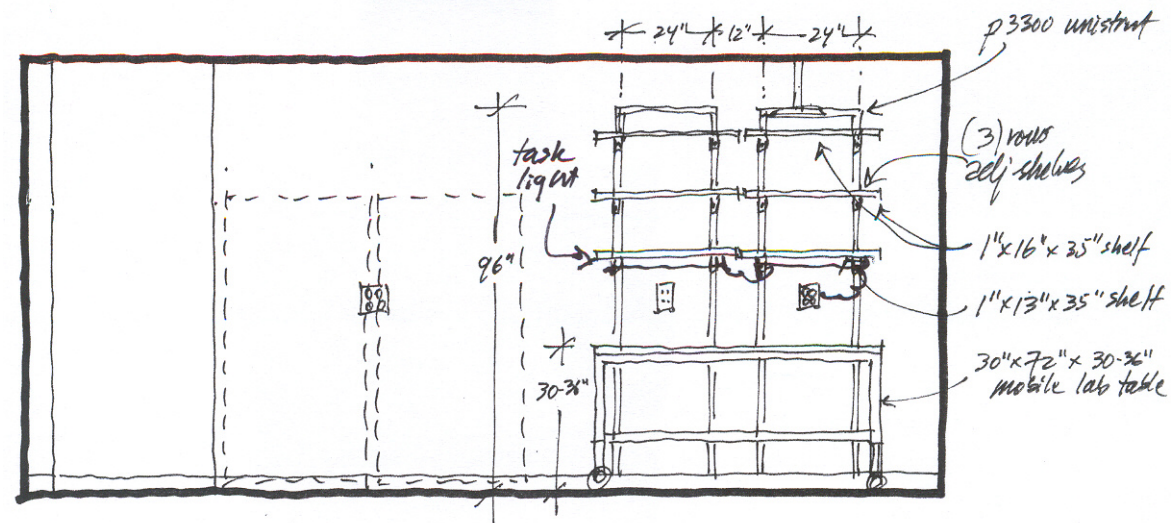
Elevations L3A02



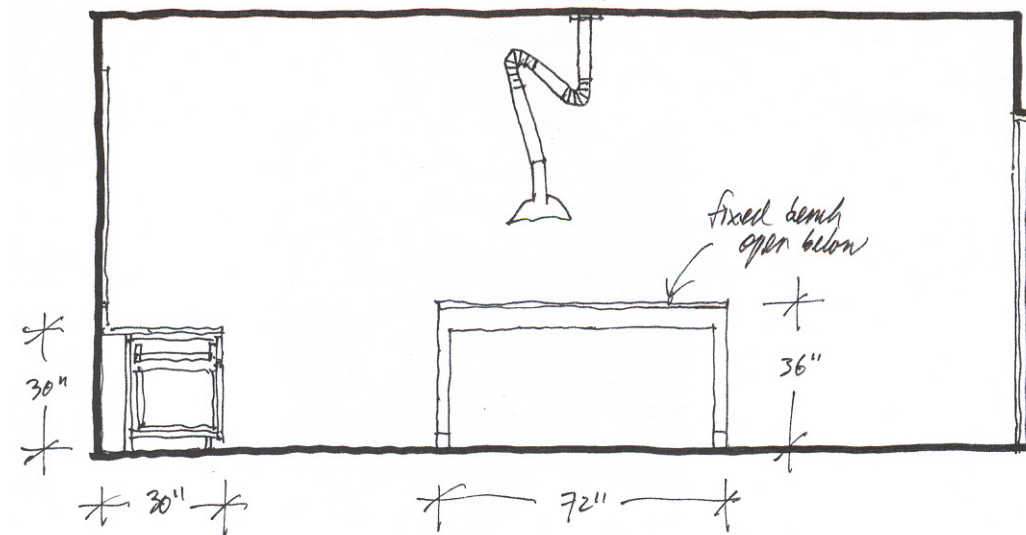
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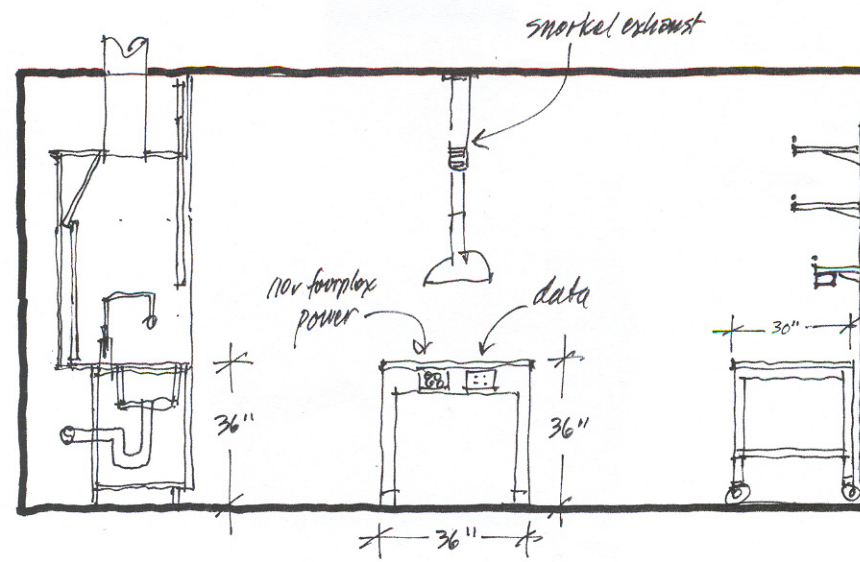


c



d

Elevations L3A02



e

Lab Classroom L3C17

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; Side door:
 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 8000 micro inches or less

MECHANICAL

72° F; 100% exhaust
 Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks
 Cold Water (CW) at sinks
 Drench Hose (DH) as sinks

ELECTRICAL

110v20a1ph fourplex at perimeter and recessed at floor
 110v20a1ph duplex at perimeter
 Standby power (e) at equipment space
 Data junction boxes at perimeter and recessed at floor
 Lighting: Direct/indirect 75 f.c. at work surface
 Task lighting below wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

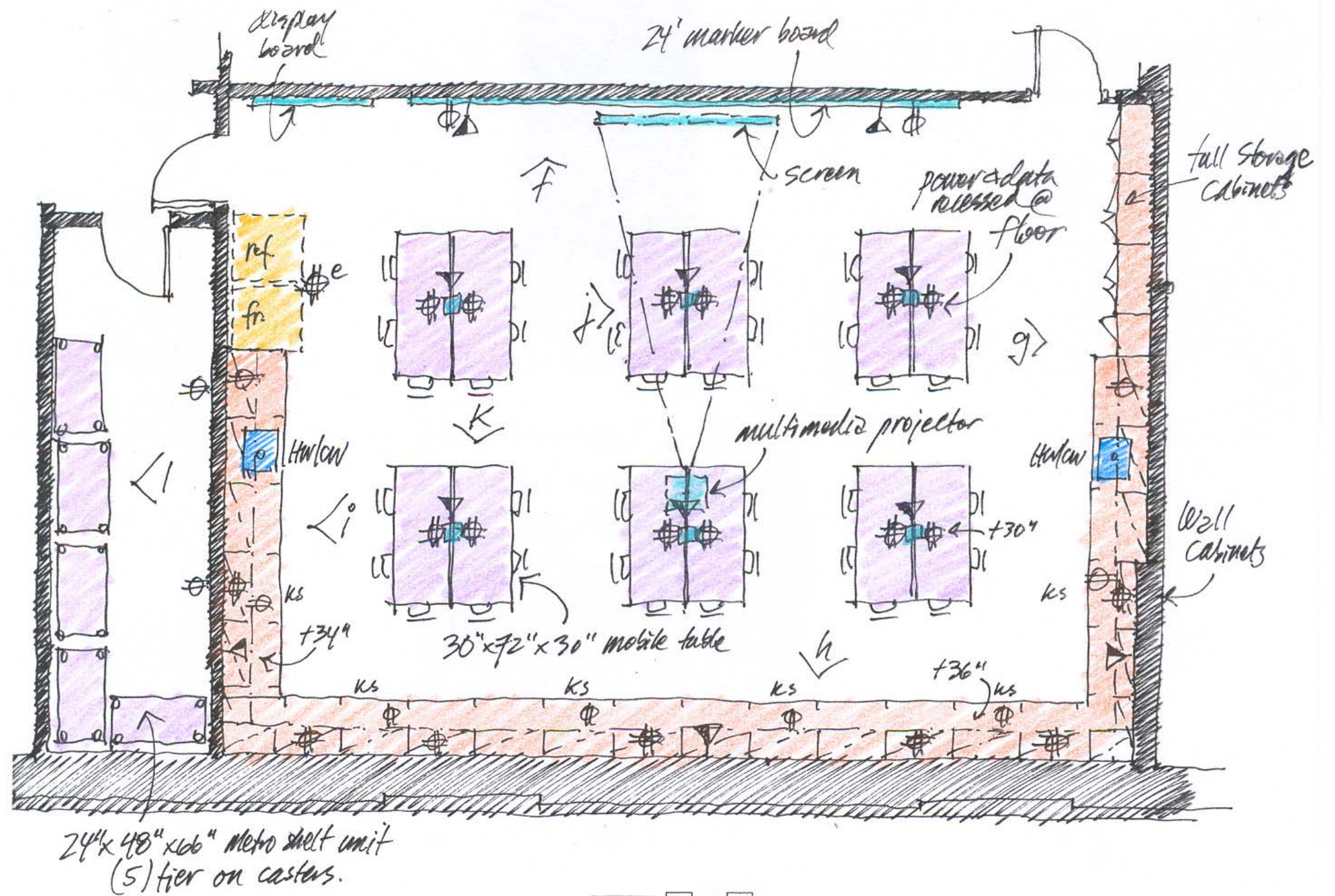
Fixed bench with sink
 Wall cabinets
 Base cabinets
 Tall storage cabinets
 Marker board
 Projection Screen, multi-media projector
 Metro shelf units in adjacent storage room

GROUP 2 EQUIPMENT (Owner Furnished)

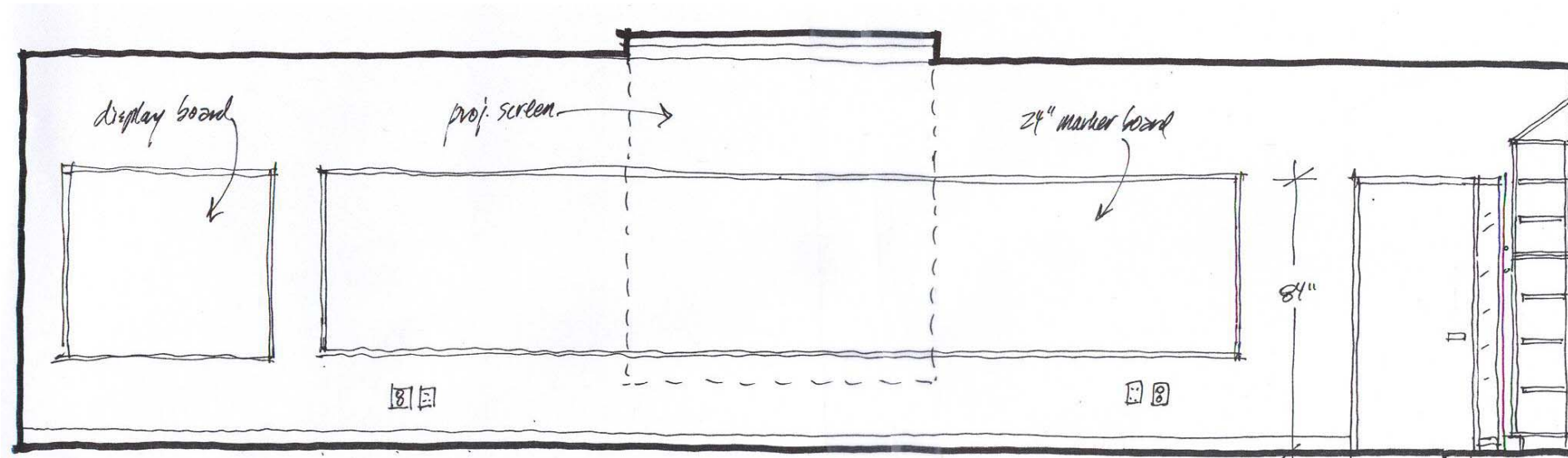
Chairs

SCIENTIFIC EQUIPMENT

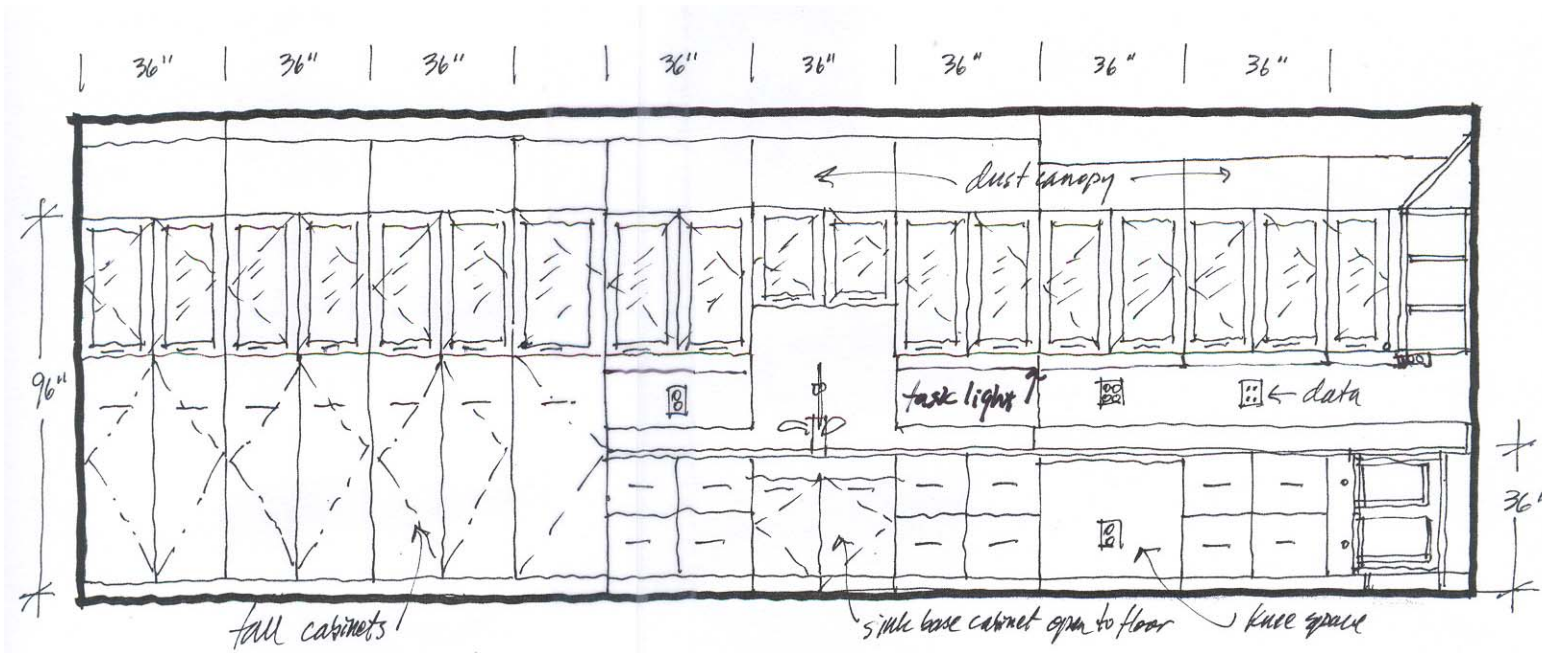
Computers
 Benchtop analytical Instruments
 Refrigerator
 Freezer



Elevations L3C17

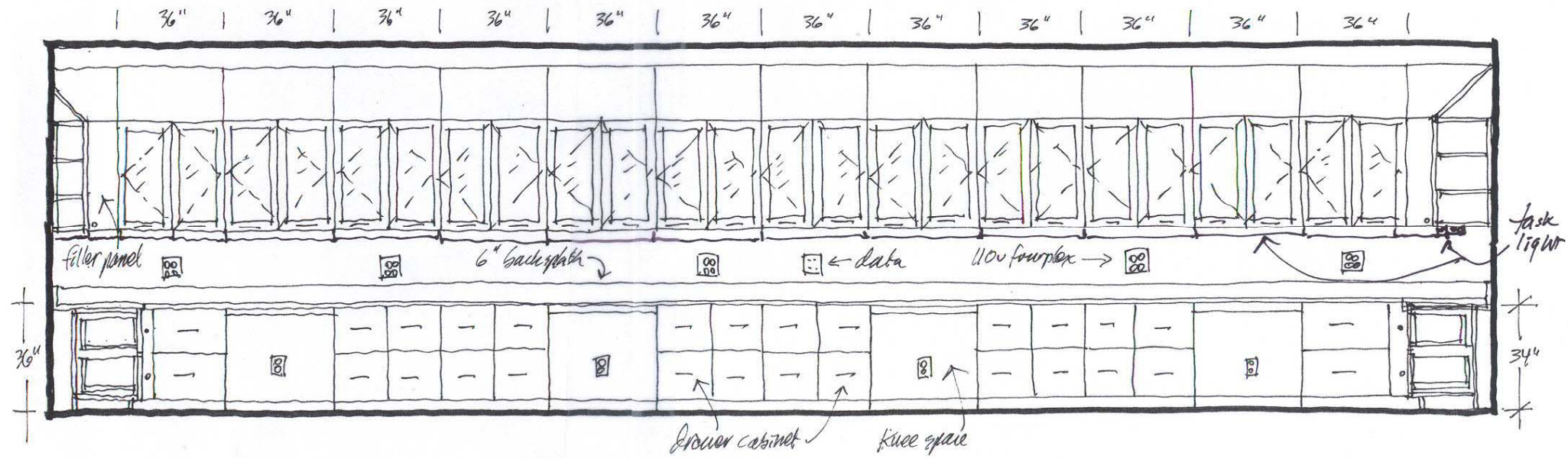


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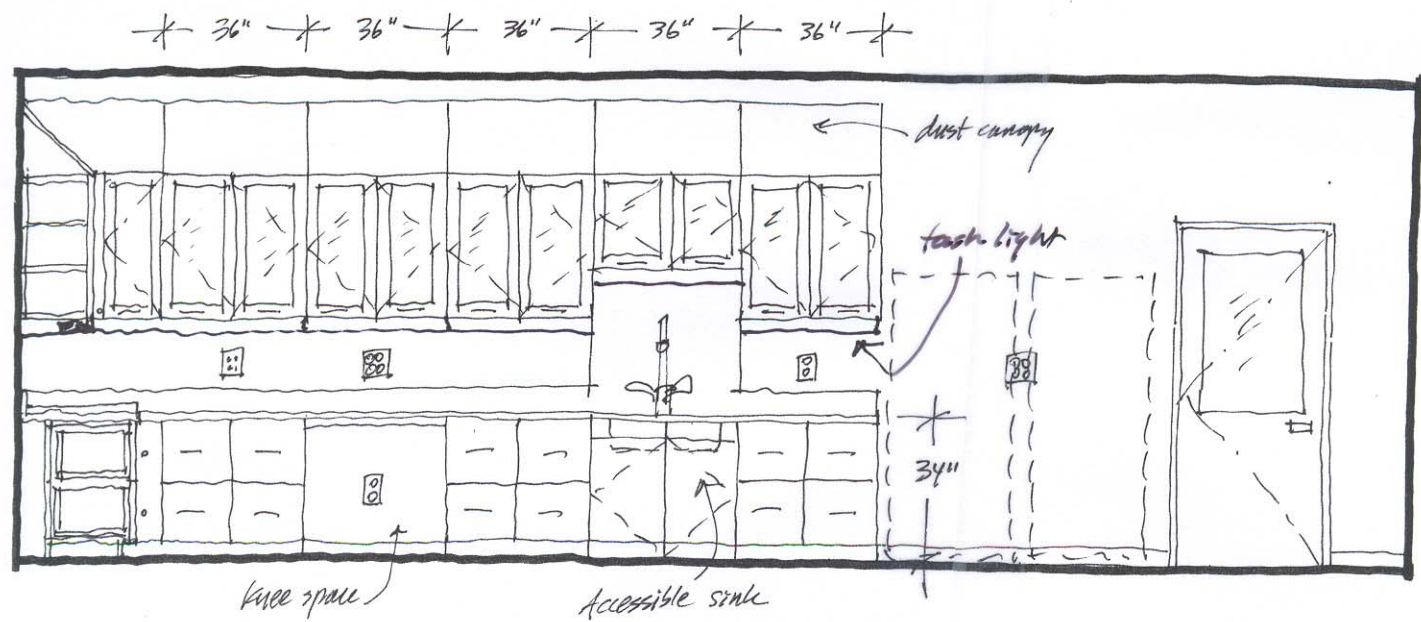


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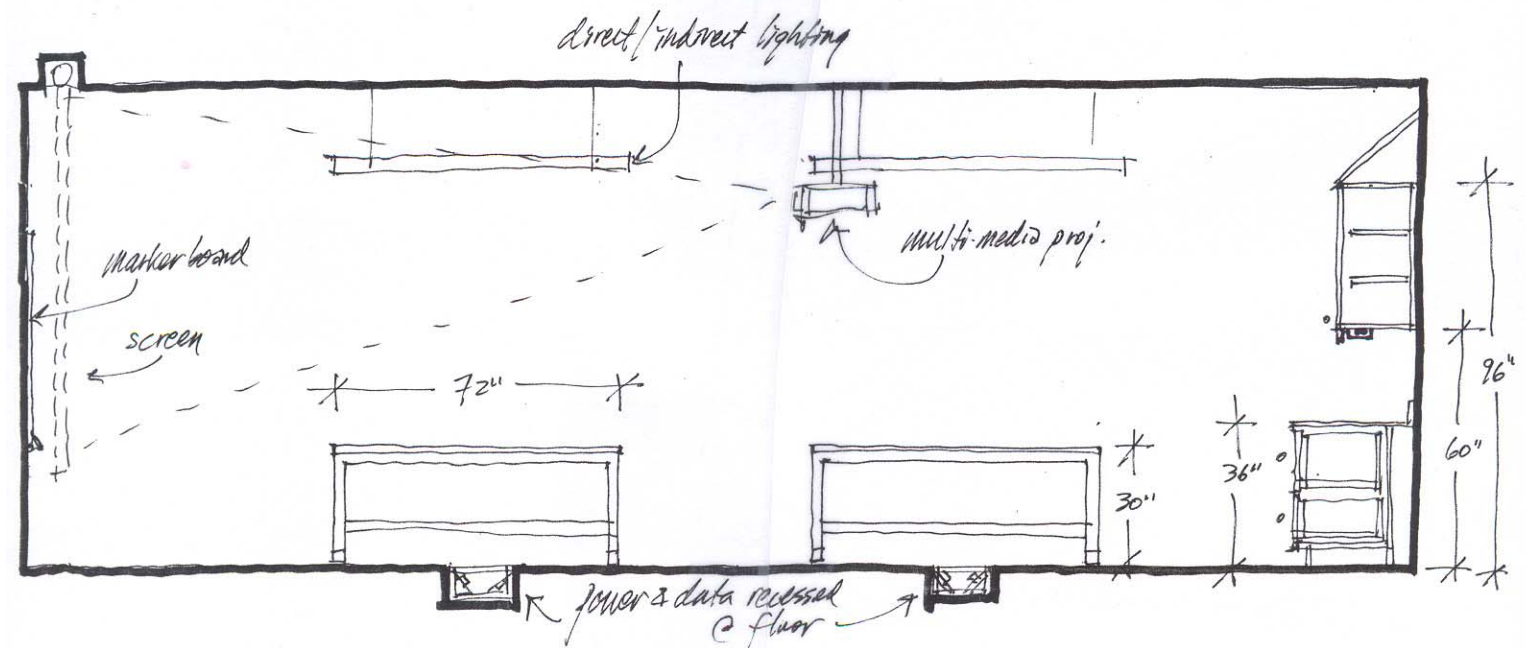
Elevations L3C17



h

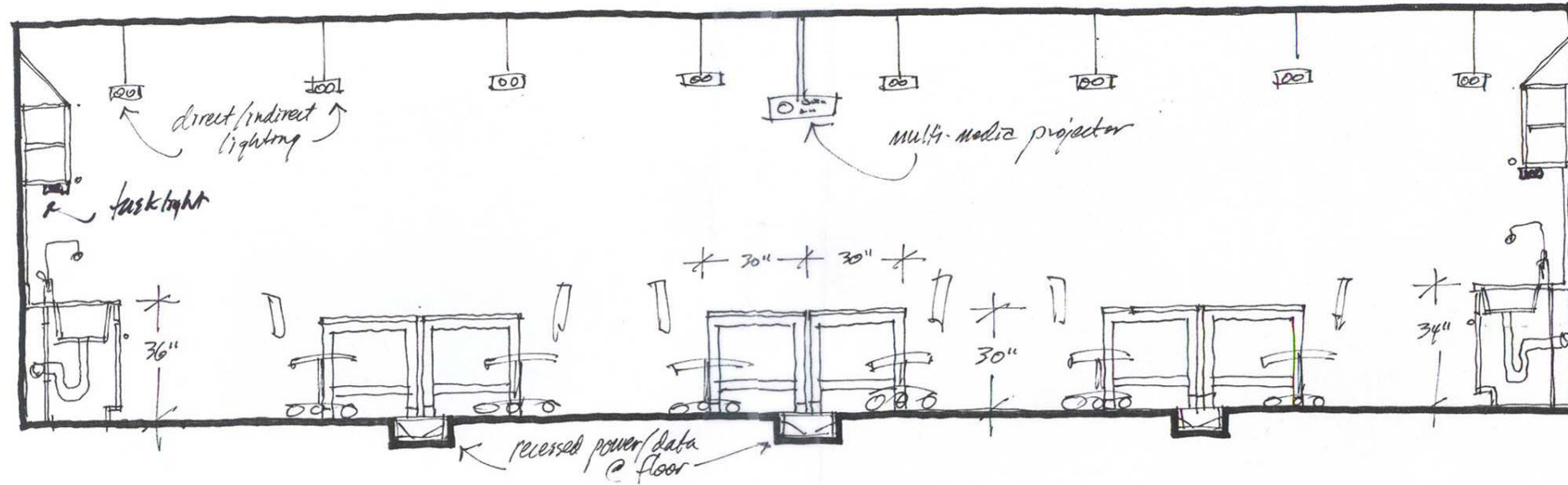


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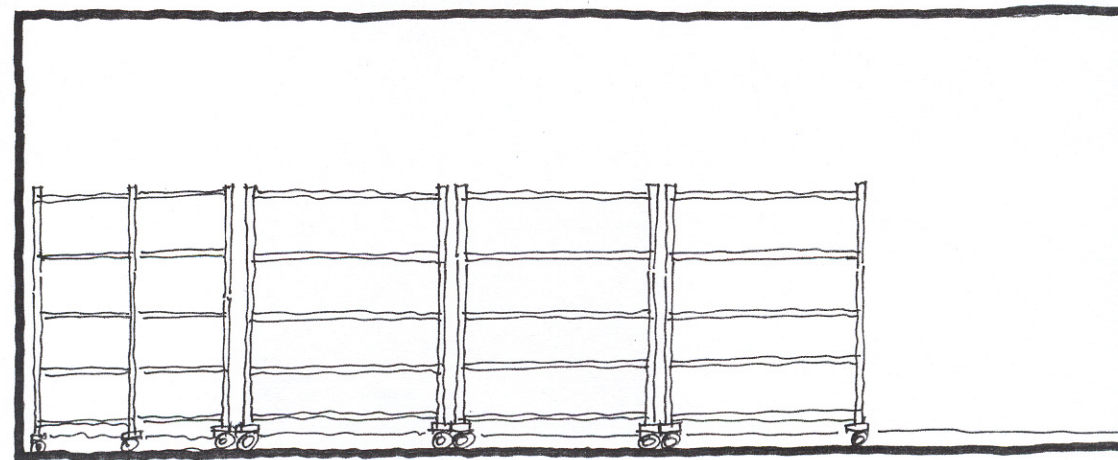


j

Elevations L3C17

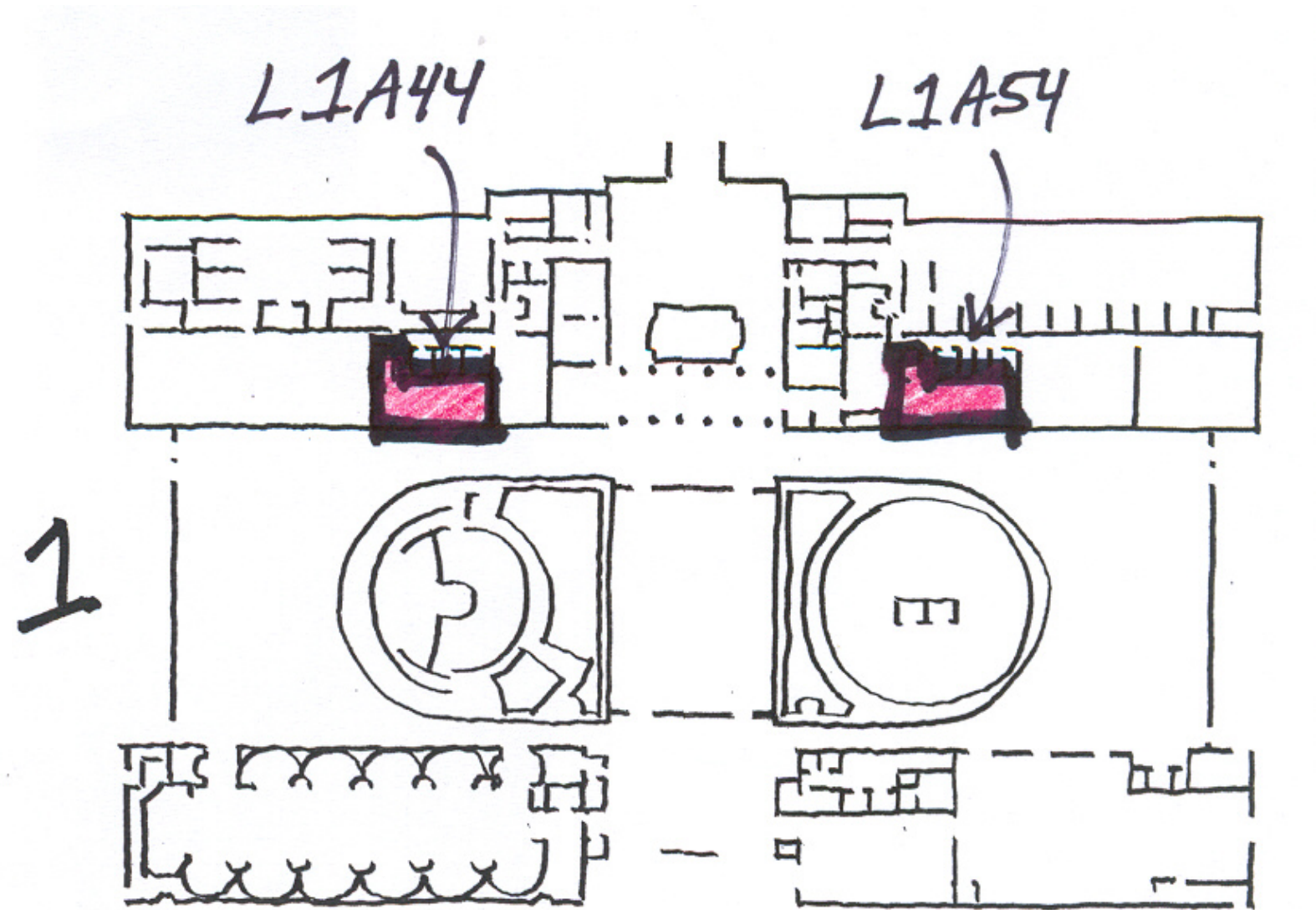


k



l

Level 1 Labs



L1A44: Research Project Laboratory
L1A54: Research Project Laboratory

Research Project Laboratory L1A44

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; Side doors:
 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust
 Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks
 Cold Water (CW) at sinks and fume hood
 Drench Hose (DH) as sinks
 Safety Shower/Eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter and
 suspended at service columns
 110v20a1ph duplex at perimeter and fume hood
 Standby power (e) at equipment space
 Data junction boxes at perimeter
 and suspended at service column
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting below wall cabinets and shelves

GROUP 1 EQUIPMENT (Contractor Furnished)

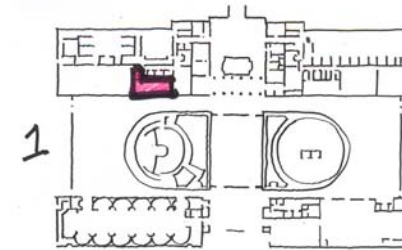
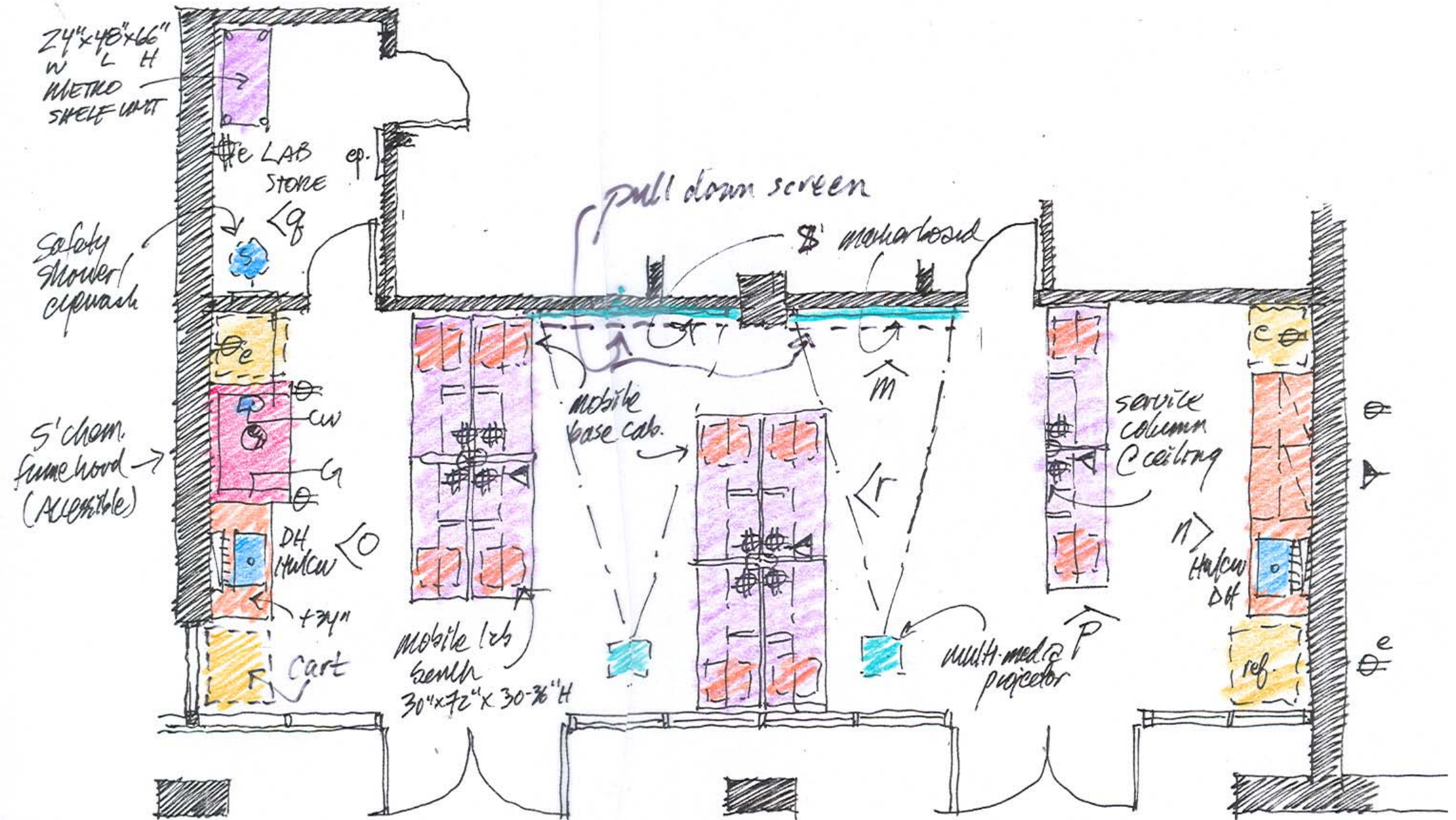
Fixed bench with sink, pipe enclosure
 Wall cabinets
 Base cabinets
 Marker board
 Multi-media projector
 Metro shelf units in adjacent storage room
 5' Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

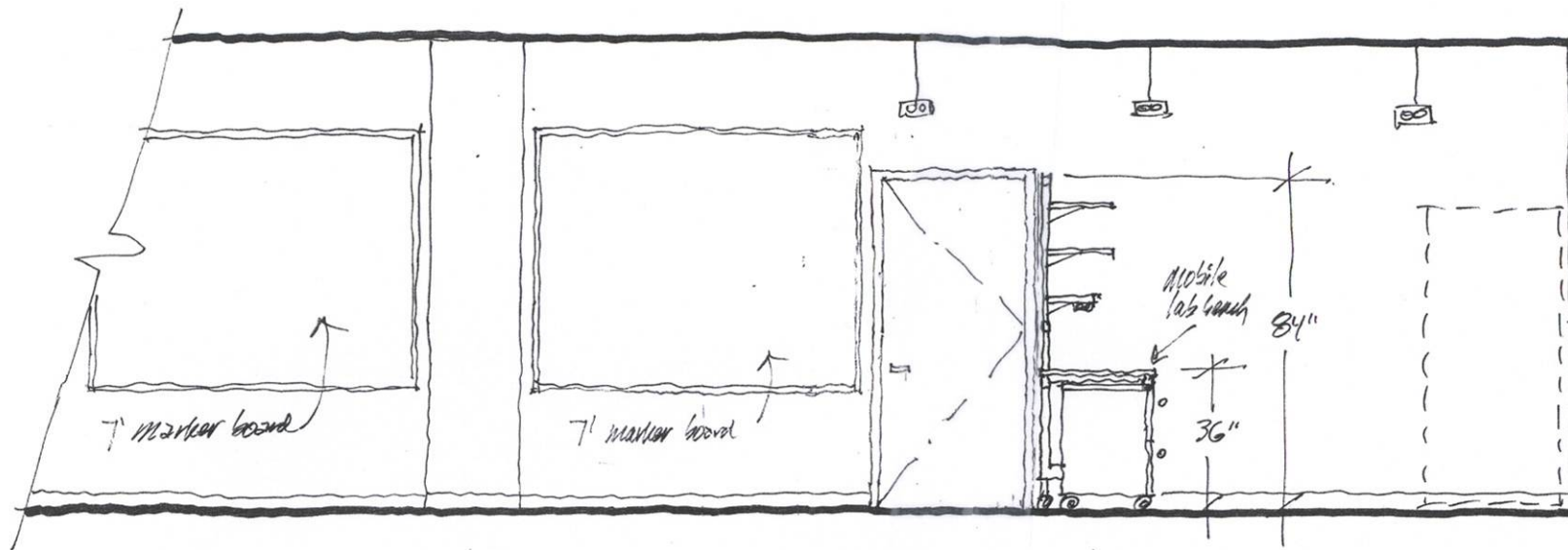
chairs

SCIENTIFIC EQUIPMENT

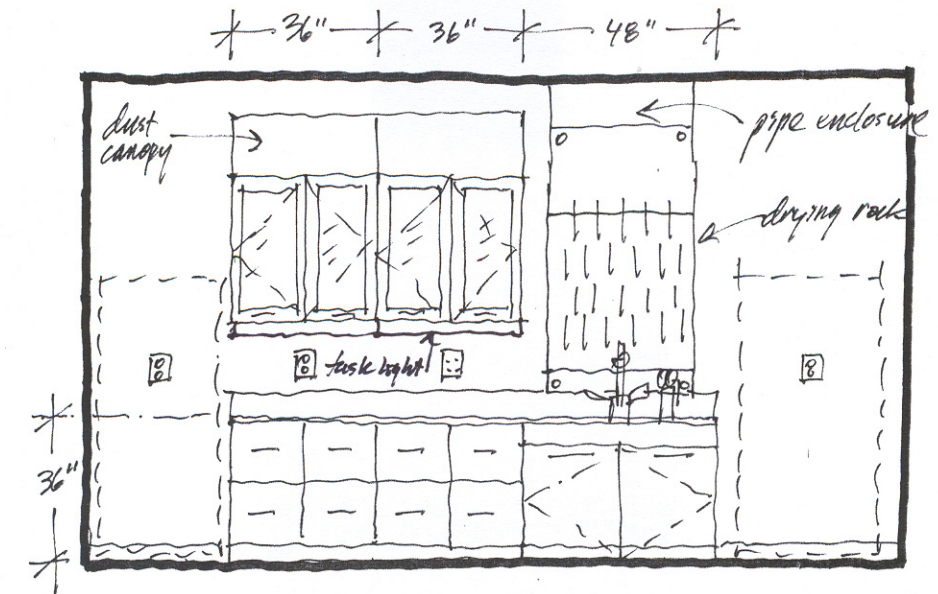
Computers
 Benchtop analytical Instruments
 Freezer
 Refrigerator



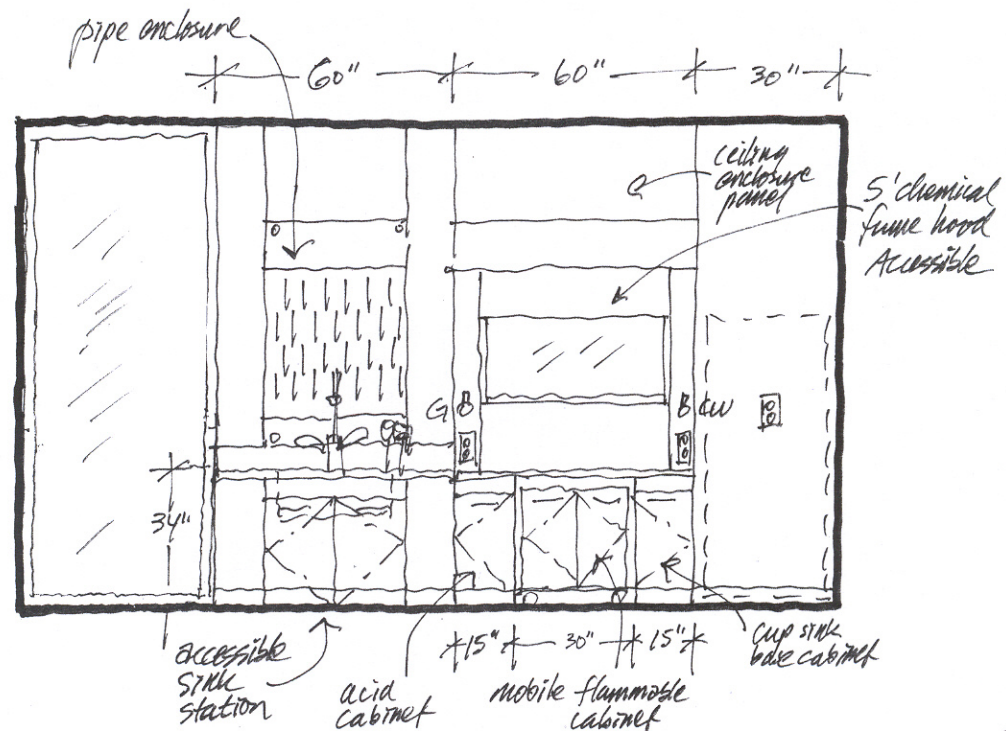
Elevations L1A44



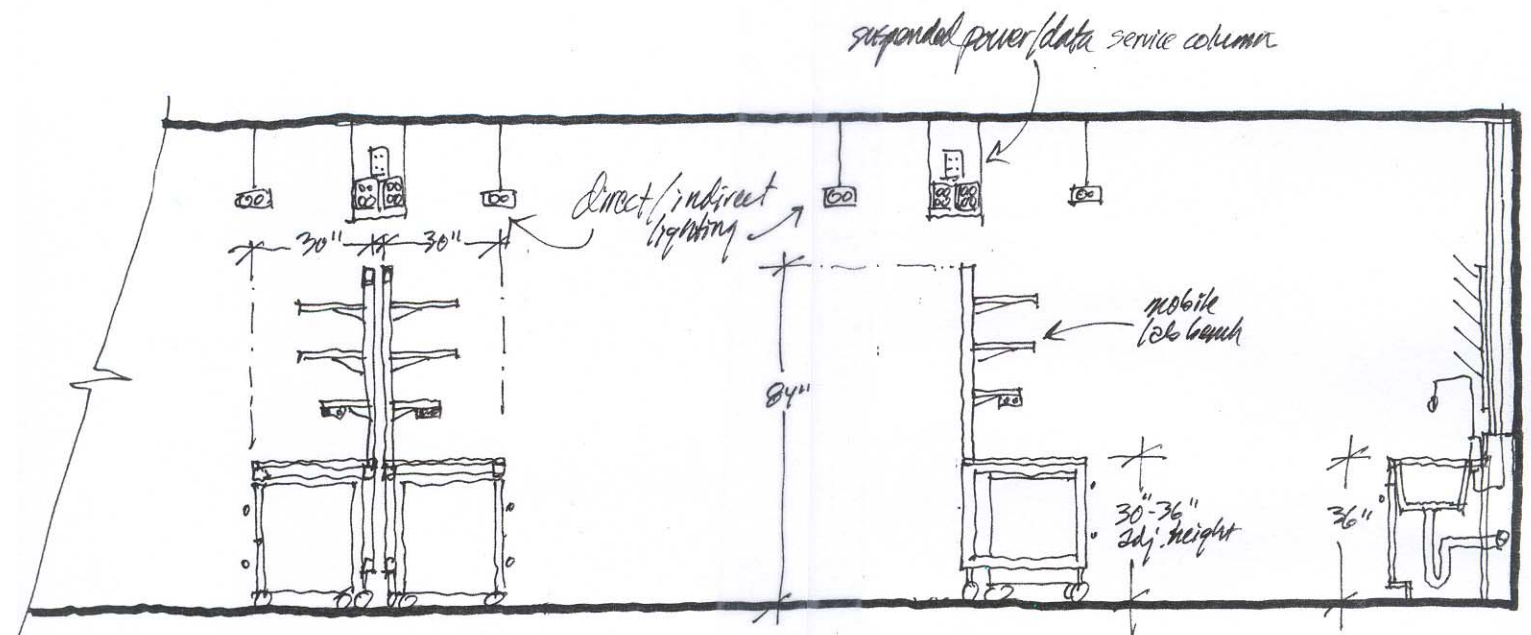
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n

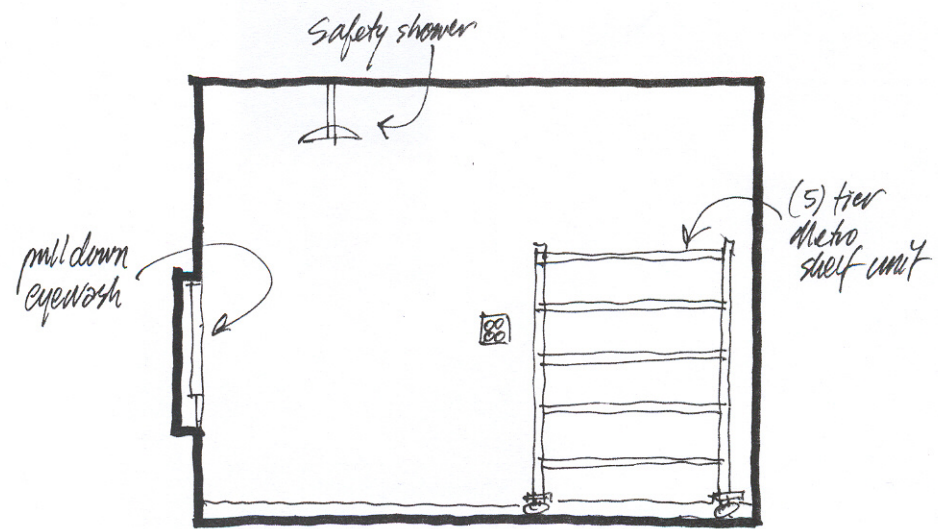


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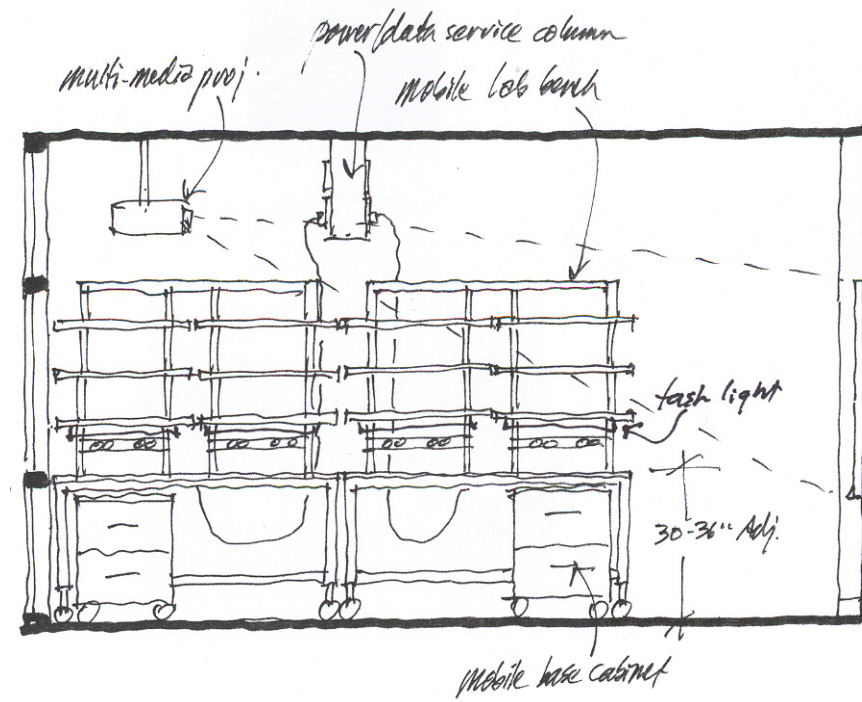


p

Elevations L1A44



q



r

Research Project Laboratory L1A54

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; Side doors: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust
 Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks
 Cold Water (CW) at sinks and fume hood
 Drench Hose (DH) as sinks
 Safety Shower/Eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter and suspended at service columns
 110v20a1ph duplex at perimeter and fume hood
 Standby power (e) at equipment space
 Data junction boxes at perimeter and suspended at service column
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting below wall cabinets and shelves

GROUP 1 EQUIPMENT (Contractor Furnished)

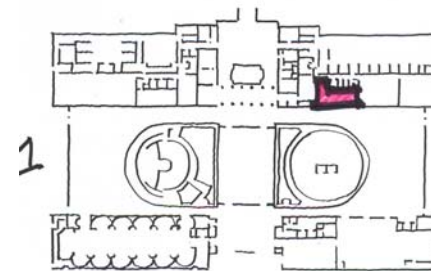
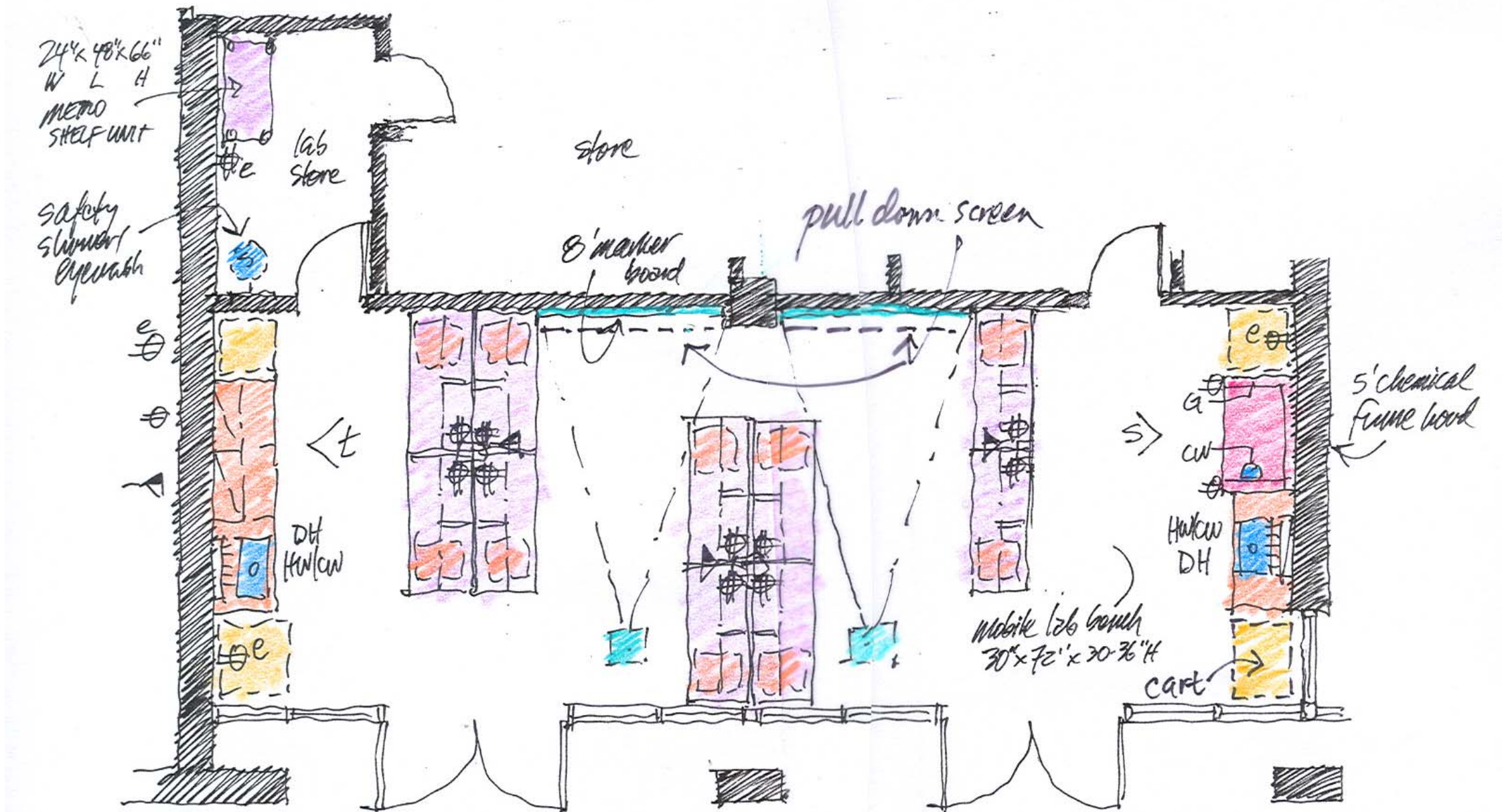
Fixed bench with sink, pipe enclosure
 Wall cabinets
 Base cabinets
 Marker board
 Multi-media projector
 Metro shelf units in adjacent storage room
 5' Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

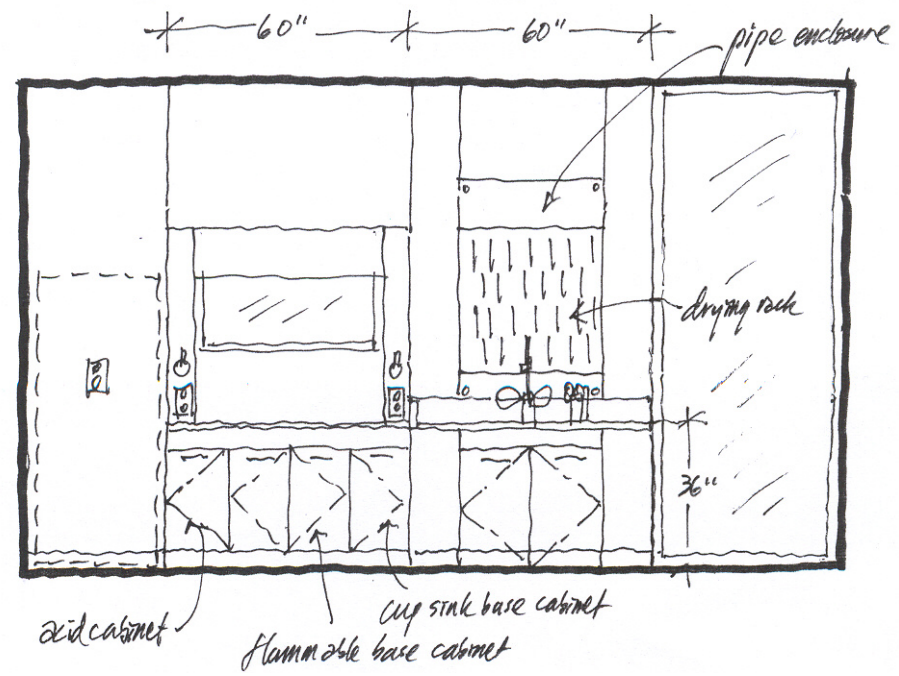
chairs

SCIENTIFIC EQUIPMENT

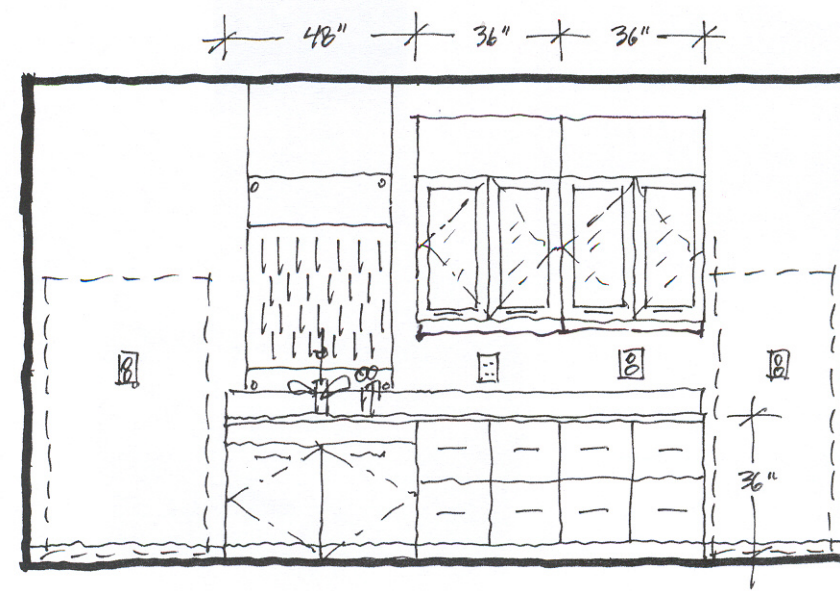
Computers
 Benchtop analytical Instruments
 Freezer
 Refrigerator



Elevations L1A54

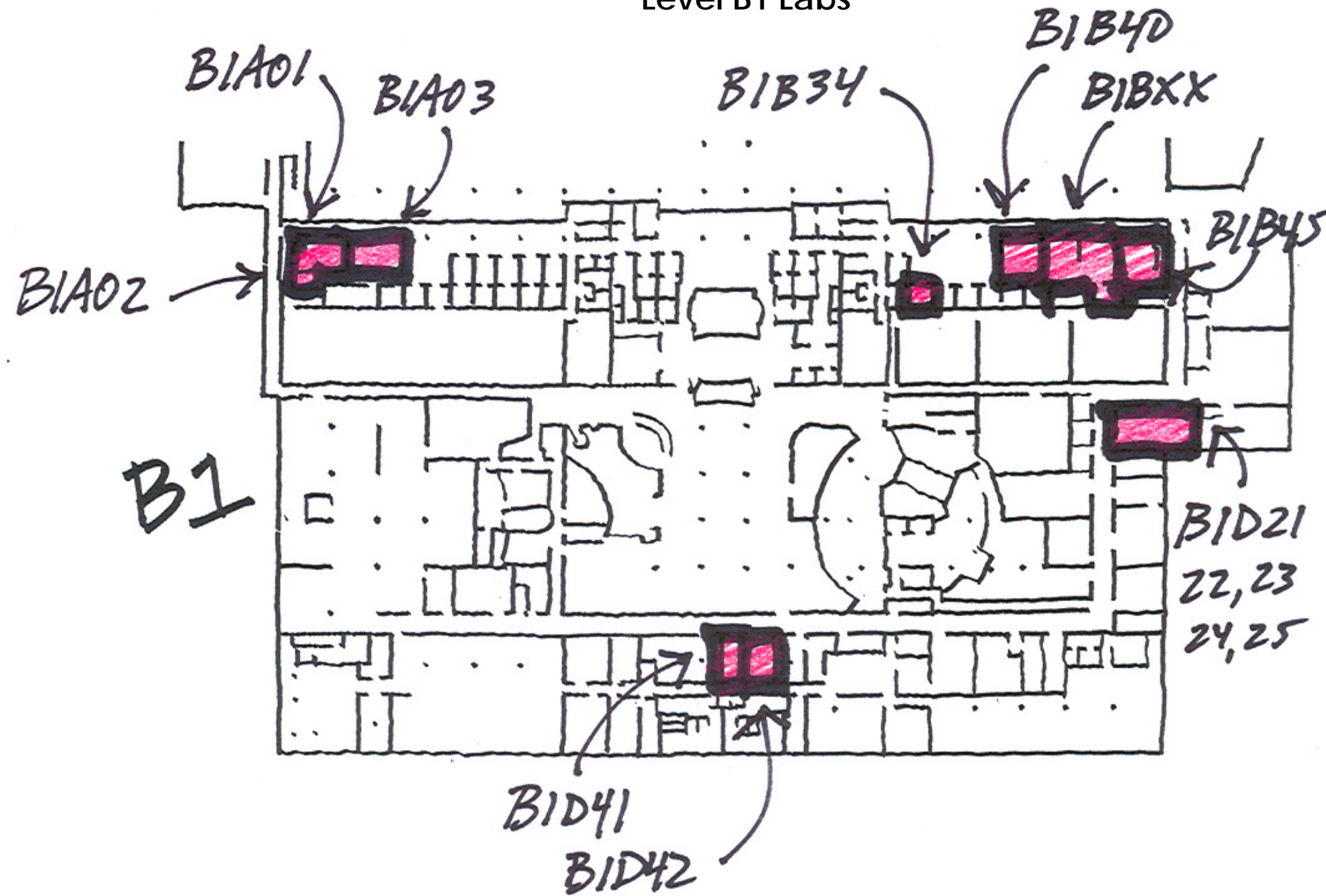


s



t

Level B1 Labs



B1A01: Cytology
 B1A02: Collection Supply
 B1A03: Botany Prep
 B1B34: Ancient DNA

B1B40: Anthro Prep
 B1BXX: Herp & Icht Prep
 B1B44: Collection Supply
 B1B45: Orn & Mamm Prep

B1D41: Herp Bio
 B1D42: Aquatics Bio I.Z. & G.
 B1D21, 22, 23, 24, 25: Aquatics Suite

Cytology Laboratory B1A01

With Collection Supplies B1A02

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; Side doors: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust
 Negative pressure
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink
 Cold Water (CW) at sink and fume hood;
 Drench Hose (DH) as sink

ELECTRICAL

110v20a1ph fourplex at perimeter and at center bench
 110v20a1ph duplex at perimeter and fume hood
 Standby power (e) at equipment space
 Data junction boxes at perimeter and at center bench
 Lighting: Direct/indirect 75 f.c. at work surface
 Task Lighting below wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

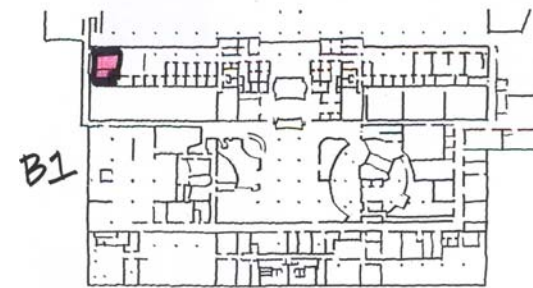
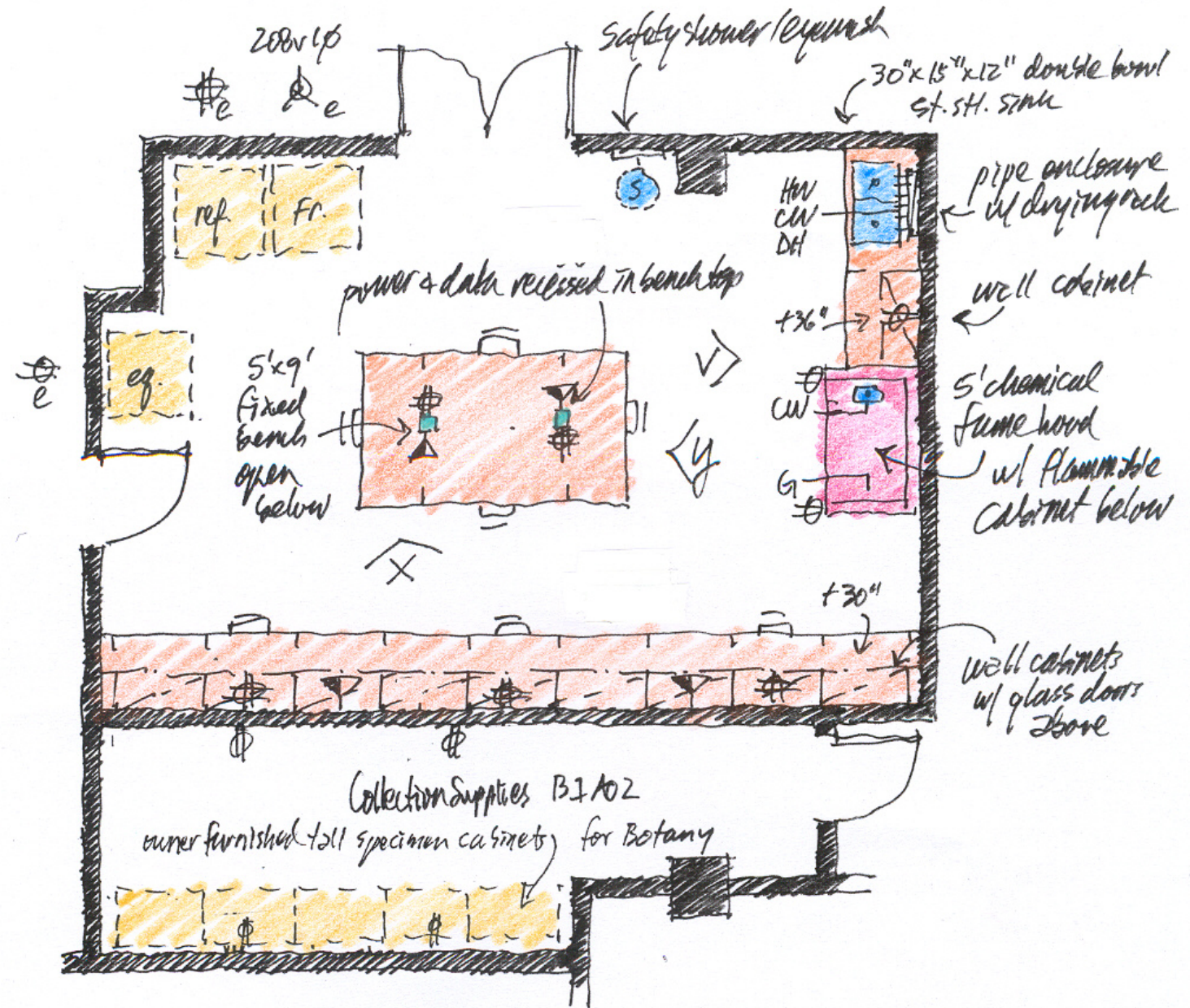
Fixed bench with sink, pipe enclosure
 Wall cabinets
 Base cabinets
 5' Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

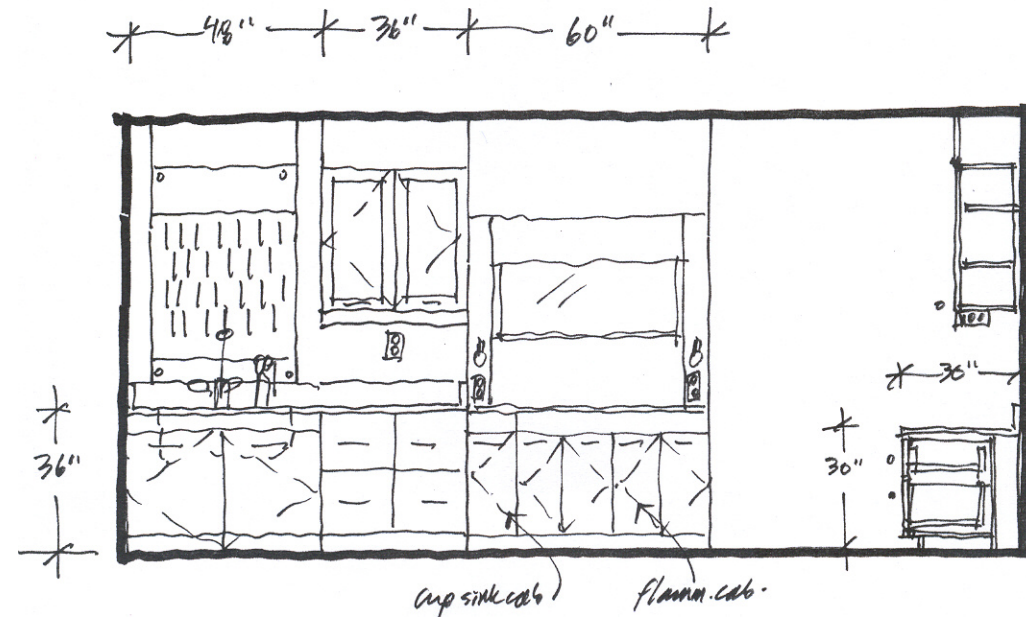
chairs

SCIENTIFIC EQUIPMENT

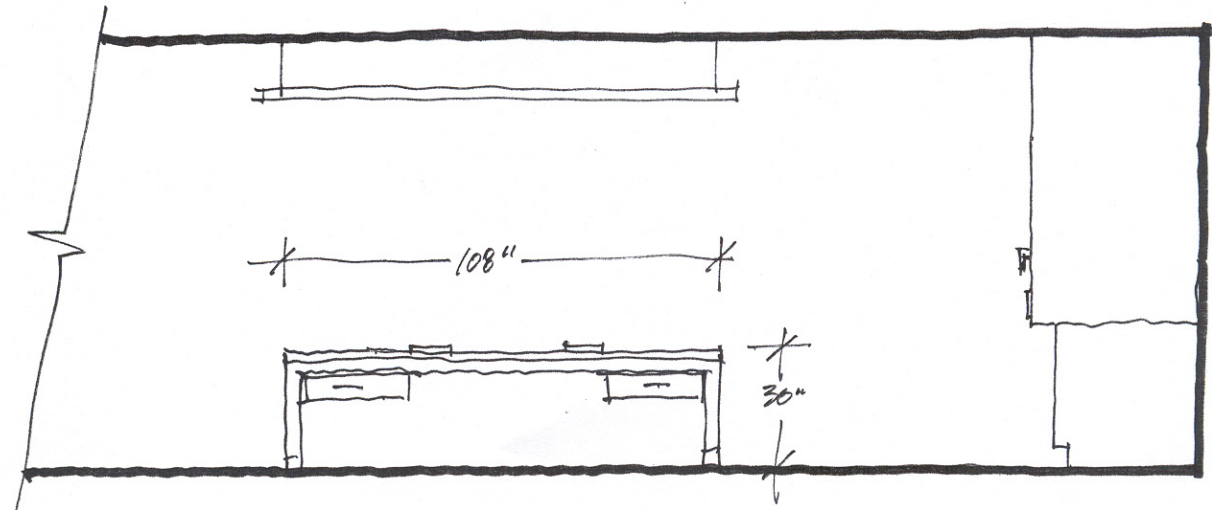
Computers
 Benchtop analytical Instruments
 Refrigerator
 Freezer



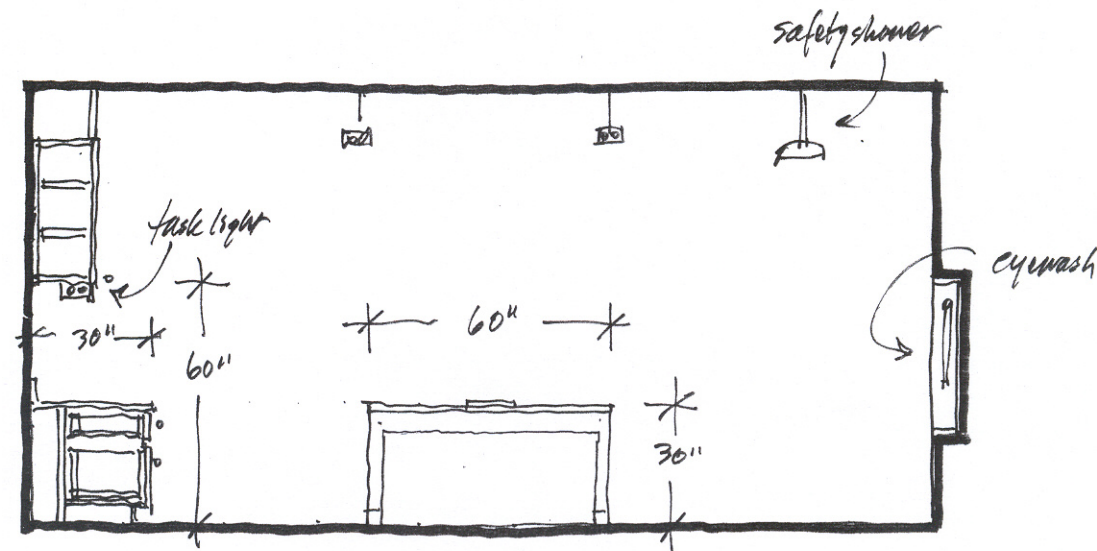
Elevations B1A01



V



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Botany Prep Area B1A03

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; Side doors:
 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink;
 Cold Water (CW) at sink;

ELECTRICAL

110v20a1ph fourplex at perimeter and
 recessed at floor
 110v20a1ph duplex at perimeter
 Data junction boxes at perimeter and
 recessed at floor
 Lighting: Direct/indirect 75 f.c. at work surface

GROUP 1 EQUIPMENT (Contractor Furnished)

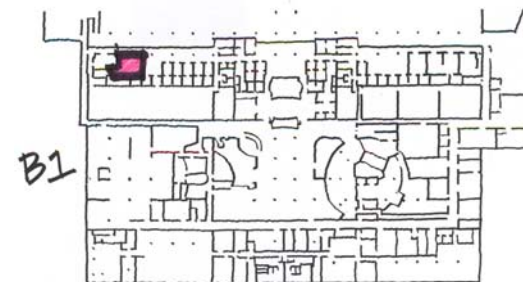
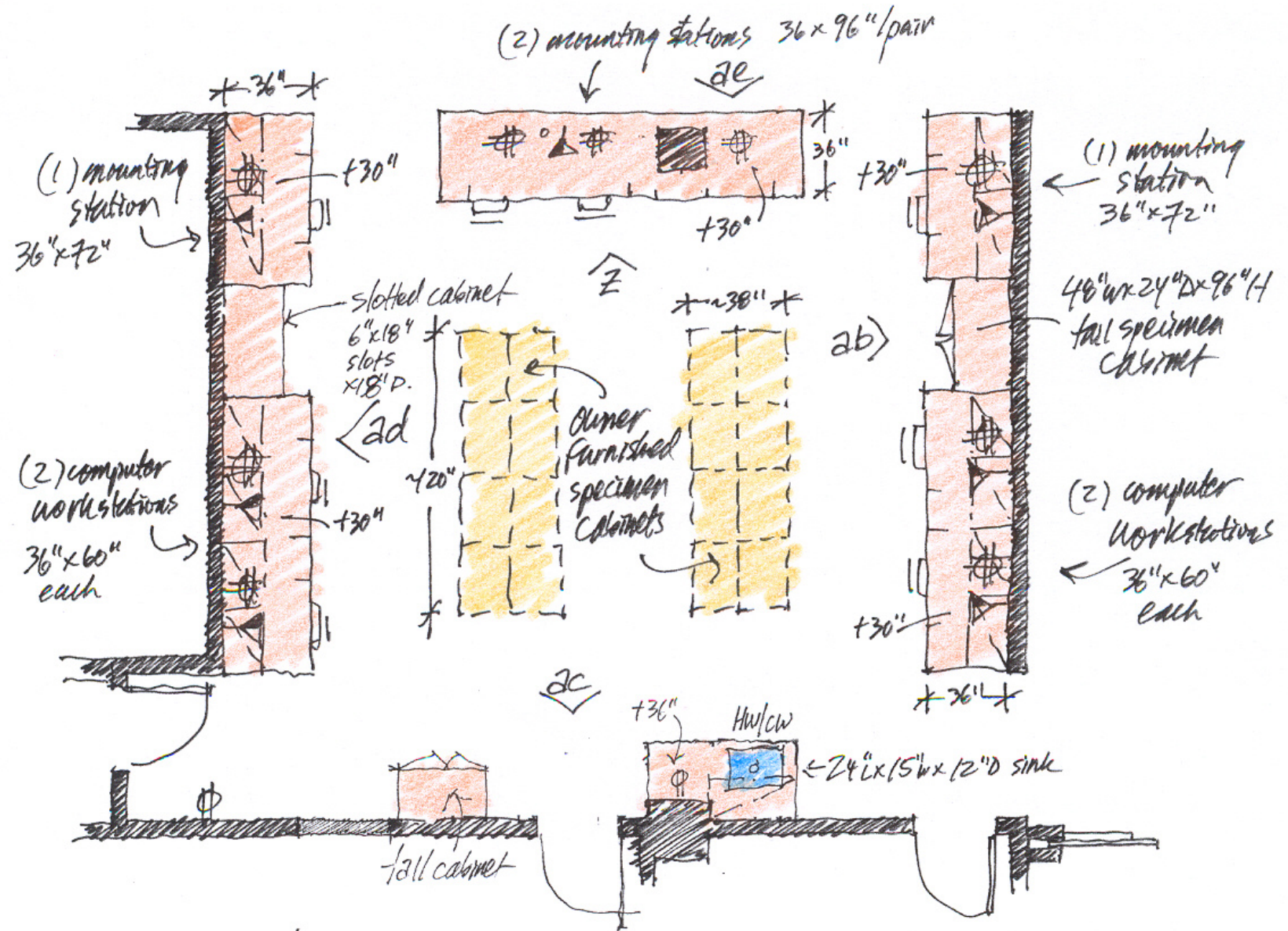
Fixed bench with sink
 Wall cabinets
 Tall cabinets

GROUP 2 EQUIPMENT (Owner Furnished)

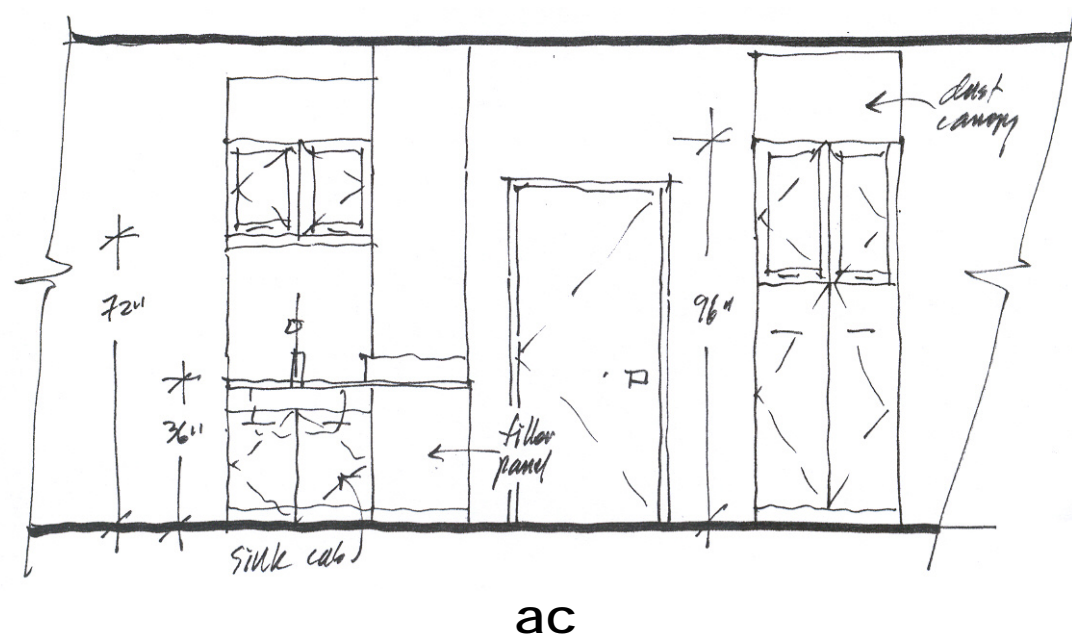
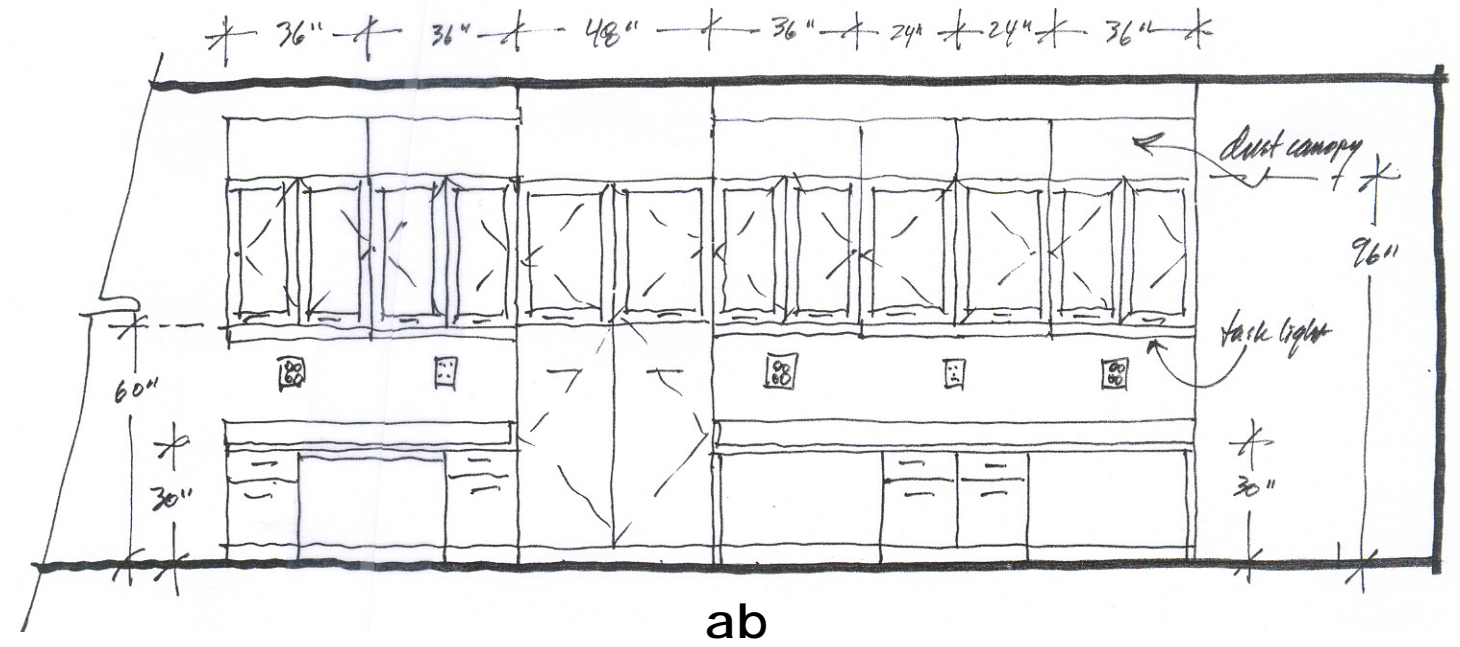
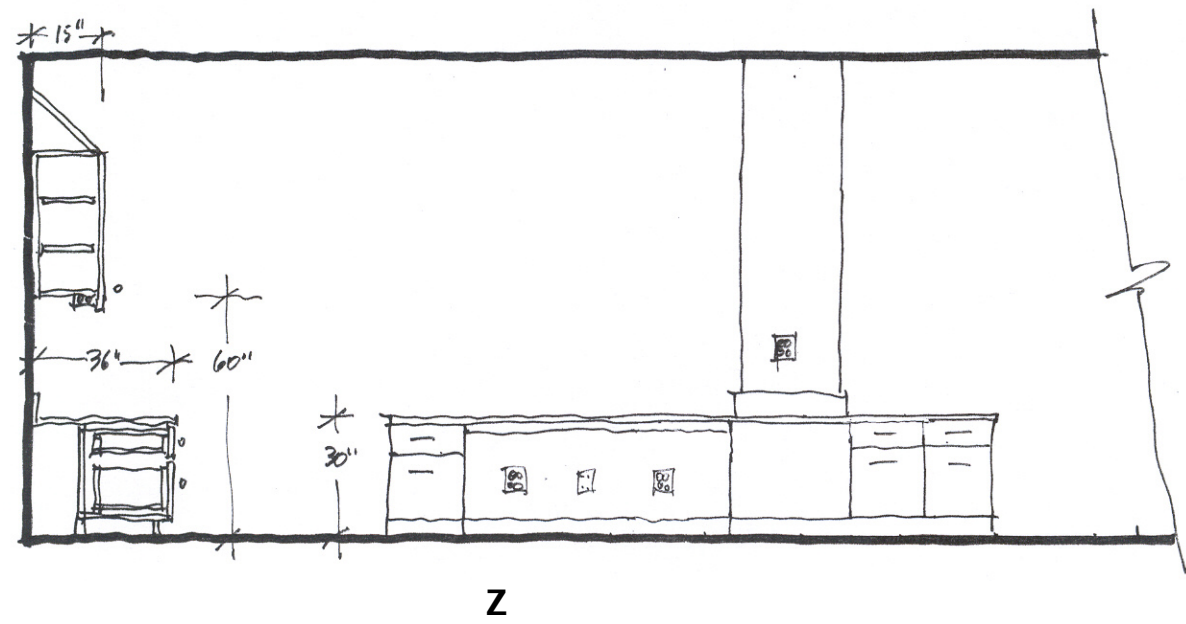
chairs

SCIENTIFIC EQUIPMENT

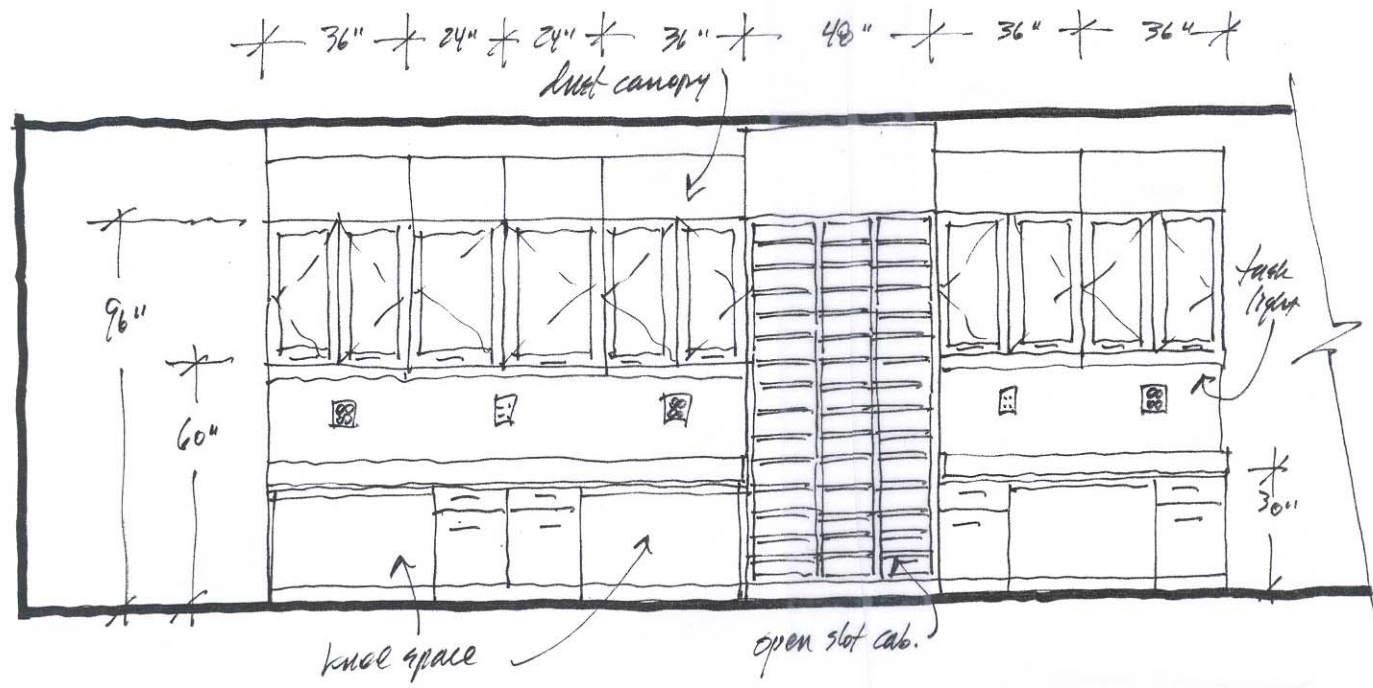
Computers;
 Benchtop analytical Instruments;



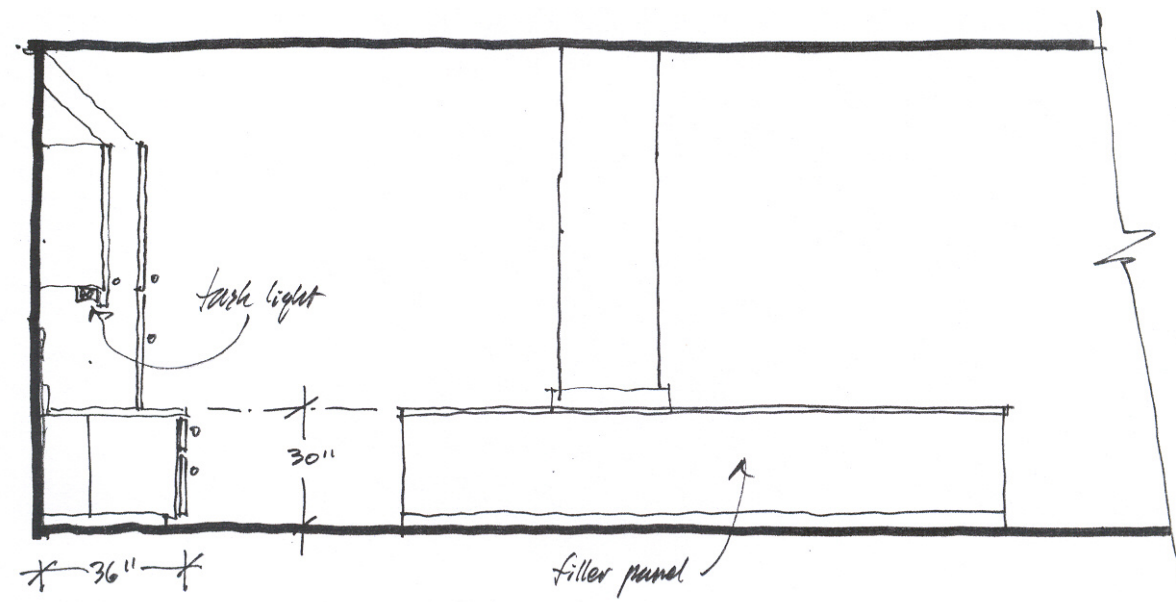
Elevations B1A03



Elevations B1A03



ad



ae

Ancient DNA B1B34

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

None

ELECTRICAL

110v20a1ph fourplex at perimeter
 Data junction boxes at perimeter
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting below wall shelves

GROUP 1 EQUIPMENT (Contractor Furnished)

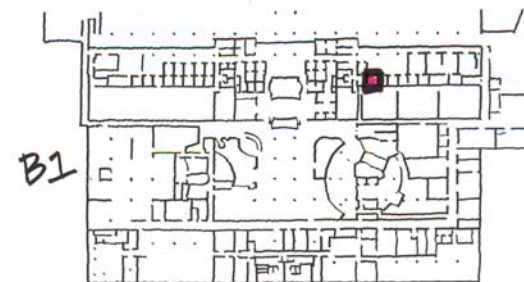
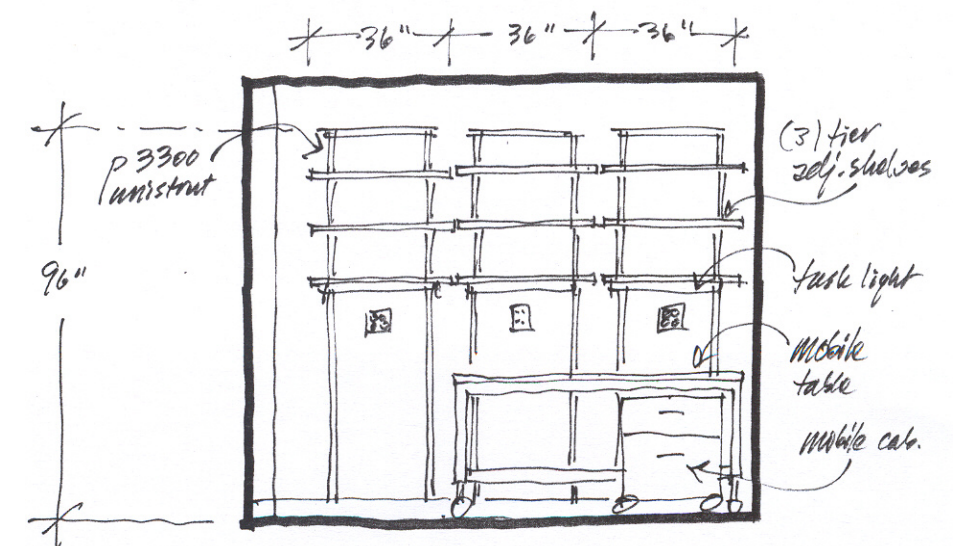
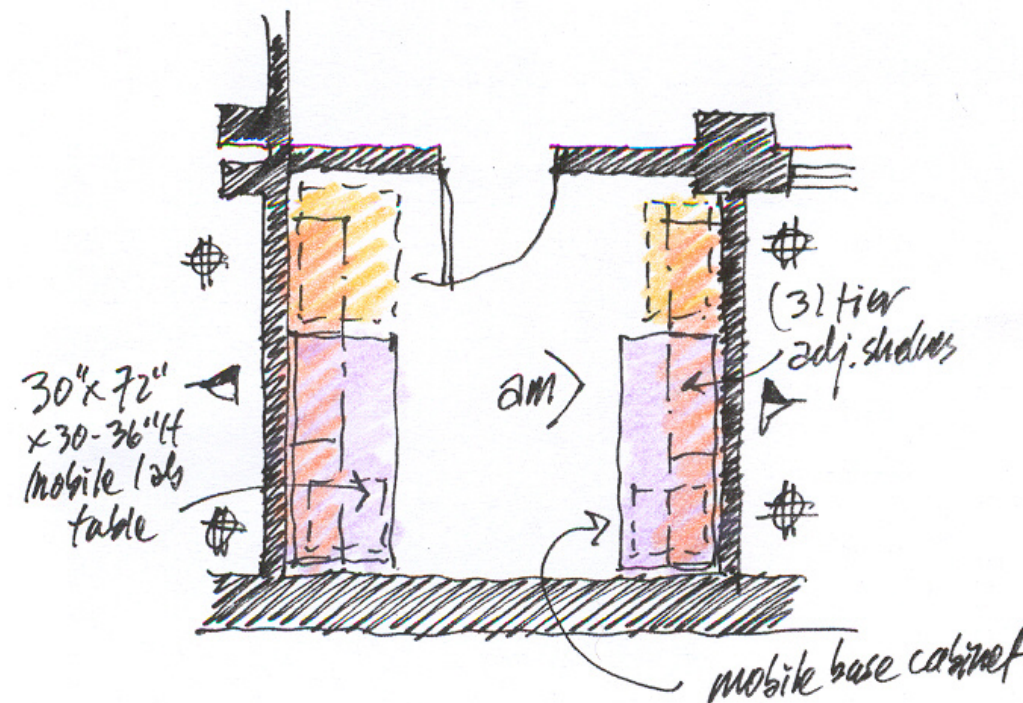
Wall shelves
 Mobile lab benches

GROUP 2 EQUIPMENT (Owner Furnished)

chairs

SCIENTIFIC EQUIPMENT

Computers;
 Benchtop analytical Instruments;



Anthropology Prep B1B40

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84";
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink
 Cold Water (CW) at sinks

ELECTRICAL

110v20a1ph fourplex at perimeter
 Data junction boxes at perimeter
 Lighting: Direct/indirect 75 f.c. at work surface
 Task lighting below wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

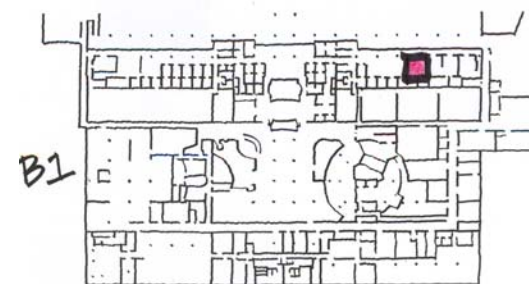
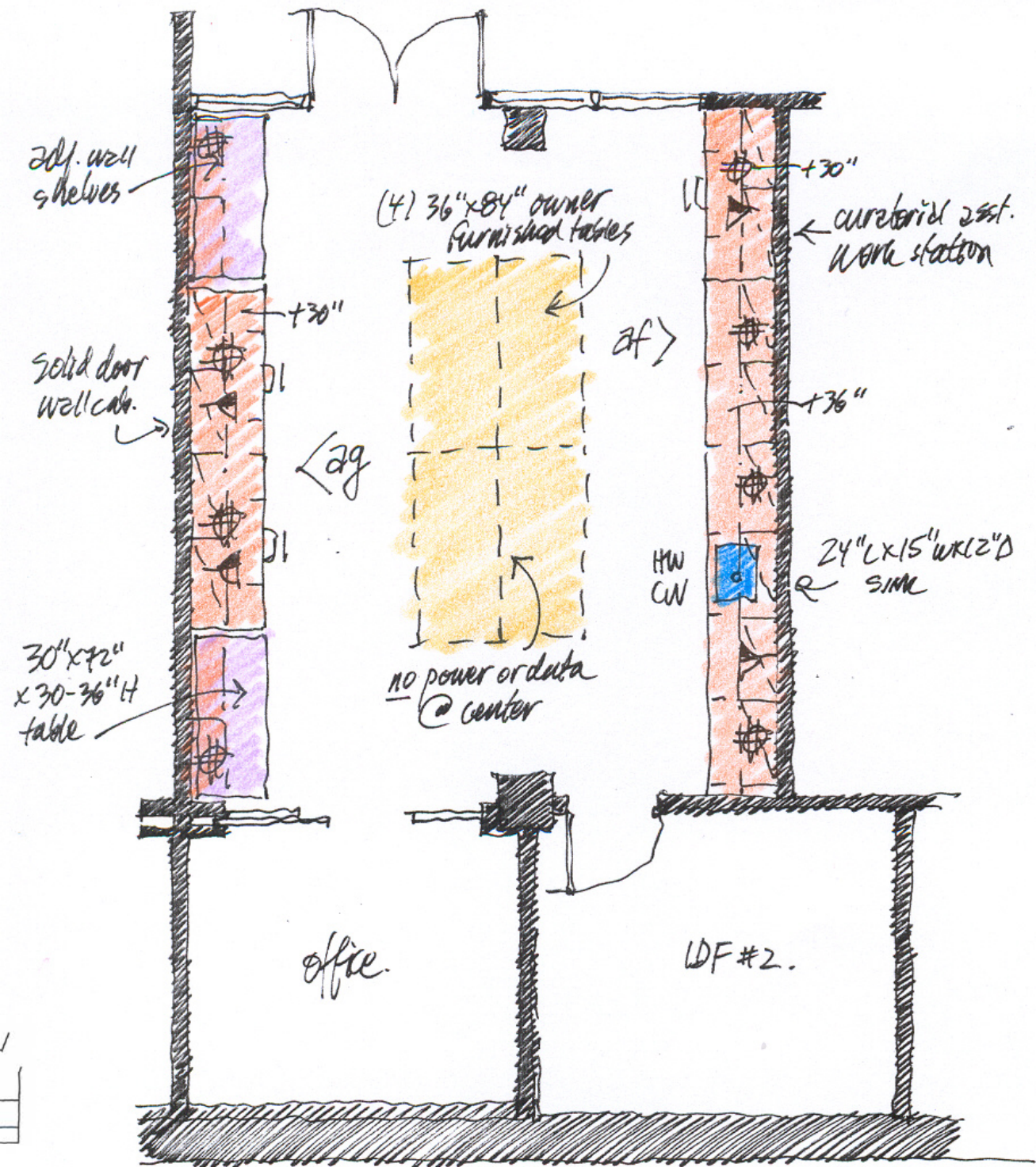
Fixed bench with sink
 Base cabinets
 Wall cabinets
 Mobile lab tables
 Adjustable wall shelves

GROUP 2 EQUIPMENT (Owner Furnished)

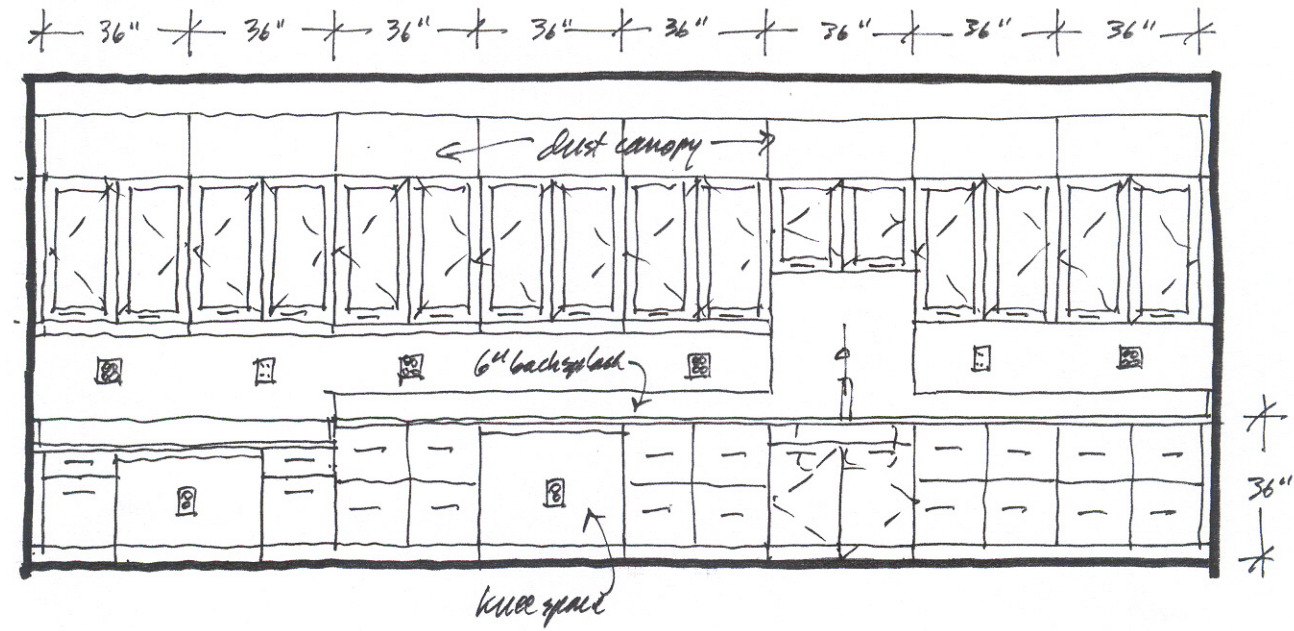
Chairs
 Tables

SCIENTIFIC EQUIPMENT

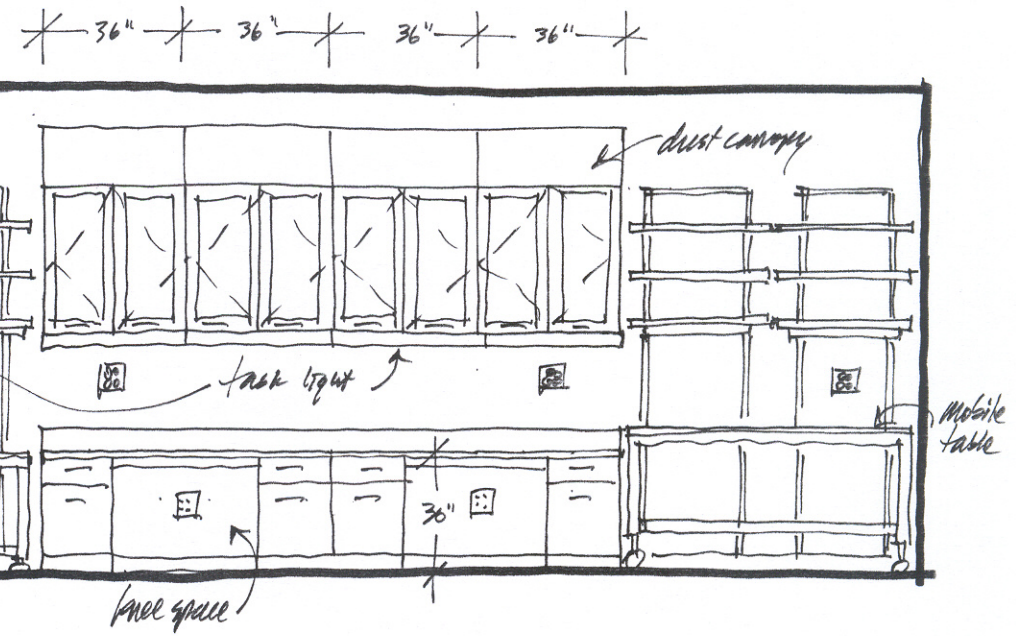
Computers;
 Benchtop analytical Instruments;



Elevations B1B40



af



ag

Herpetology & Ichthyology Prep B1BXX with collection supplies B1B44

ARCHITECTURAL

Floor: rubber tile
Walls: dens board, enamel paint
Ceiling: acoustic tile
Entry doors: pair 36"x84"/36"x84"; Side doors: 36"x84"
Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust; Negative pressure;
6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks and fume hood
Cold Water (CW) at sinks and fume hood;
Drench Hose (DH) as sinks
Safety Shower/Eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter
110v20a1ph duplex at fume hood
Data junction boxes at perimeter
Lighting: Direct/indirect 75 f.c. at work surface
Task lighting below wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

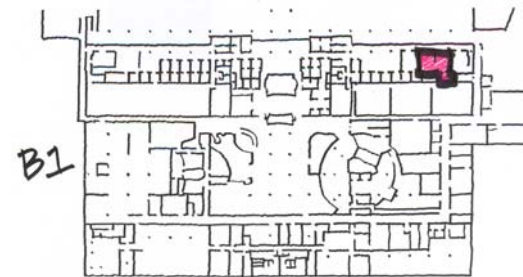
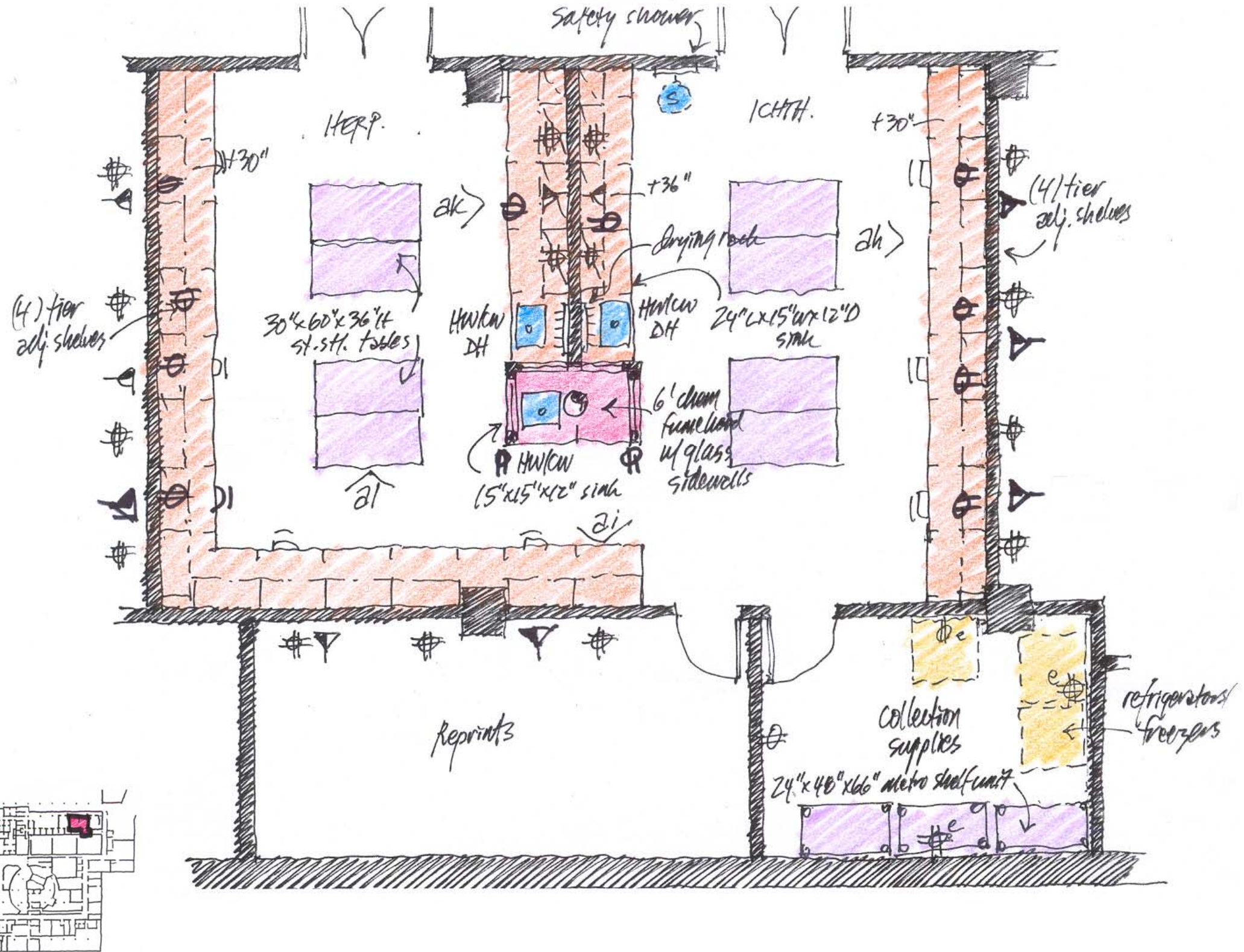
Fixed bench with sink, pipe enclosure
Wall cabinets
Base cabinets
Mobile lab tables (stainless steel)
Metro shelf units in adjacent storage room
Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

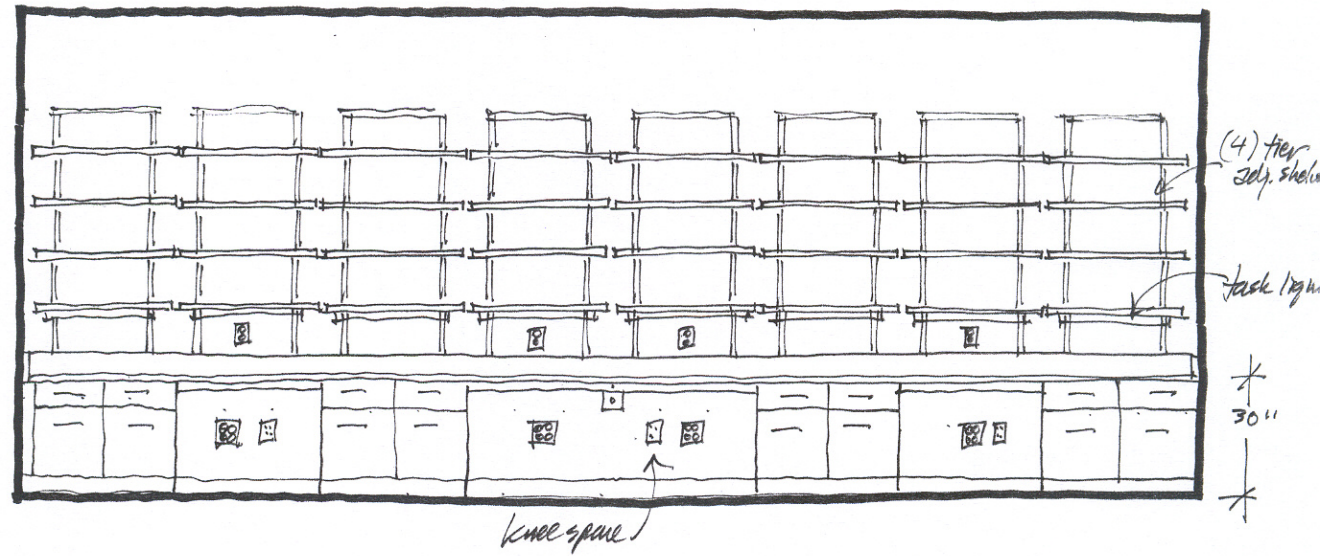
Chairs

SCIENTIFIC EQUIPMENT

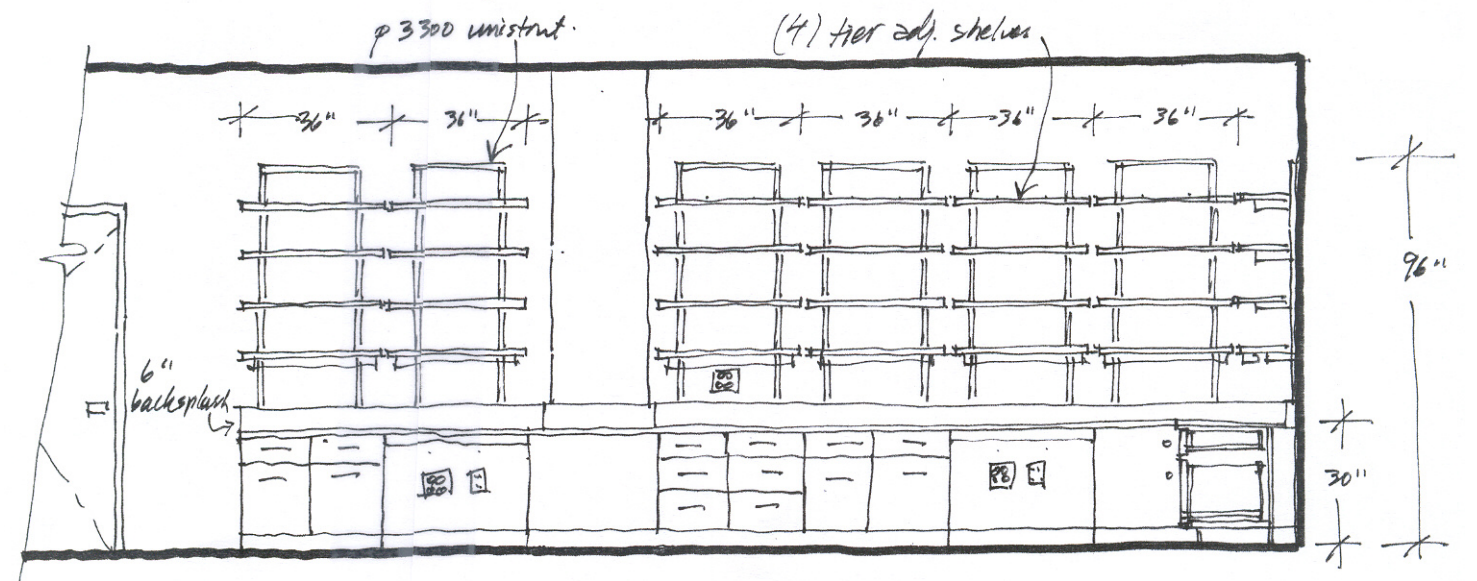
Computers;
Benchtop analytical Instruments;



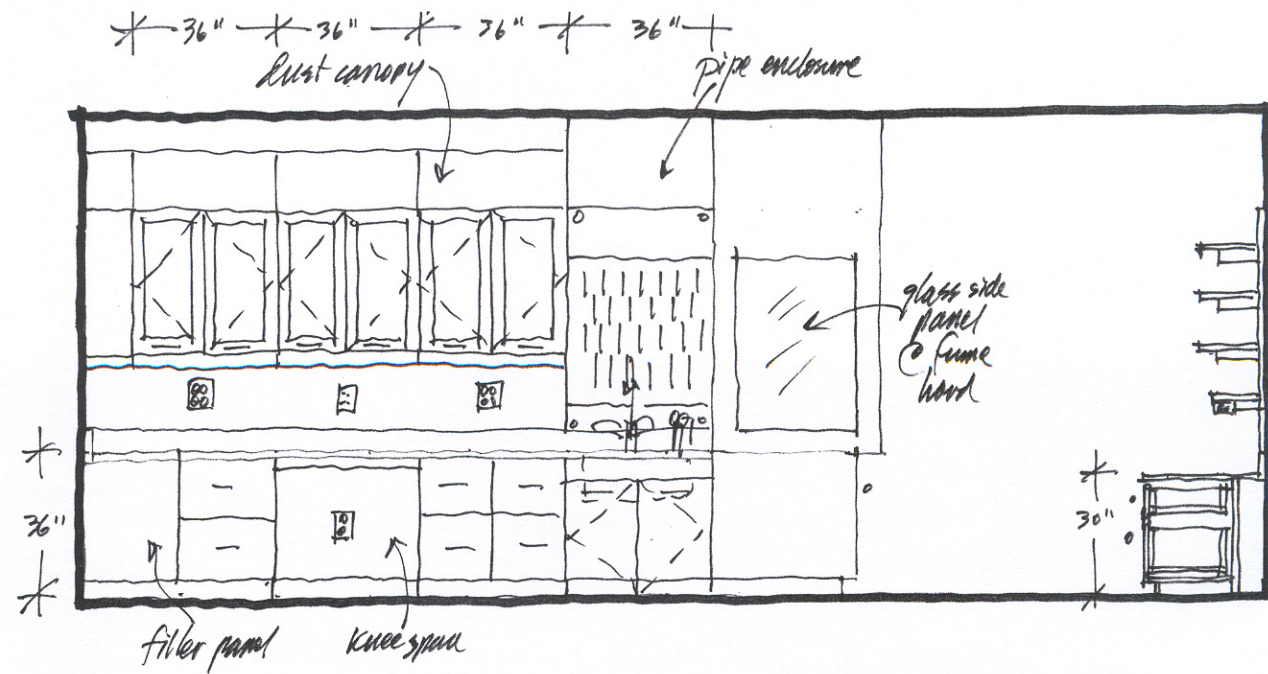
Elevations B1BXX



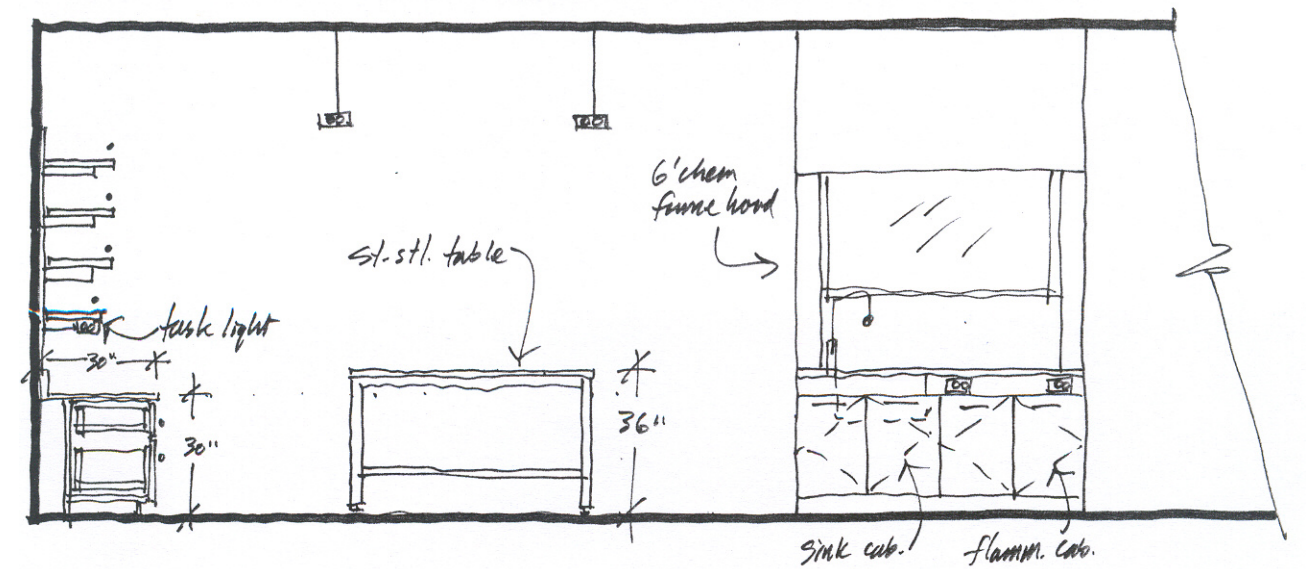
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Ornithology & Mammalogy Prep B1B45

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; Side doors: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink and fume hood
 Cold Water (CW) at sink and fume hood
 Drench Hose (DH) as sink
 Disposal at sink
 Safety Shower/eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter
 110v20a1ph duplex at perimeter and fume hood
 Standby power (e) at equipment space
 Data junction boxes at perimeter and suspended at service column
 Lighting: Direct/indirect 75 f.c. at work surface
 Task lighting below wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

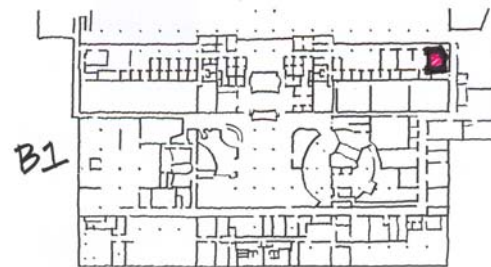
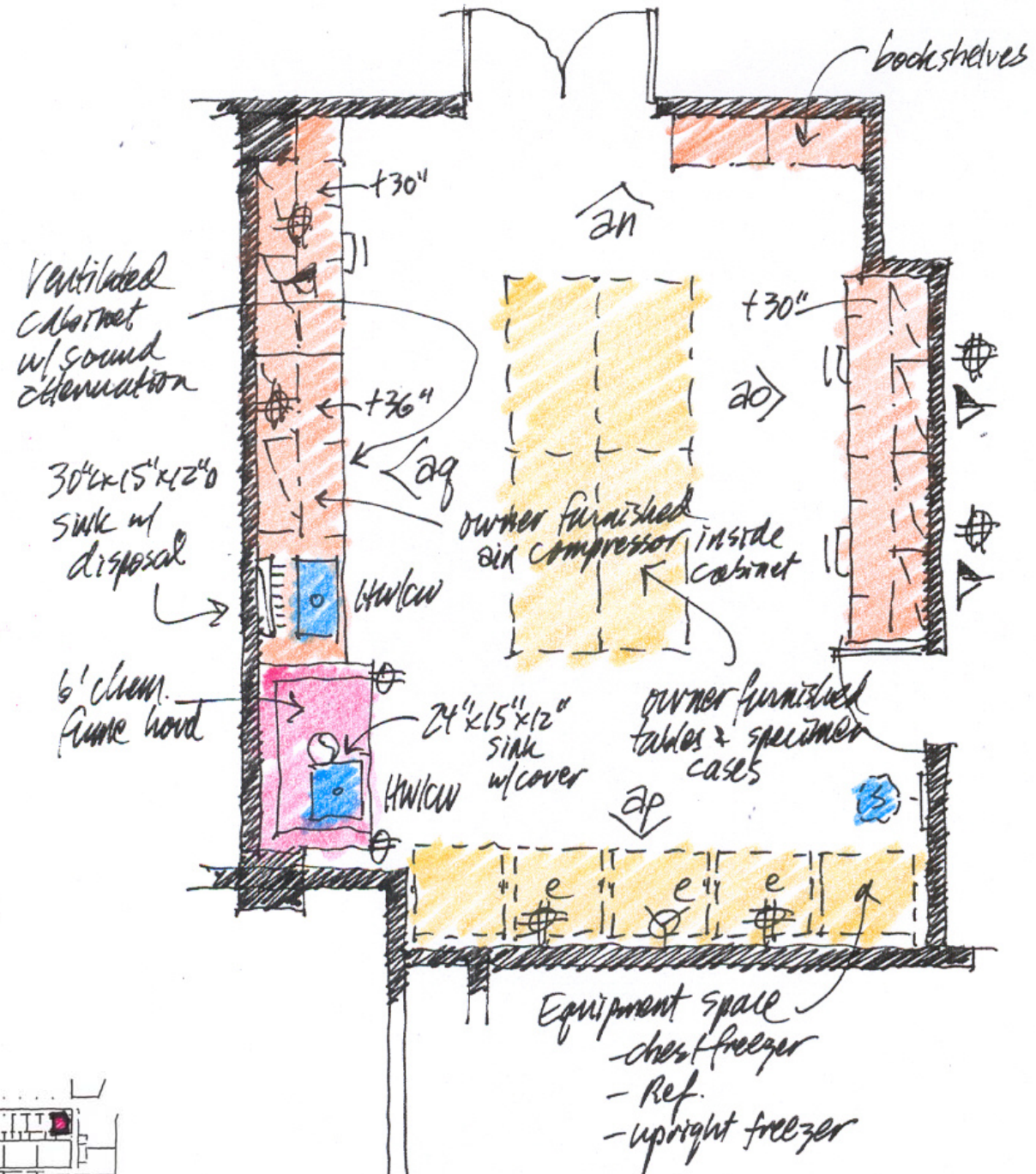
Fixed bench with sink, pipe enclosure
 Wall cabinets
 Base cabinets
 Sound Insulated base cabinet for air compressor
 6' Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

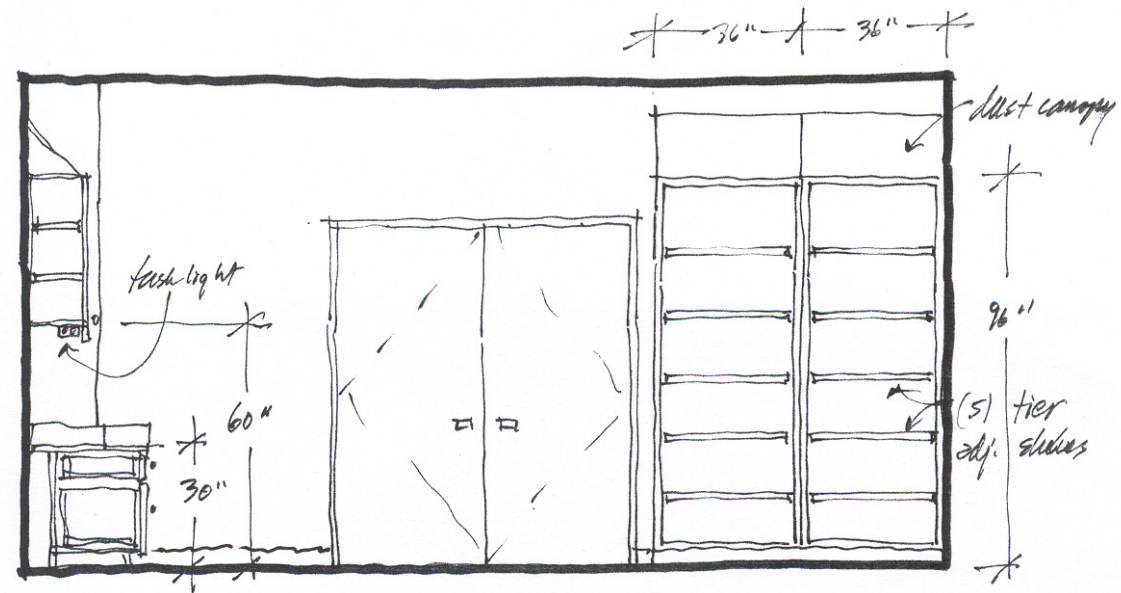
chairs

SCIENTIFIC EQUIPMENT

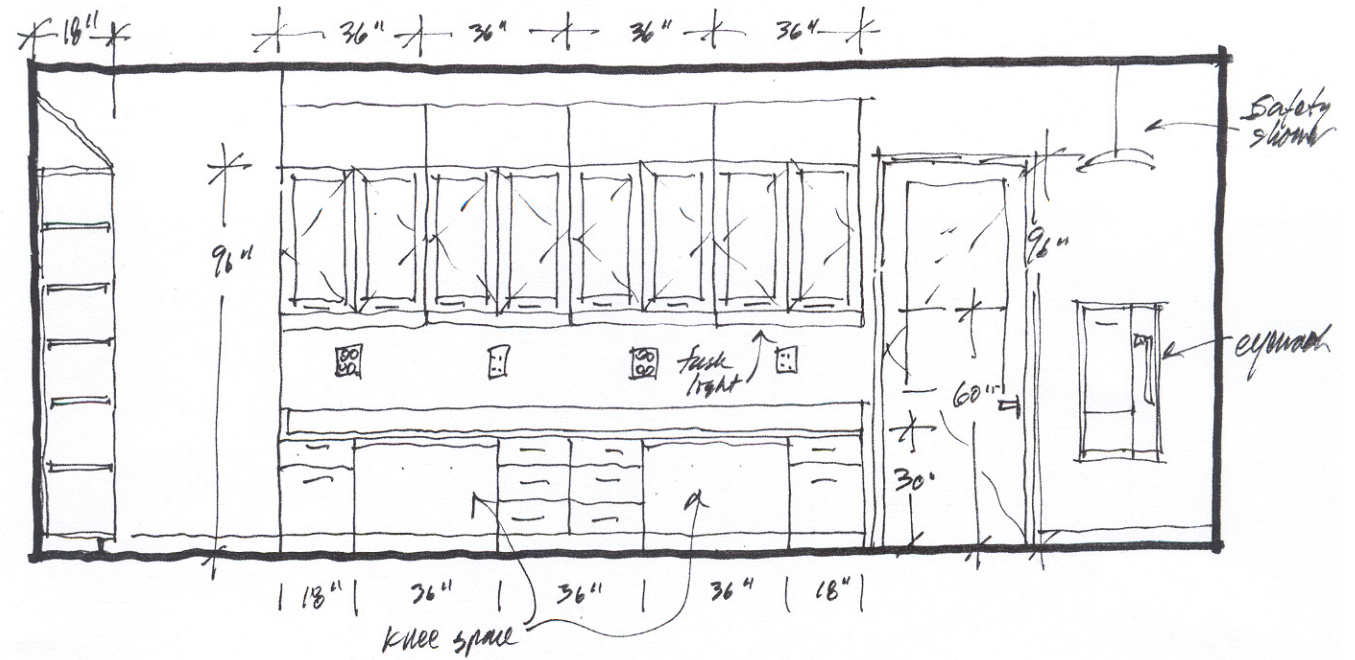
Computers
 Benchtop analytical Instrument
 Air Compressor



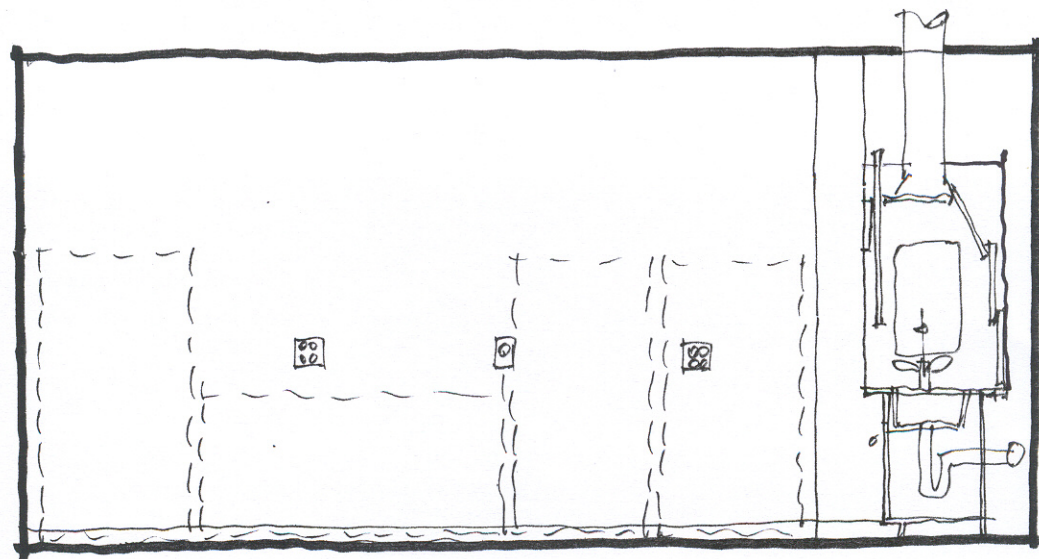
Elevations B1B45



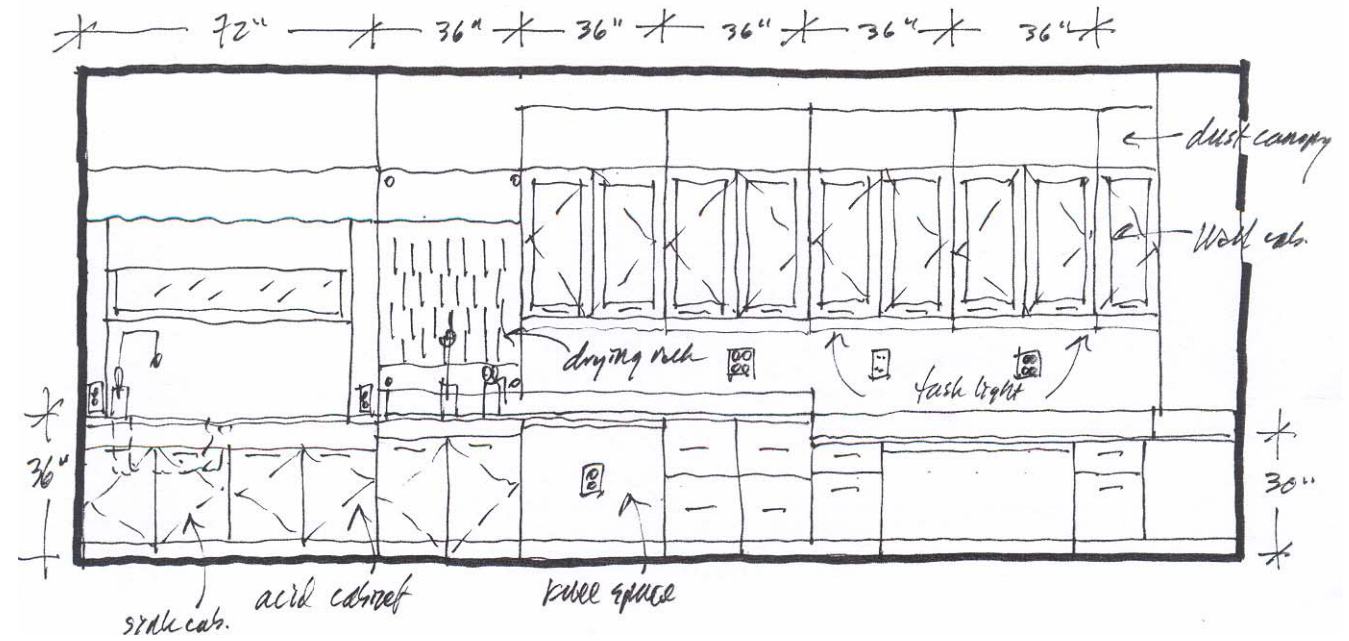
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ap



aq

Herpetology Bio Lab B1D41

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 6" concrete curb at walls
 Ceiling: acoustic tile
 Entry door: 42" x 84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; up to 80° F
 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink;
 Cold Water (CW) at sink;
 Fresh water with hose bib (dechlorinated)
 Aquarium water hose bib;
 Compressed air (30 psi with regulator)
 Floor drain

ELECTRICAL

110v20a1ph fourplex at perimeter (GFI)
 110v20a1ph duplex at perimeter (GFI)
 Standby power (e) at equipment space (all outlets)
 Separate power into separate circuits for lighting and tanks
 Data junction boxes at perimeter
 Lighting: Direct/indirect 75 f.c. at work surface

GROUP 1 EQUIPMENT (Contractor Furnished)

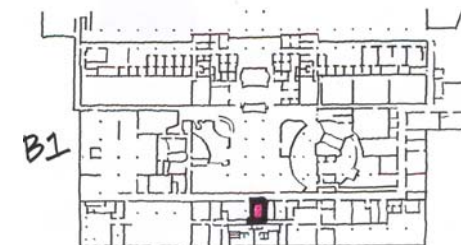
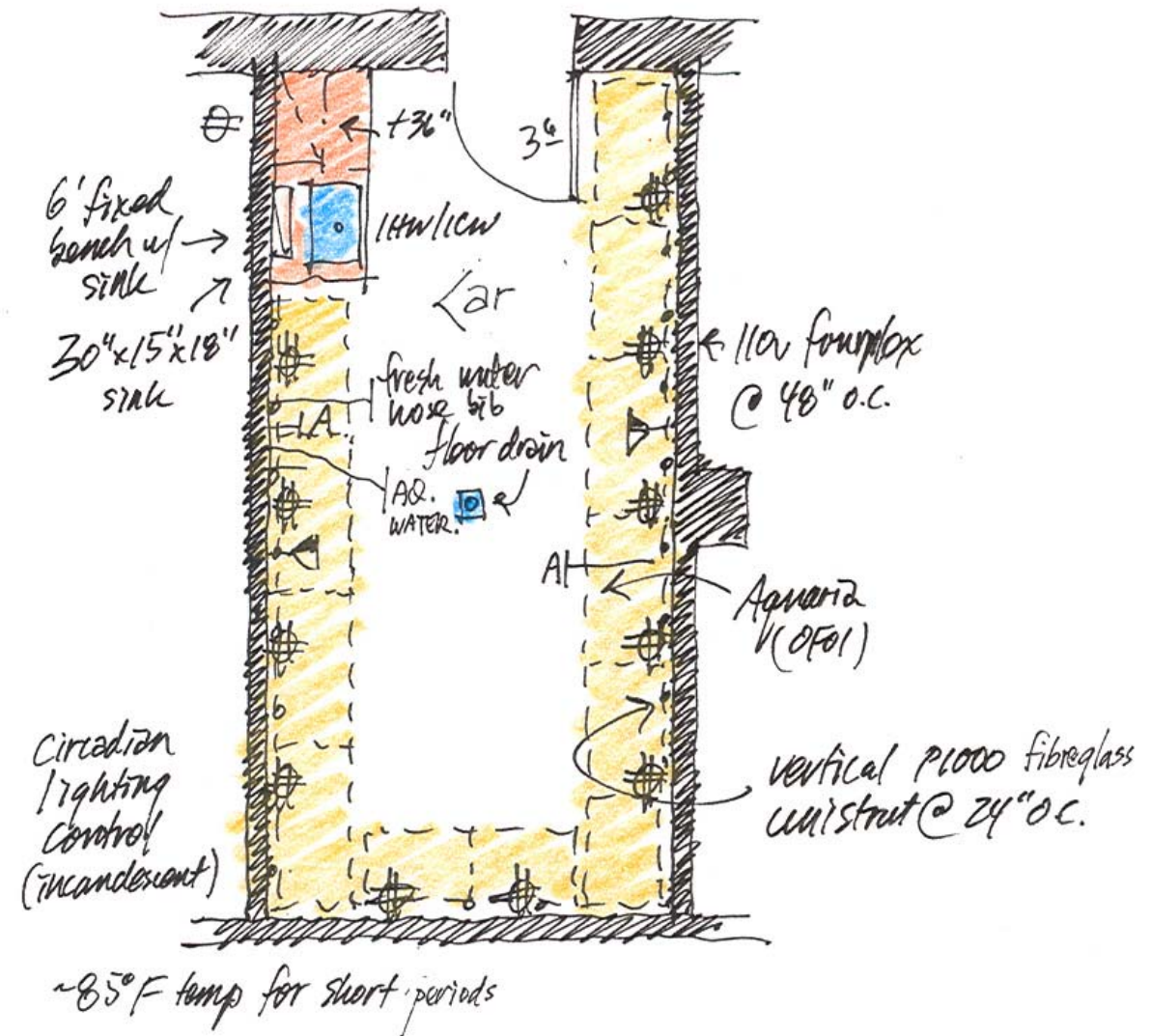
Fixed bench with sink, pipe enclosure
 Wall cabinets
 P1000 fibreglass unistrut at 24" on center

GROUP 2 EQUIPMENT (Owner Furnished)

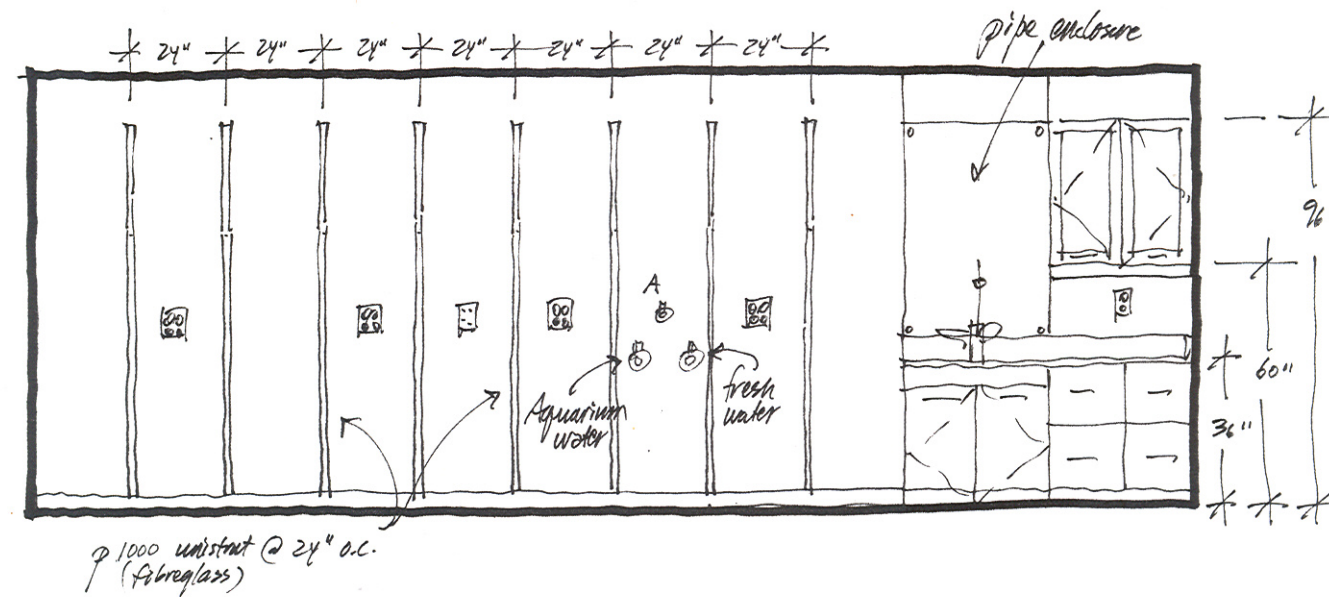
Aquaria shelf system

SCIENTIFIC EQUIPMENT

Aquaria



Elevations B1D41



ar

Aquatics Bio/Invertebrate Zoology & Geology Lab B1D42

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 6" concrete curb at walls
 Ceiling: acoustic tile
 Entry door: 42" x 84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 6000 micro inches or less

MECHANICAL

72° F; up to 80°F
 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink
 Cold Water (CW) at sink
 Drench Hose (DH) as sink
 Fresh water with hose bib (dechlorinated)
 Aquarium water hose bib
 Compressed Air (30 psi with regulator)
 Floor drain

ELECTRICAL

110v20a1ph fourplex at perimeter (GFI)
 110v20a1ph duplex at perimeter (GFI)
 Standby power (e) at equipment space (all outlets)
 Separate power into separate circuits for lighting and tanks
 Data junction boxes at perimeter
 Lighting: Direct/indirect 75 f.c. at work surface

GROUP 1 EQUIPMENT (Contractor Furnished)

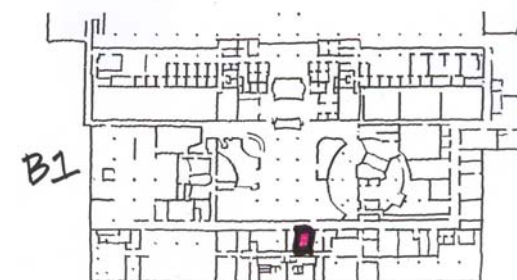
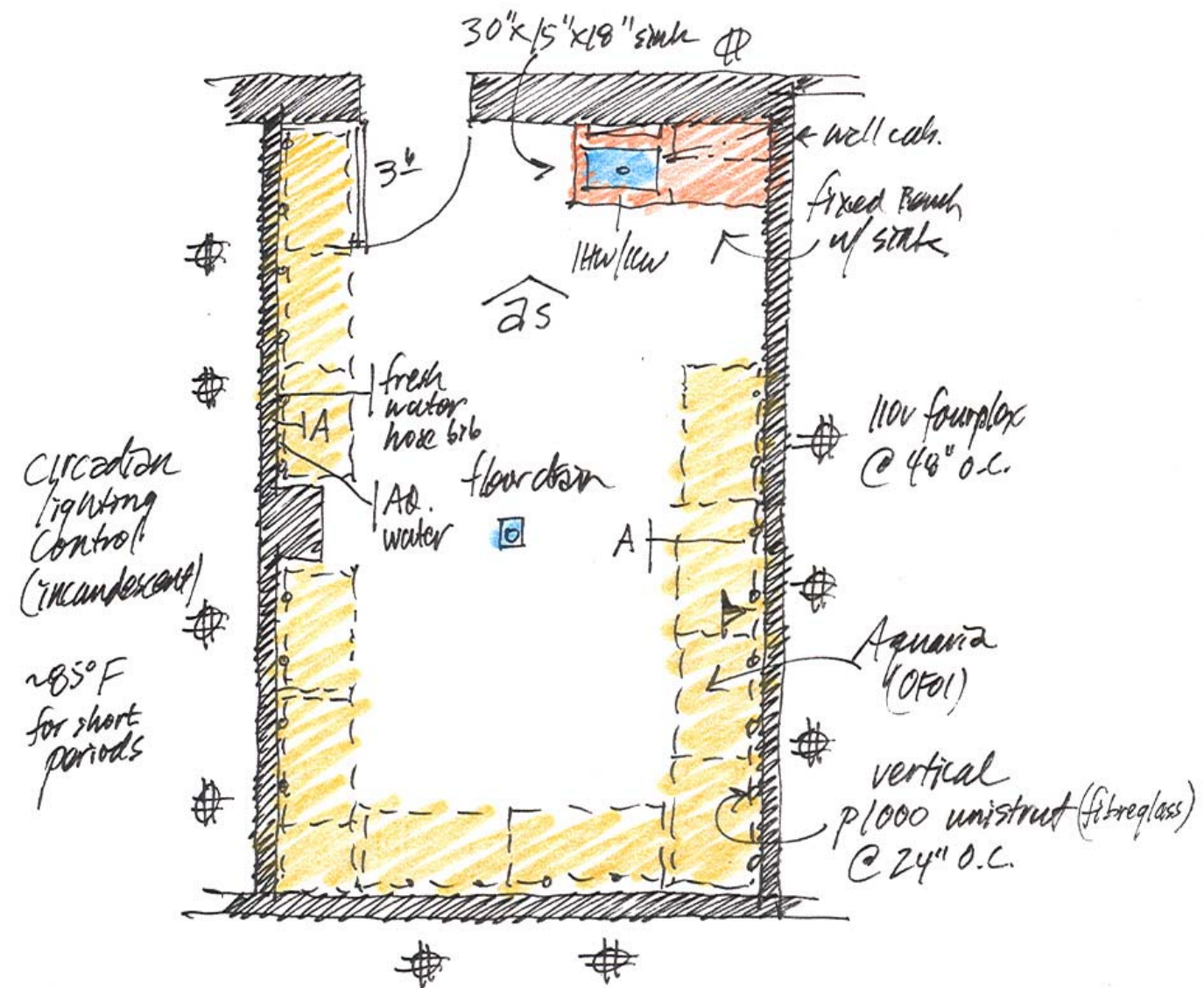
Fixed bench with sink, pipe enclosure
 Wall cabinets
 P1000 fibreglass unistrut at 24" on center

GROUP 2 EQUIPMENT (Owner Furnished)

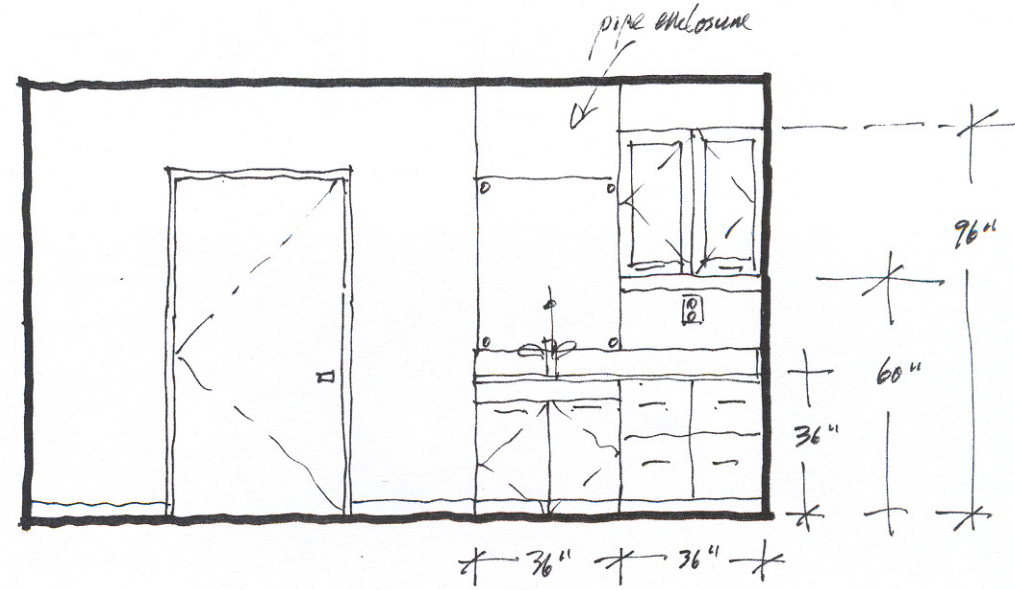
Aquaria shelf system

SCIENTIFIC EQUIPMENT

Aquaria



Elevations B1D42



as

Aquatics Suite B1D21, 22, 23, 24, 25

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: 42"x84"/36"x84"; Side doors: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Attenuate Vibration to 4,000 micro inches or less

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks
 Cold Water (CW) at sinks and fume hood
 Drench Hose (DH) as pathology sink;
 Compressed air in Surgery
 Floor drain
 Safety Shower/Eyewash (1 each in Water Testing and Necropsy, locate in wall adjacent to fume hood)

ELECTRICAL

110v20a1ph fourplex at perimeter
 110v20a1ph duplex at perimeter and fume hood
 Data junction boxes at perimeter
 Lighting: Direct/indirect 75 f.c. at work surface
 Task lighting below wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

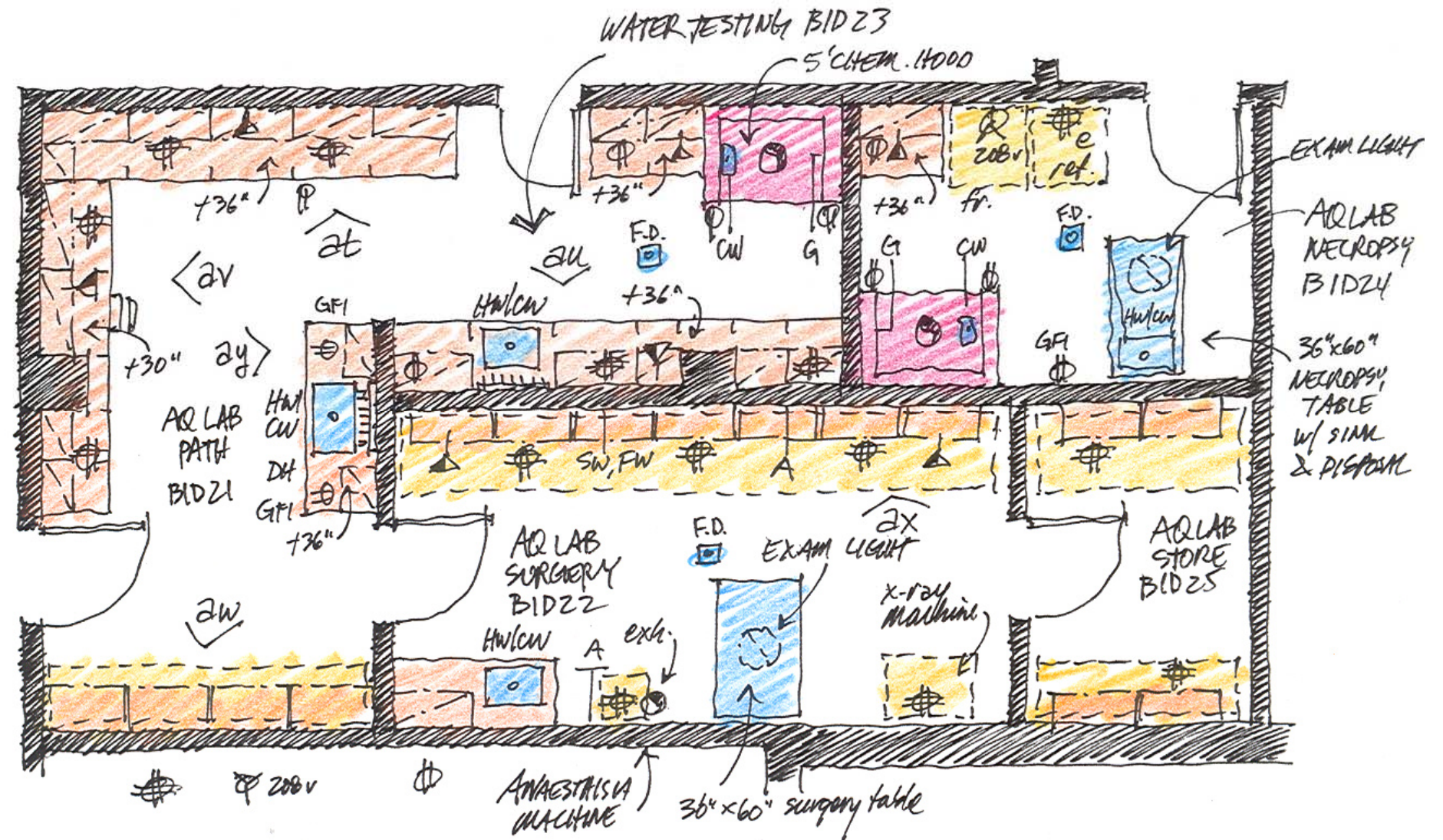
Fixed bench with sinks, pipe enclosures
 Wall cabinets
 Adjustable wall shelves with unistrut frame
 (2) Chemical fume hoods
 Surgery table
 Necropsy table
 Exam light

GROUP 2 EQUIPMENT (Owner Furnished)

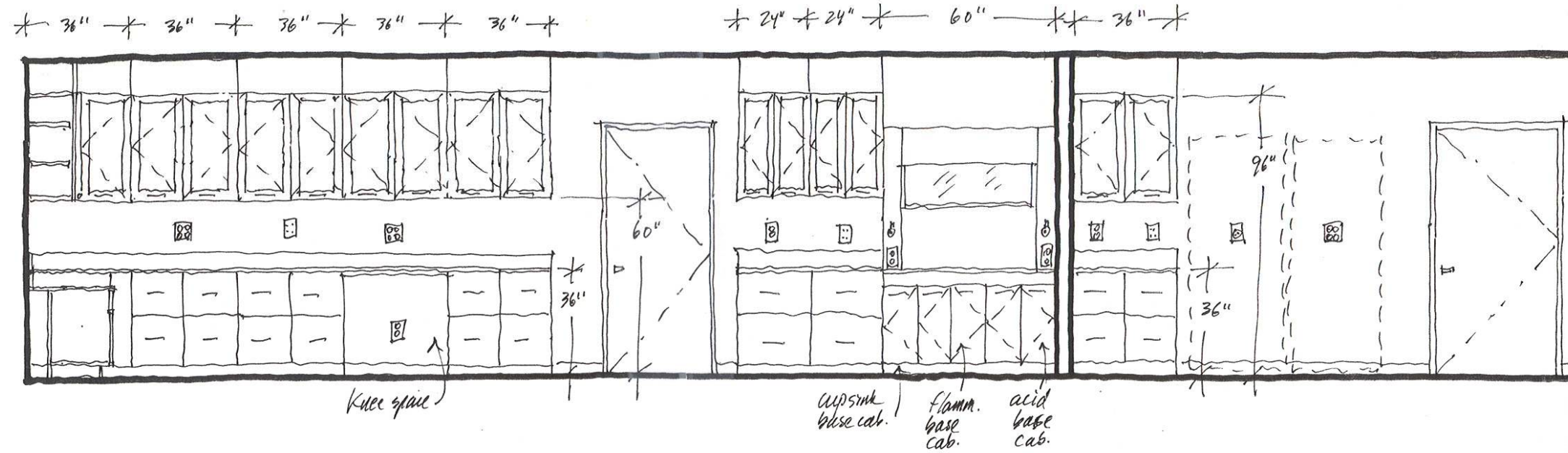
Chairs

SCIENTIFIC EQUIPMENT

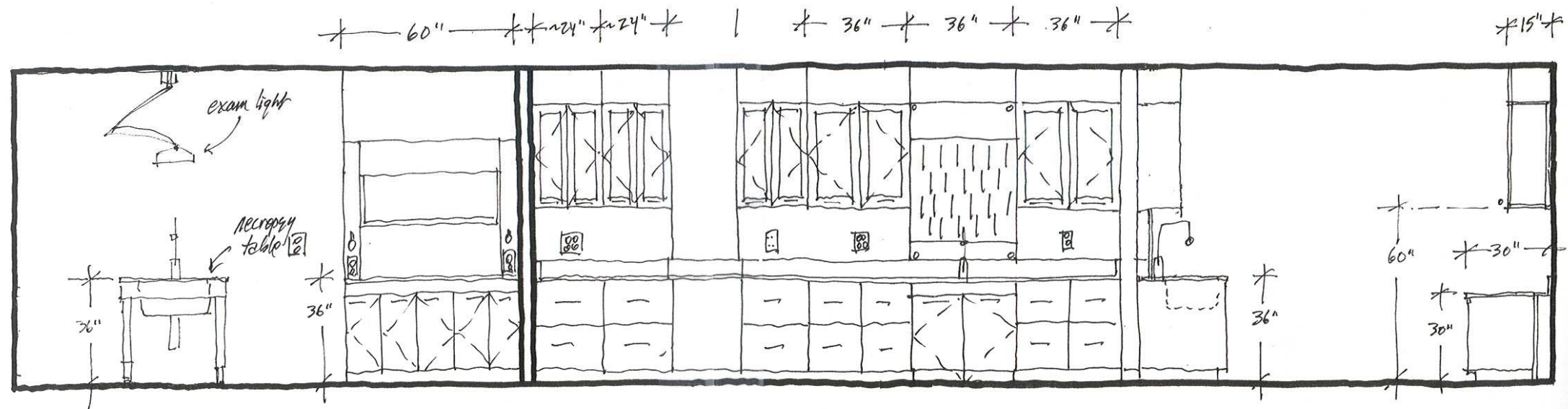
Computers;
 Benchtop analytical Instruments
 X-Ray machine
 Anesthetic machine
 Refrigerators
 Freezers



Elevations Aquatics Suite

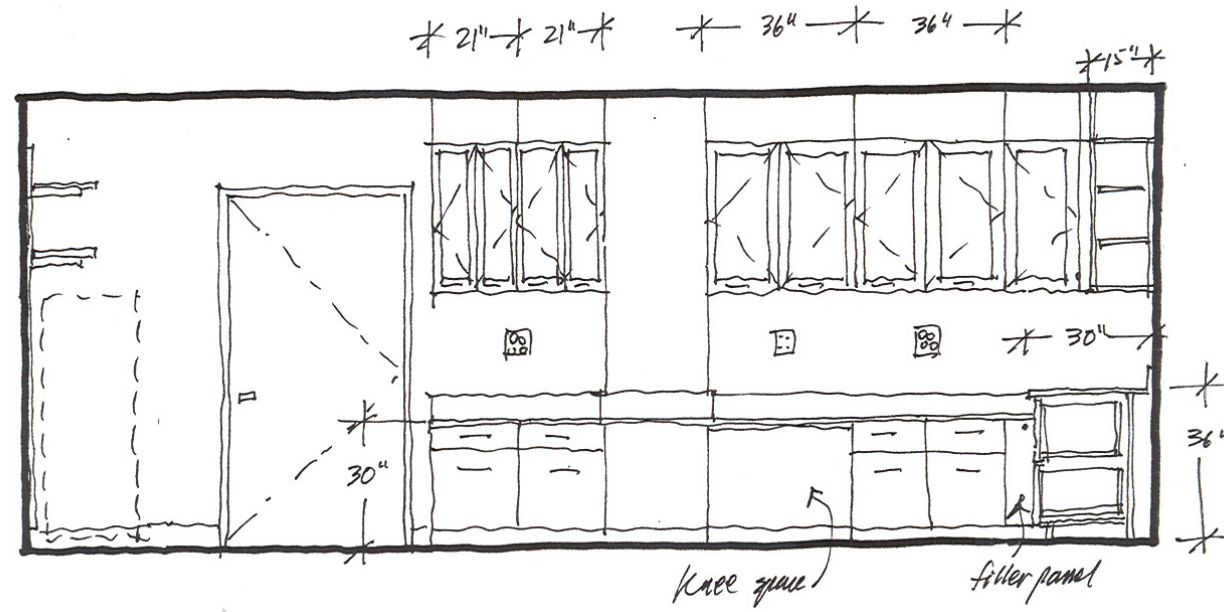


at

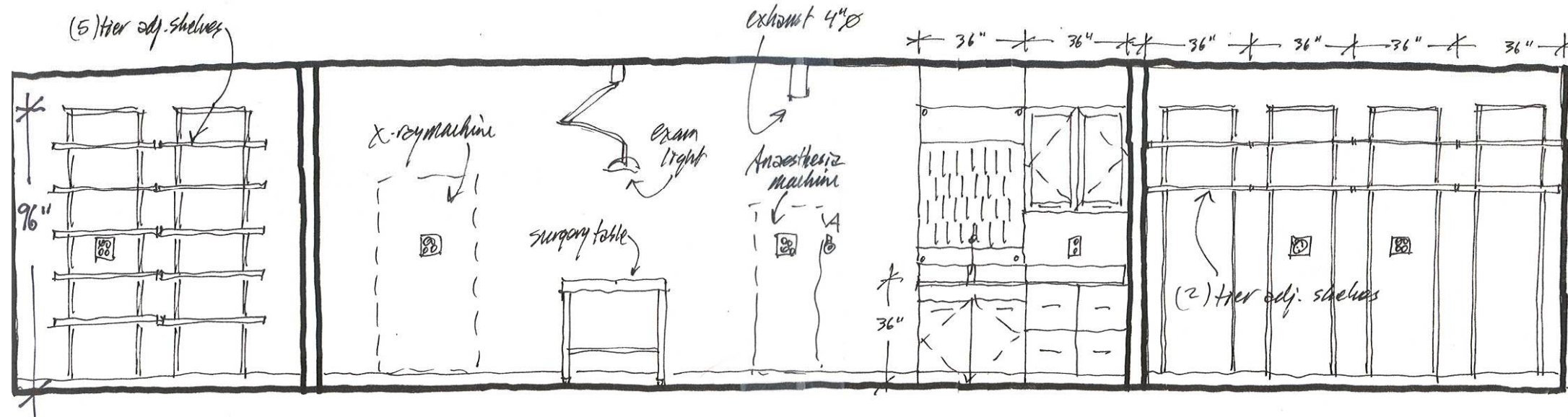


au

Elevations Aquatics Suite

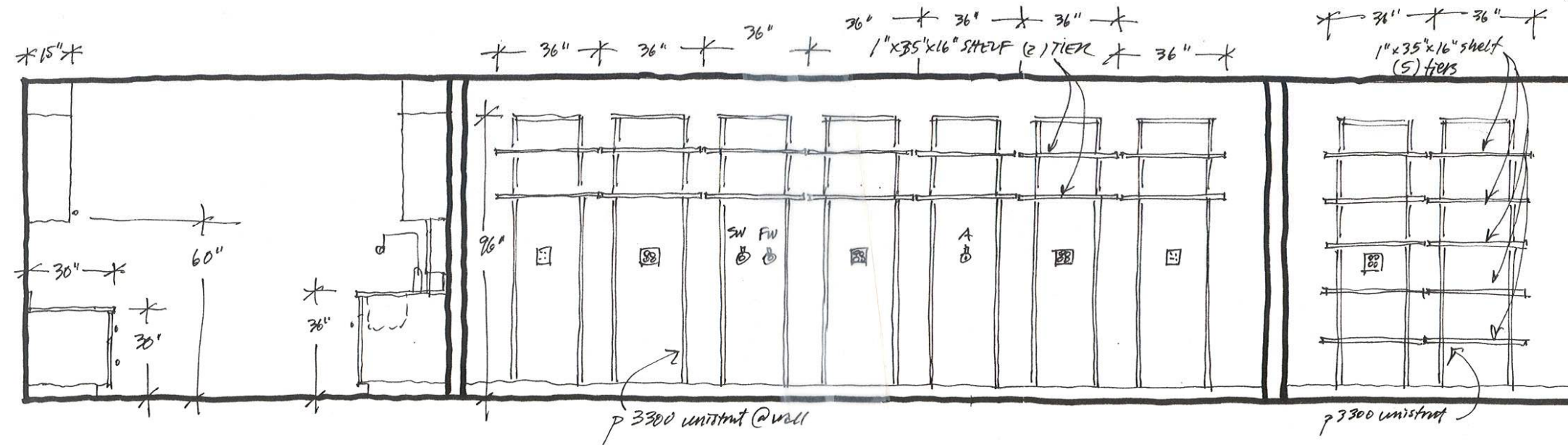


av

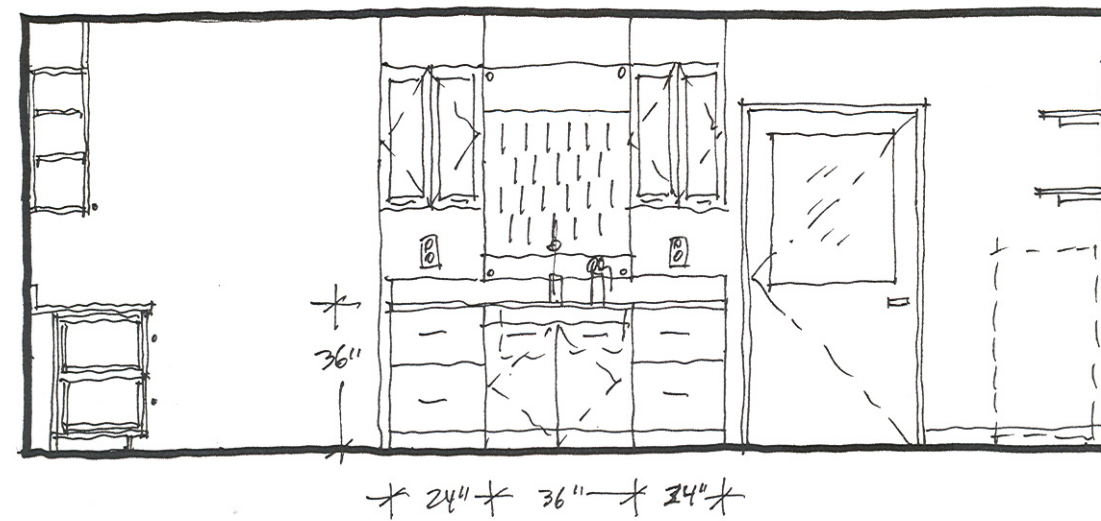


aw

Elevations Aquatics Suite

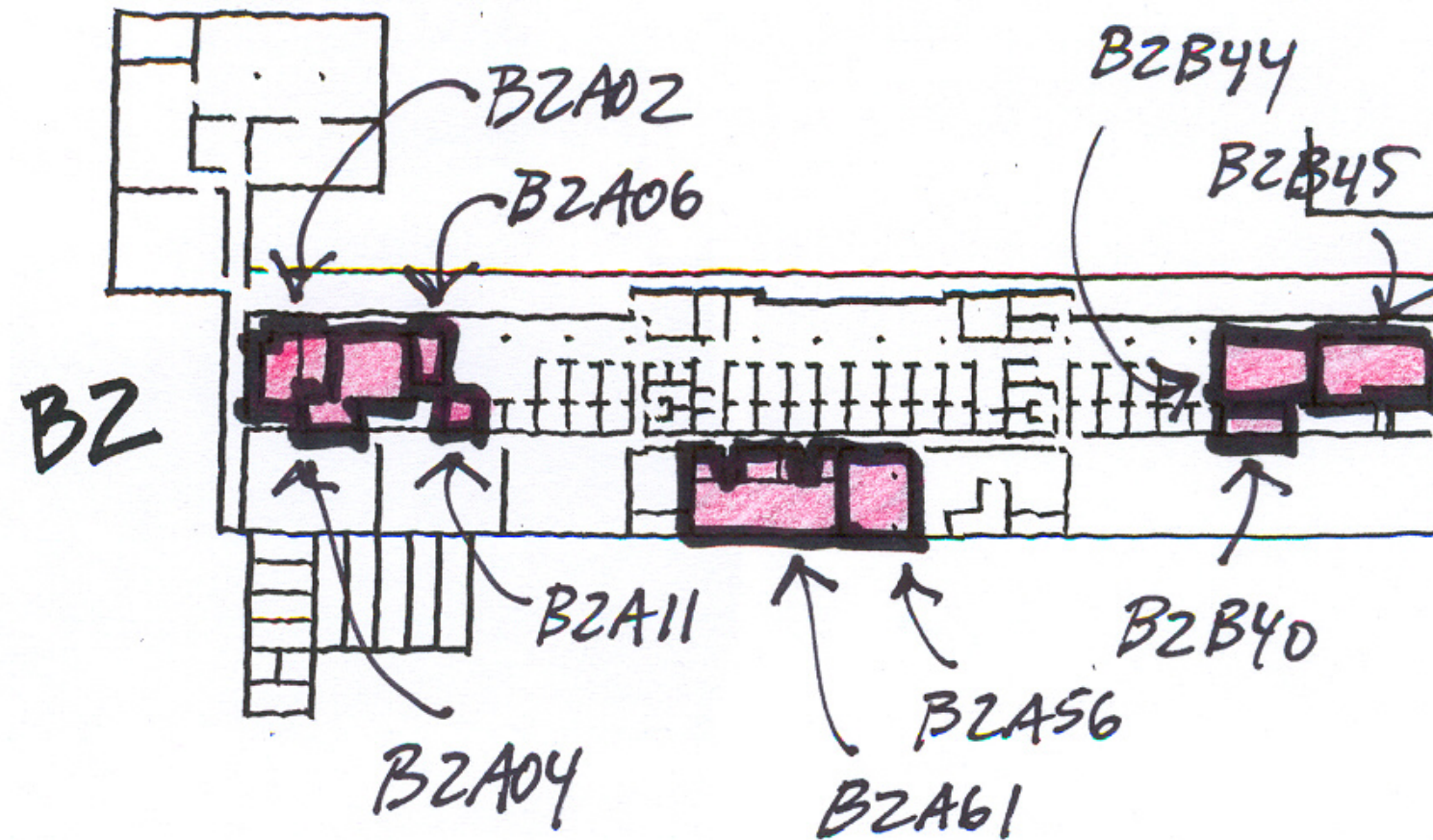


ax



ay

Level B2 Labs



B2A01 & 02: Geology Gross & Fine
B2A04: Inv. Zool. & Geol. Prep
B2A06: Diatom
B2A11: Diatom Microscopy
B2A61: Molecular Biology Lab

B2B40: SEM
B2B44: Entomology Work Area
B2B45: Entomology Lab
B2B56: Freezer Room

Geology Gross B2A01 & Fine B2A02

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84"; 42"x84";
 Side door: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sinks
 Cold Water (CW) at sinks
 Drench Hose (DH) as sinks
 Safety Shower/Eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter
 110v20a1ph duplex at fume hood
 Data junction boxes at perimeter
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting at underside of wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

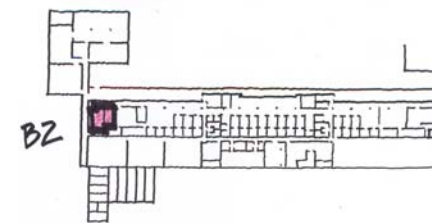
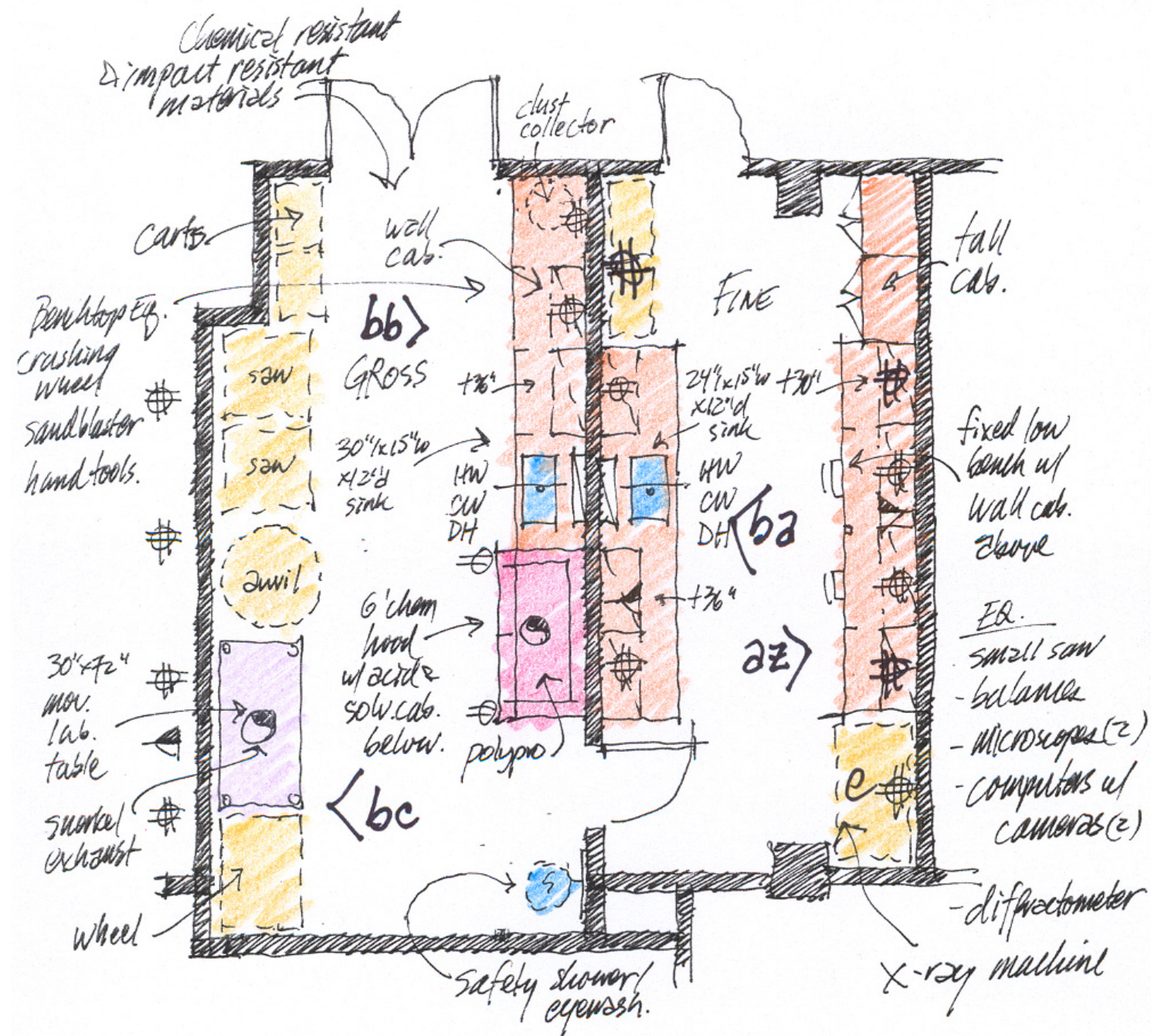
Fixed bench with sink, pipe enclosure
 Wall cabinets
 Mobile lab table
 Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

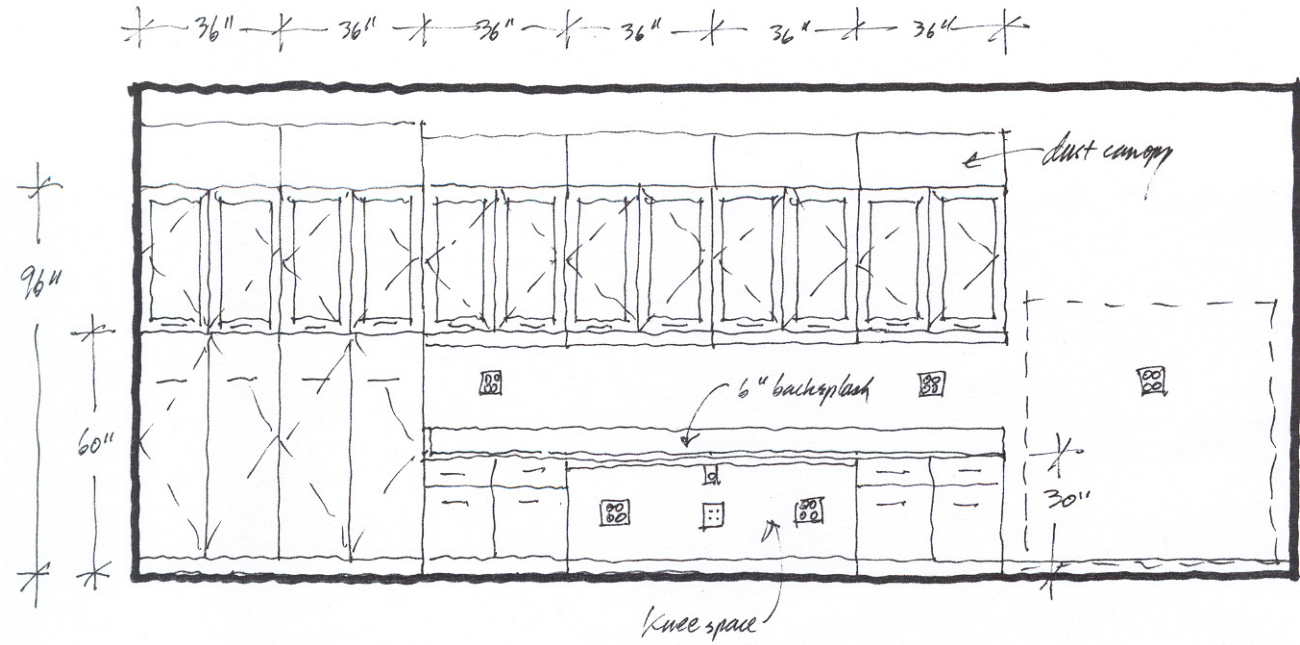
chairs

SCIENTIFIC EQUIPMENT

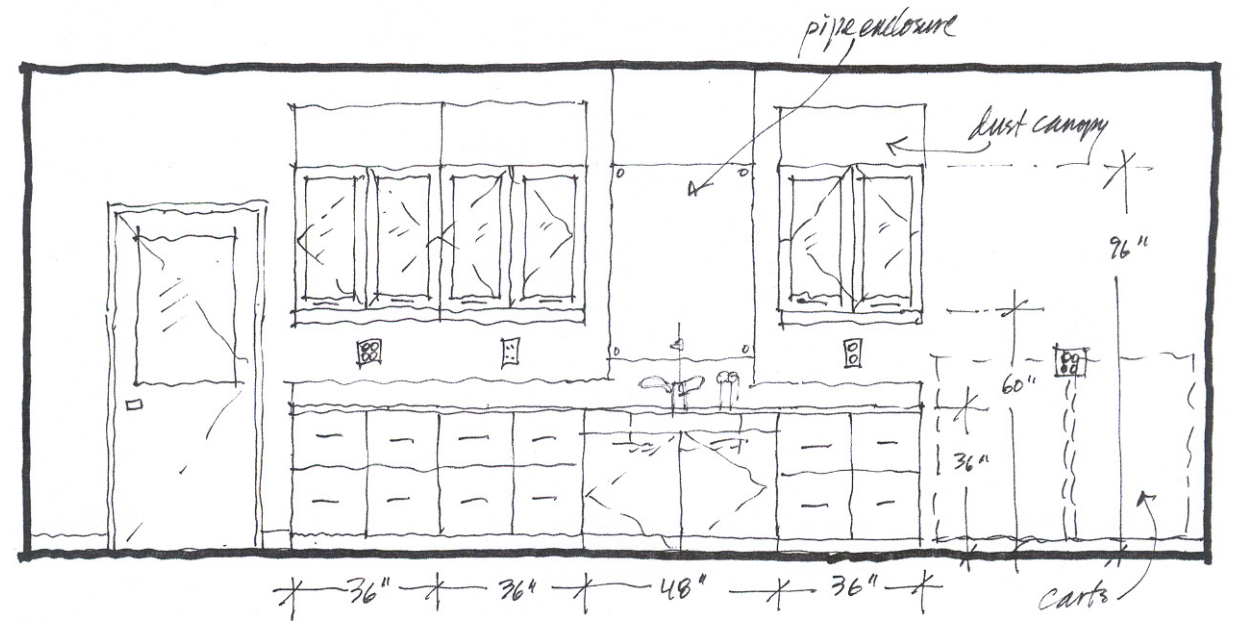
Computers;
 Benchtop analytical Instruments;
 Saws
 Anvil
 Wheel
 Dust Collector



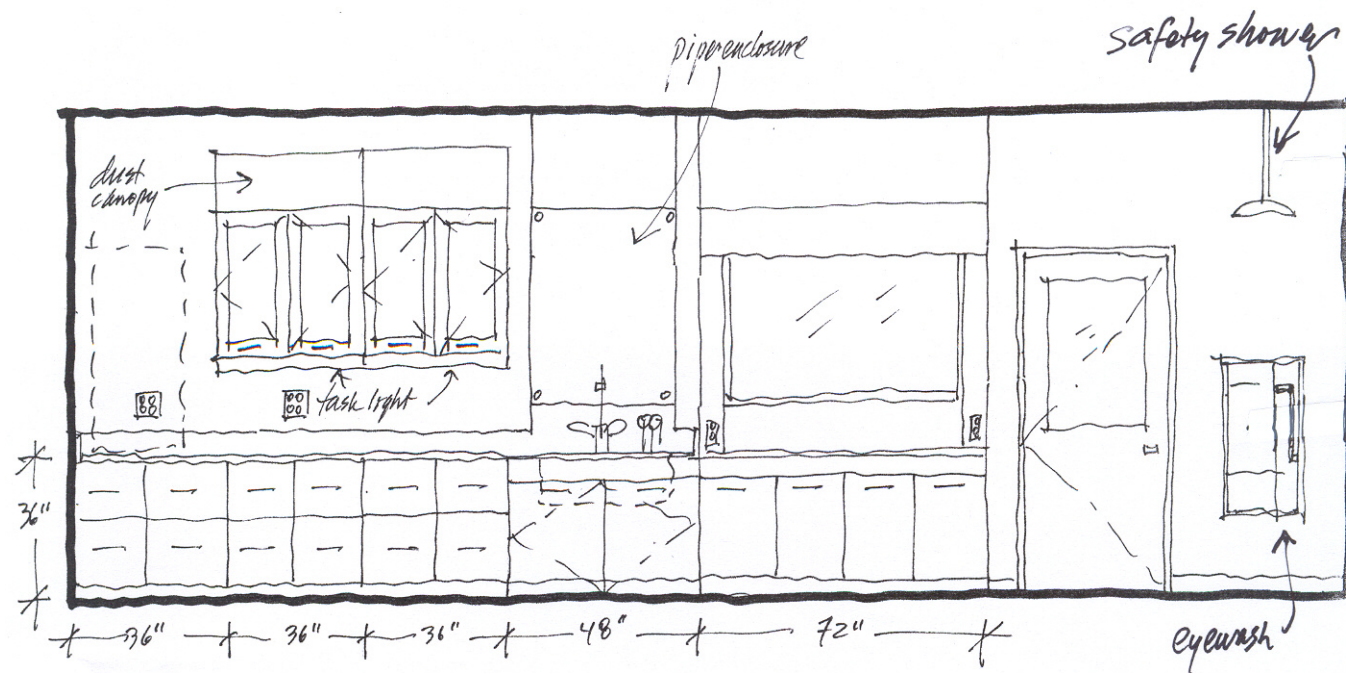
Elevations B2A01 & B2A02



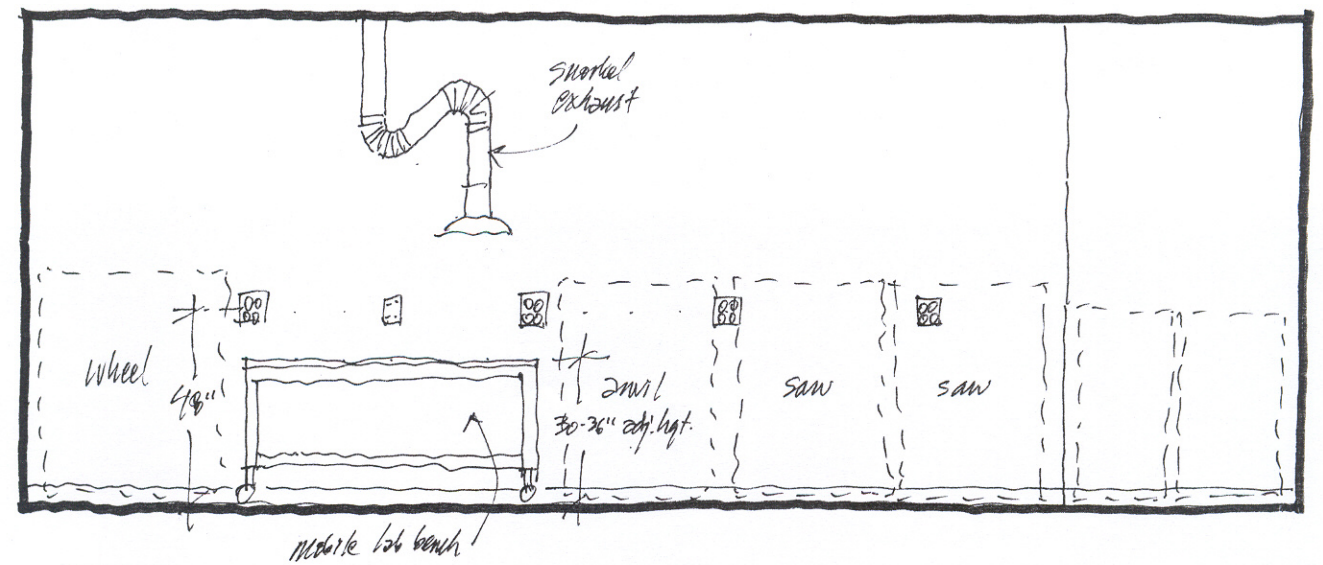
az



ba



bb



bc

Invertebrate Zoology & Geology Prep B2A04 with Collection Supplies B2A03

ARCHITECTURAL

Floor: rubber tile
Walls: dens board, enamel paint
Ceiling: acoustic tile
Entry door: pair 36"x84"/36"x84"; Side doors: 36"x84"
Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; 100% exhaust; Negative pressure;
6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at fume hood sink
Cold Water (CW) at fume hood sink
Drench Hose (DH) at fume hood sink
Safety Shower/Eyewash

ELECTRICAL

110v20a1ph fourplex at perimeter and recessed at floor
110v20a1ph duplex at fume hood
Data junction boxes at perimeter and Recessed at floor
Lighting: Direct/indirect 75 f.c. at work surface
Task lighting below wall shelves and wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

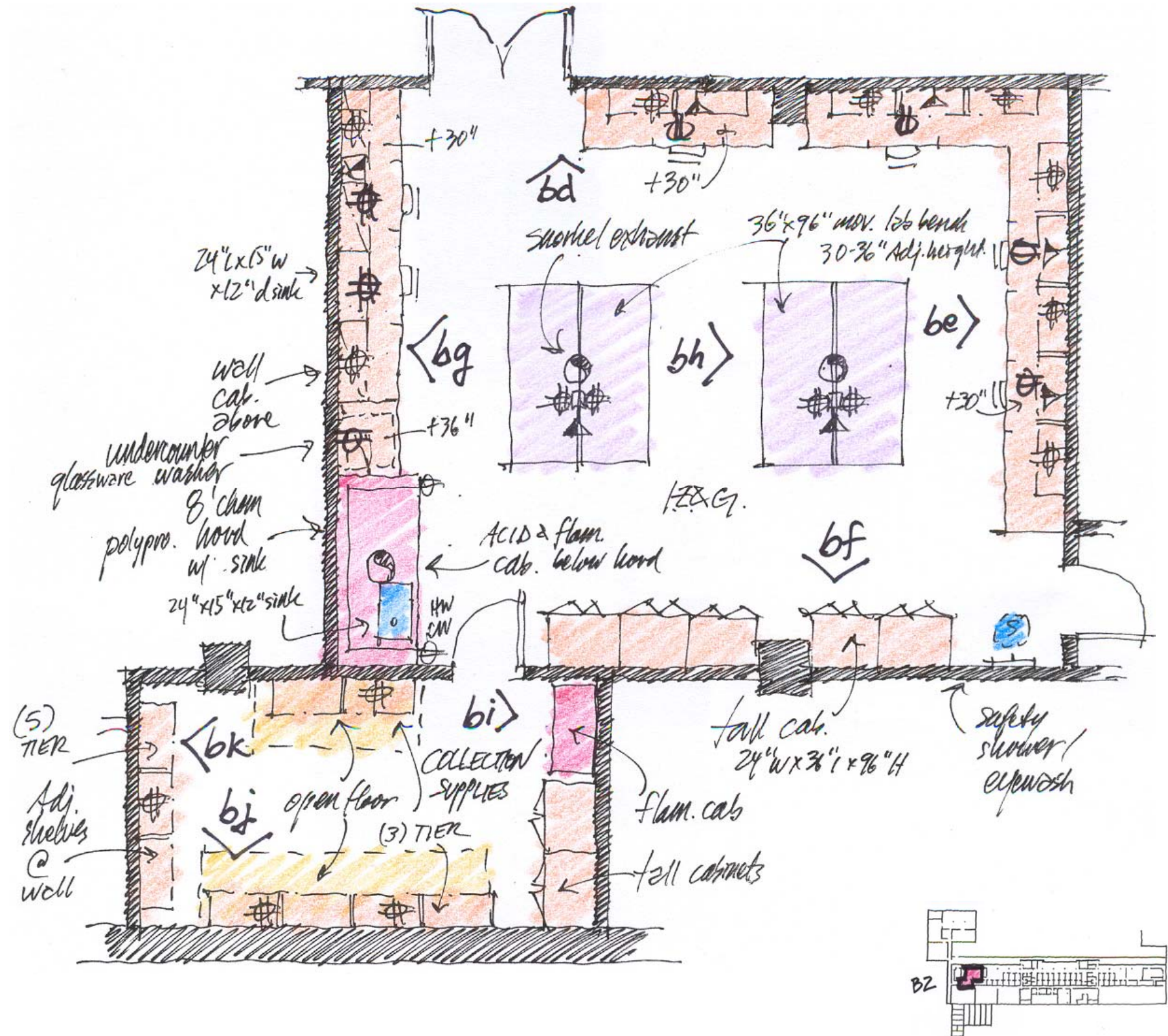
Fixed bench at perimeter
Wall cabinets
Base cabinets
Adjustable wall shelves
Tall cabinets
Flammable cabinet
8' polypropylene Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

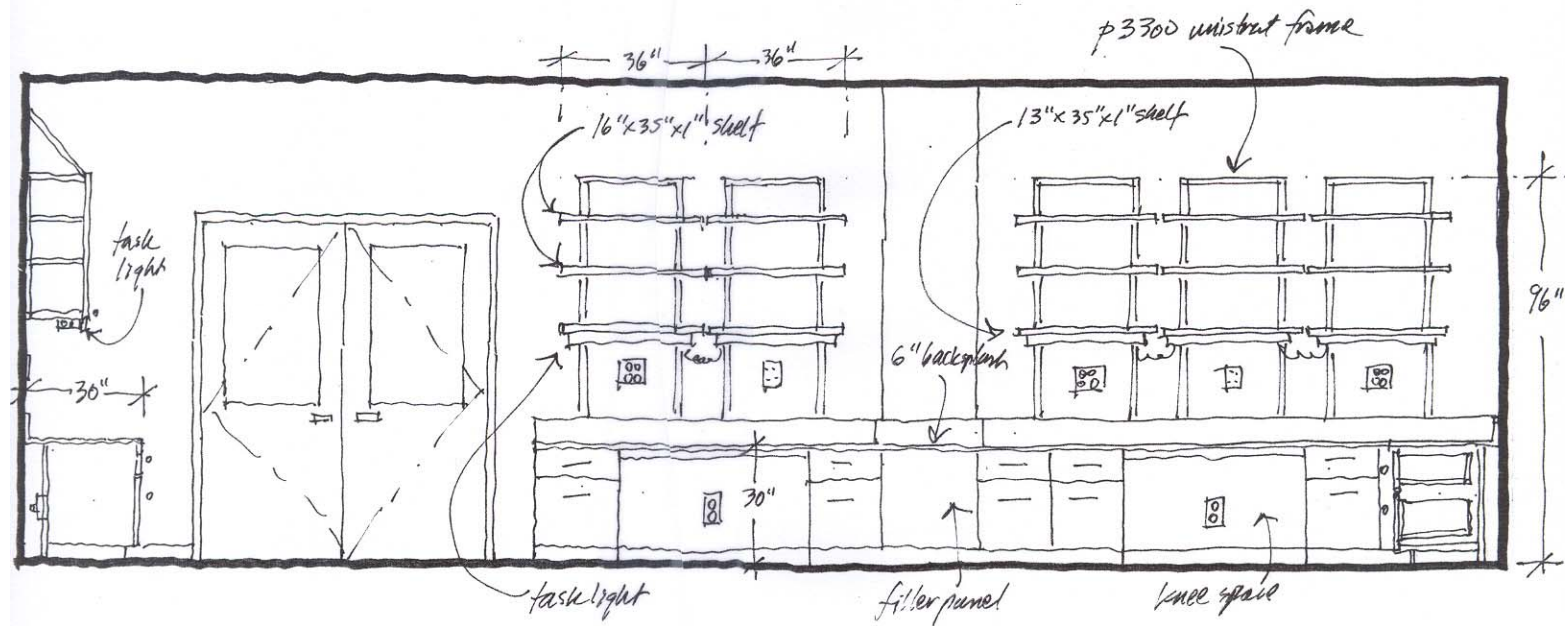
chairs

SCIENTIFIC EQUIPMENT

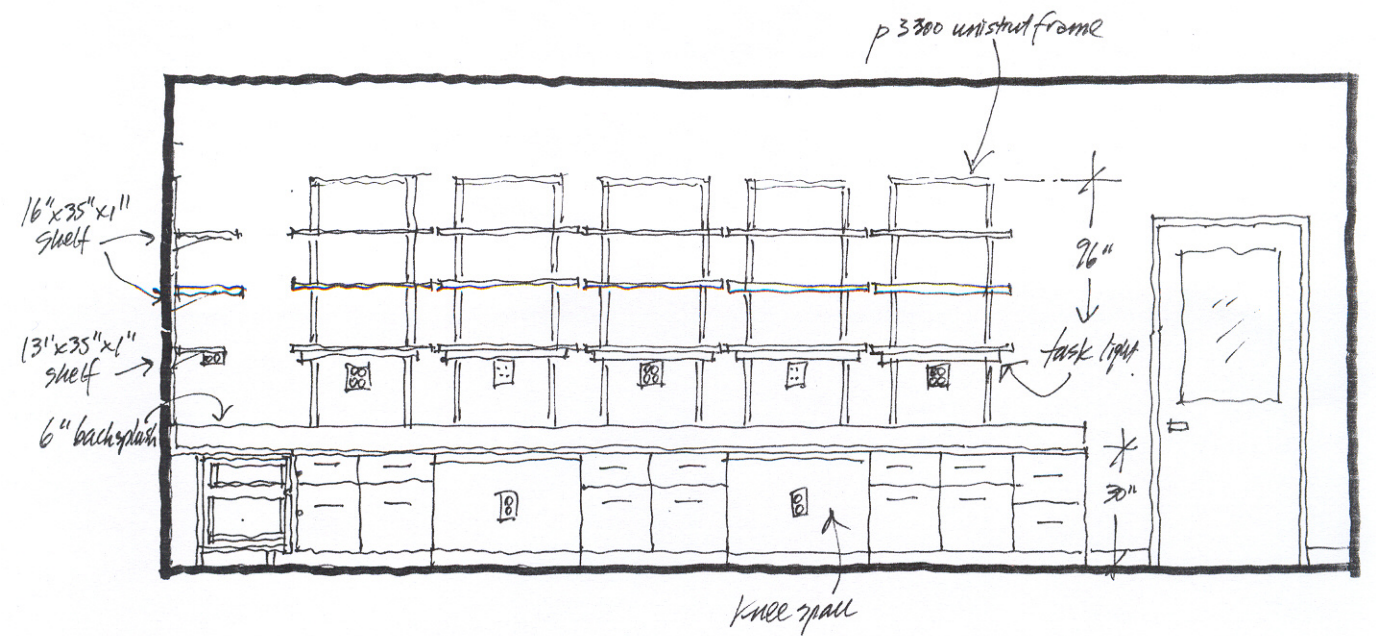
Computers;
Benchtop analytical Instruments;



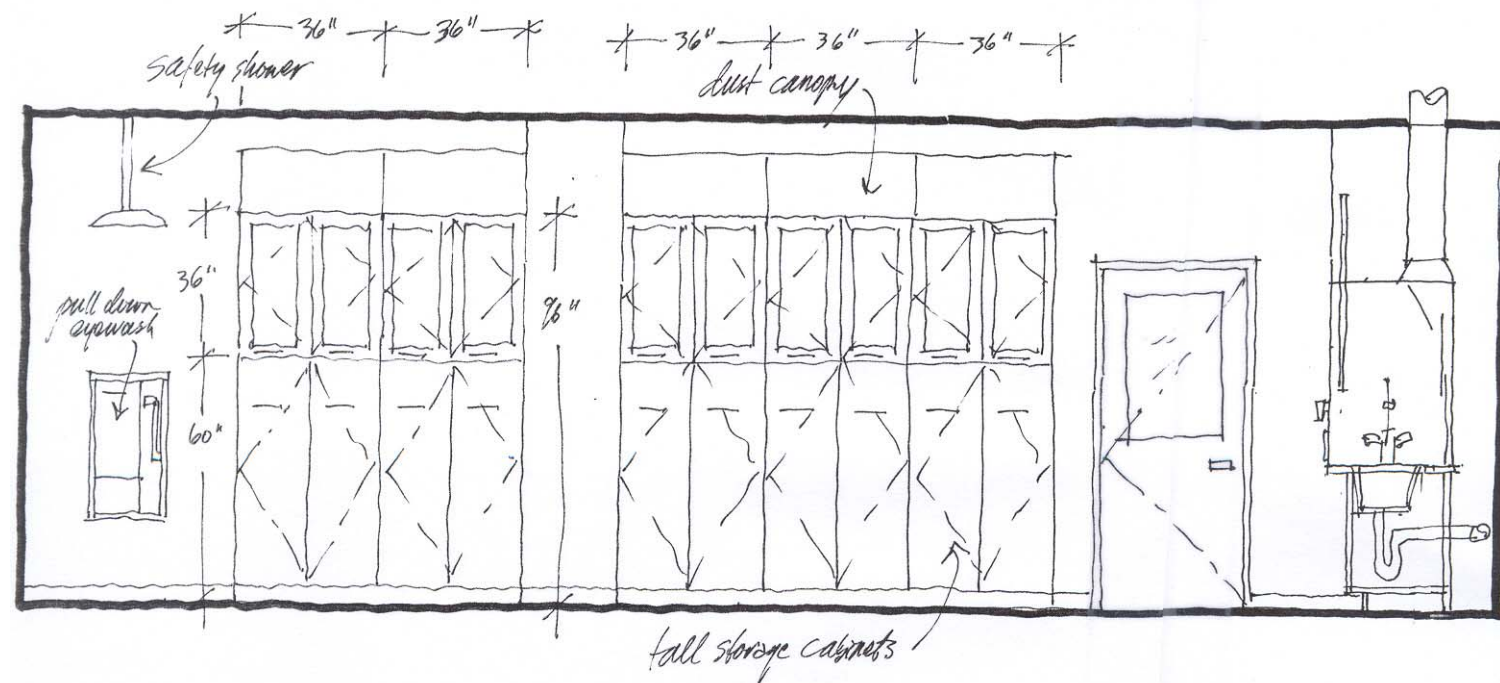
Elevations B2A04



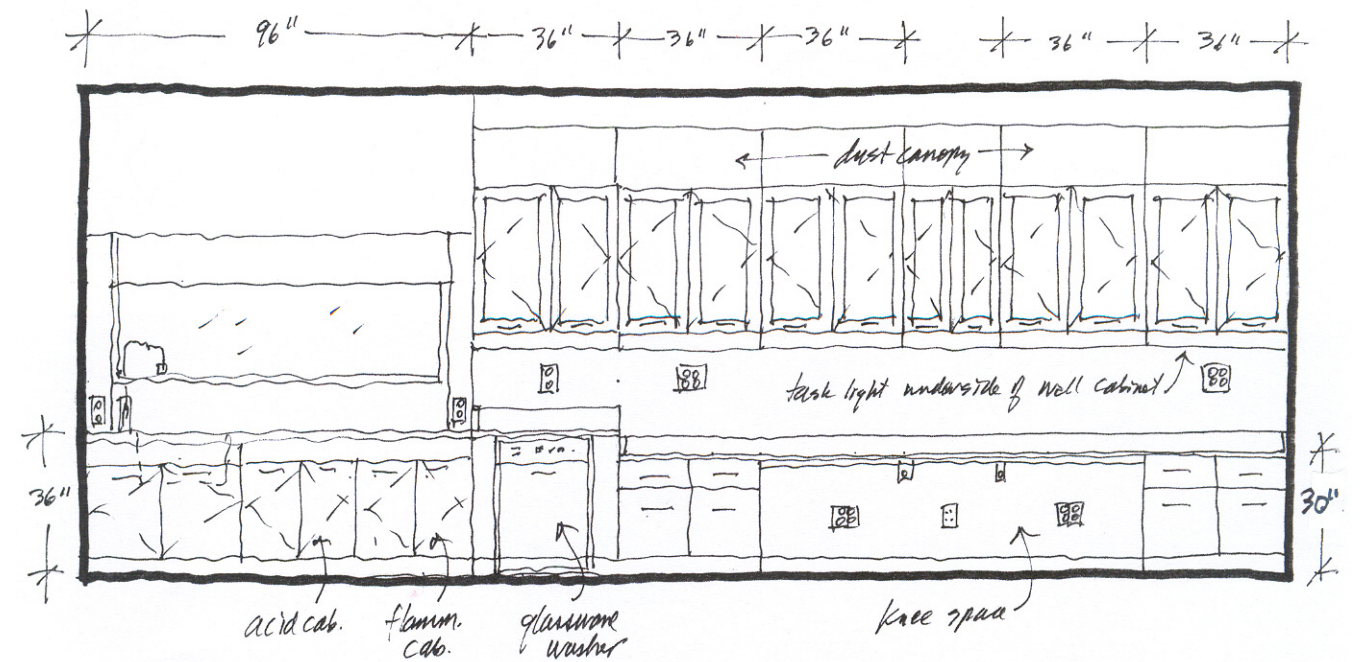
bd



be

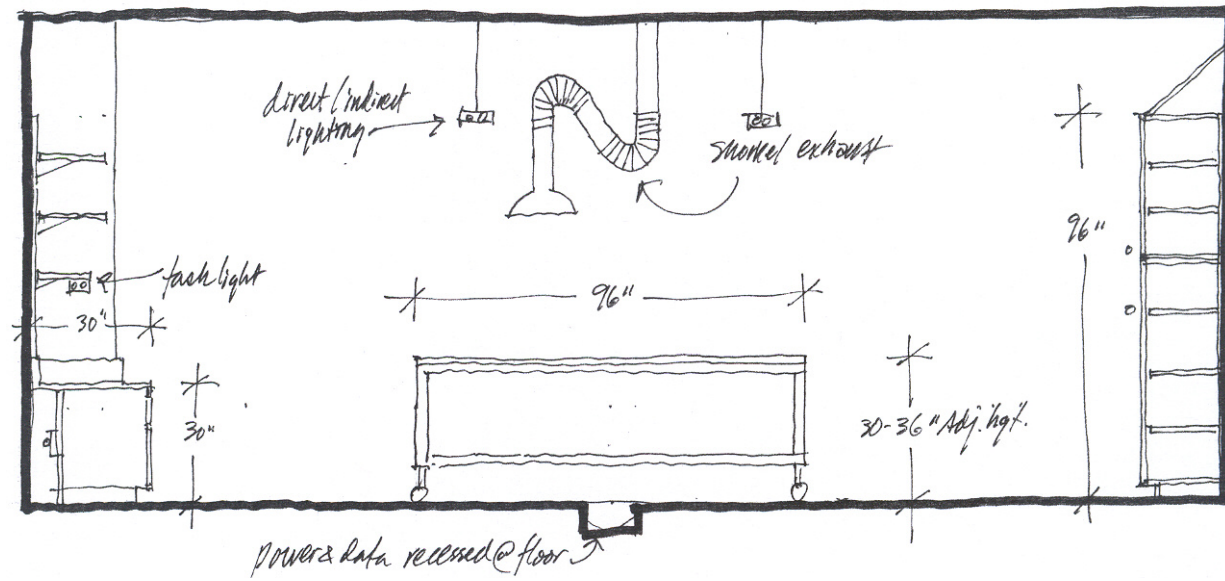


bf

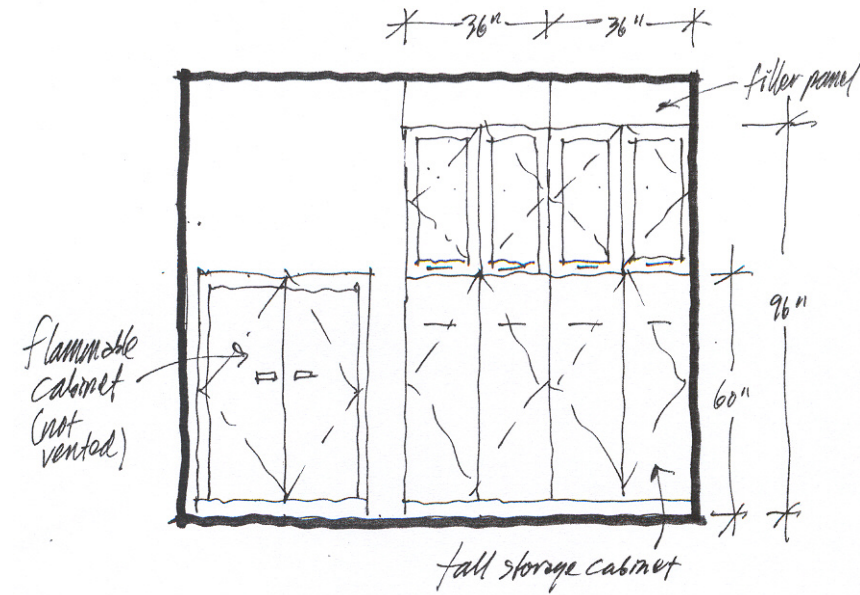


bg

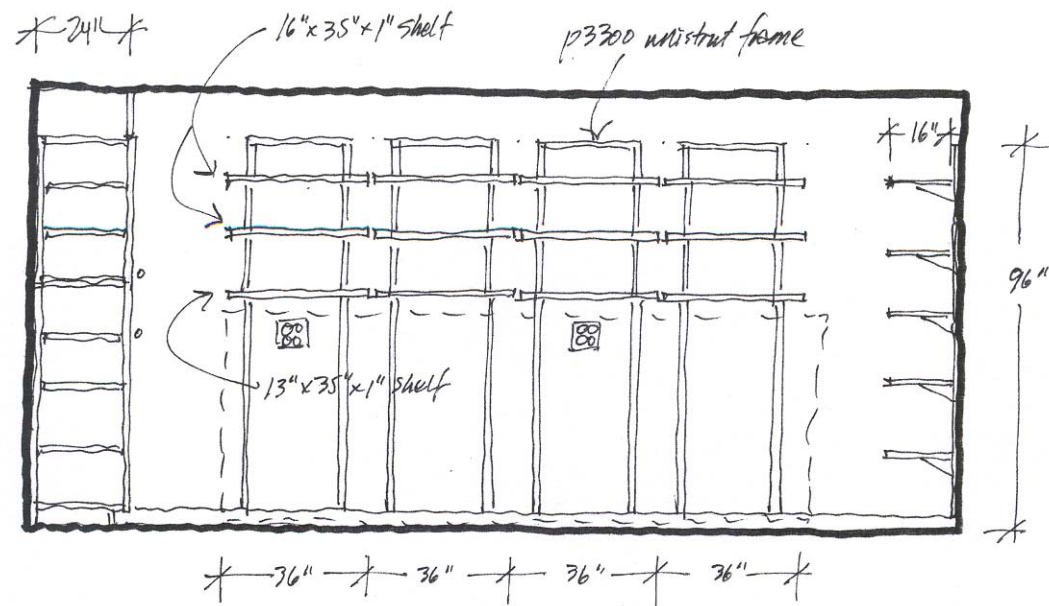
Elevations B2A04 & B2A03



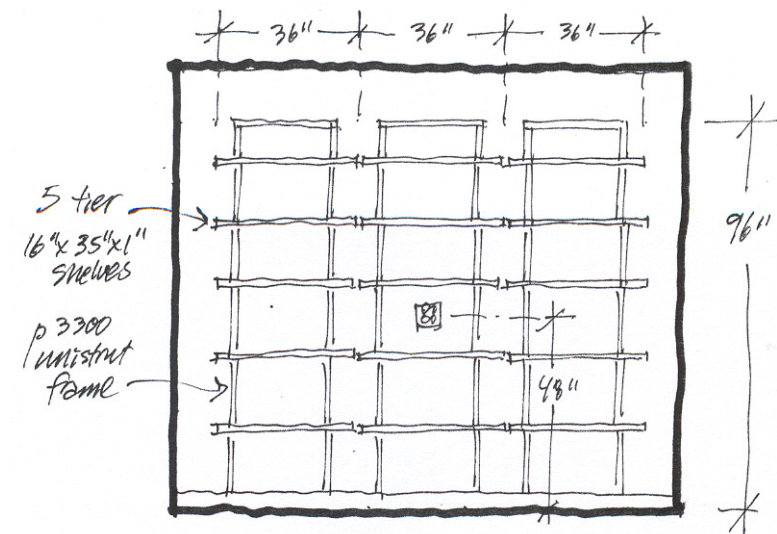
bh



bi



bj



bk

Diatom B2A06

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: 42" x 84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink
 Cold Water (CW) at sink
 Drench Hose (DH) as sink

ELECTRICAL

110v20a1ph fourplex at perimeter
 110v20a1ph duplex at perimeter and fume hood
 Data junction boxes at perimeter
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting at underside of wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

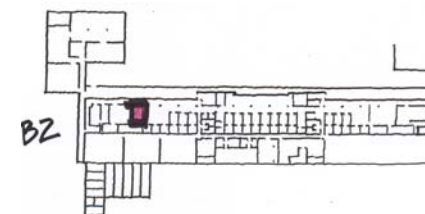
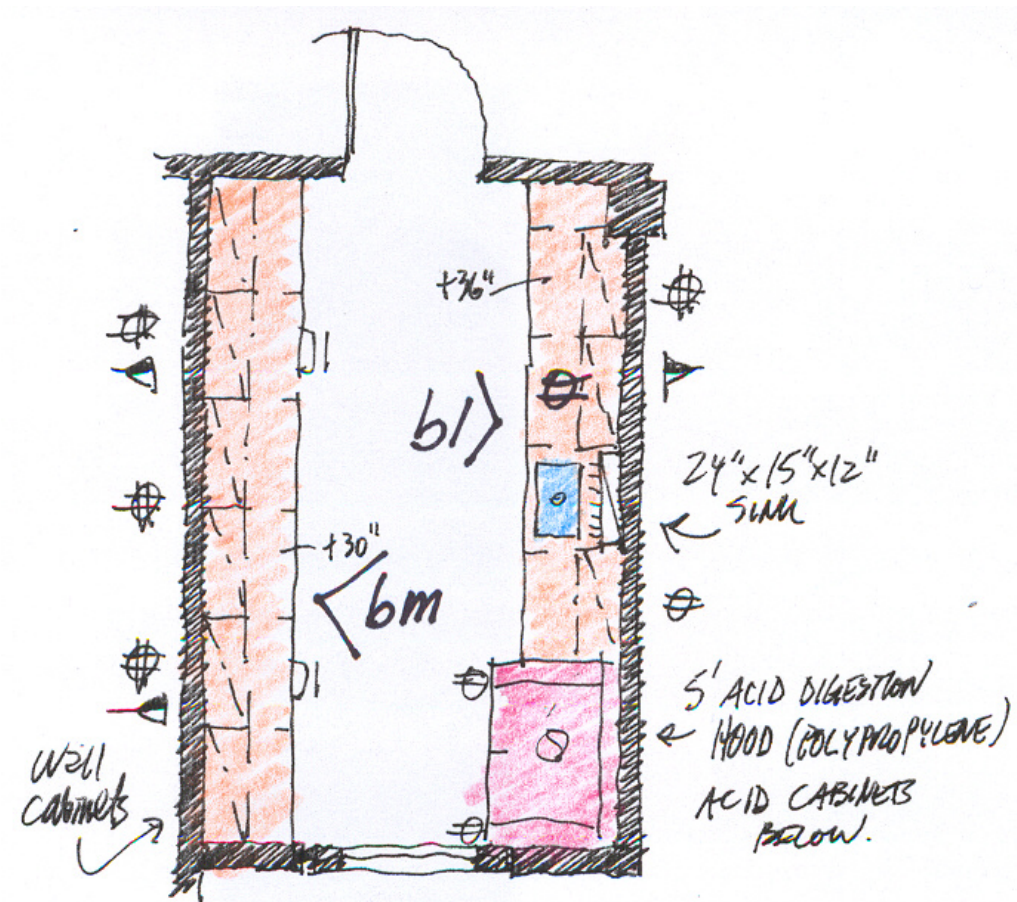
Fixed bench with sink, pipe enclosure
 Drying rack above sink
 Wall cabinets
 6' polypropylene Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

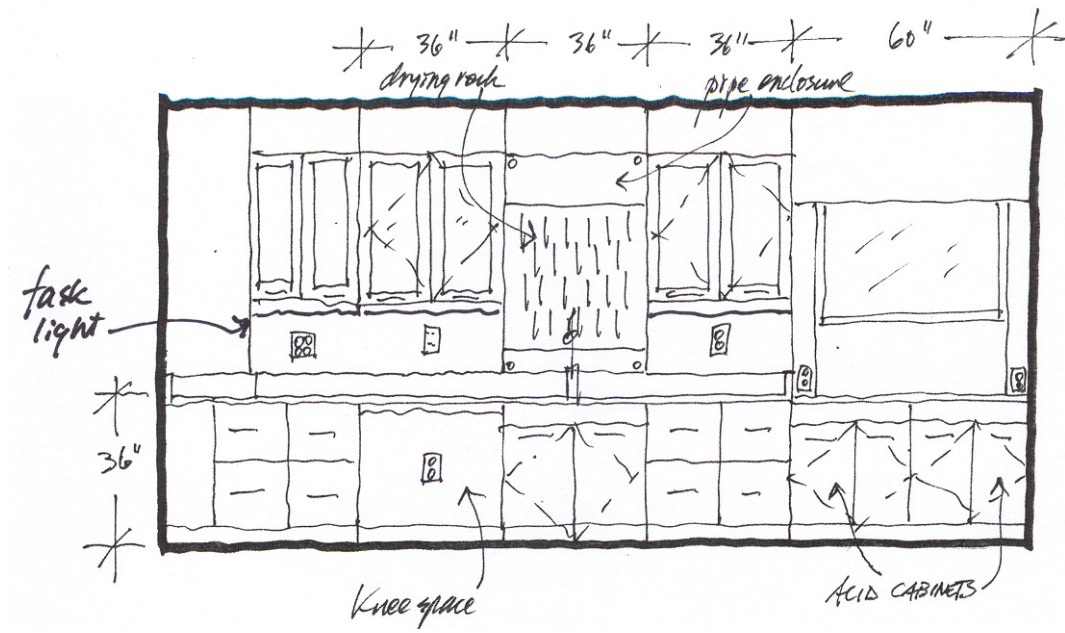
chairs

SCIENTIFIC EQUIPMENT

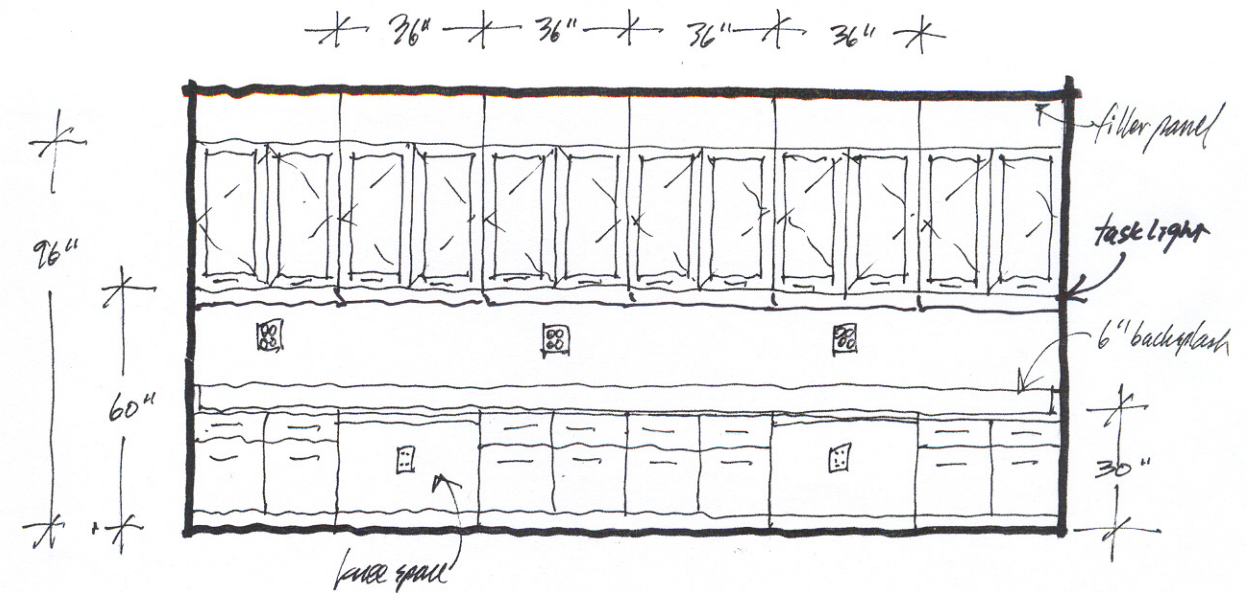
Computers;
 Benchtop analytical Instruments;



Elevations B2A06



bl



bm

Diatom Microscopy B2A11

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry doors: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; Recirculated air;
 6 air changes per hour, minimum

PLUMBING

None

ELECTRICAL

110v20a1ph fourplex outlets
 Data junction boxes at perimeter
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting at underside of wall shelves

GROUP 1 EQUIPMENT (Contractor Furnished)

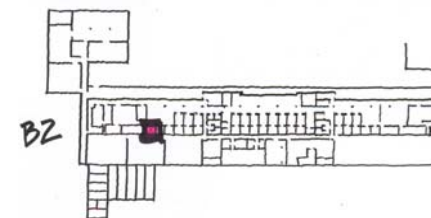
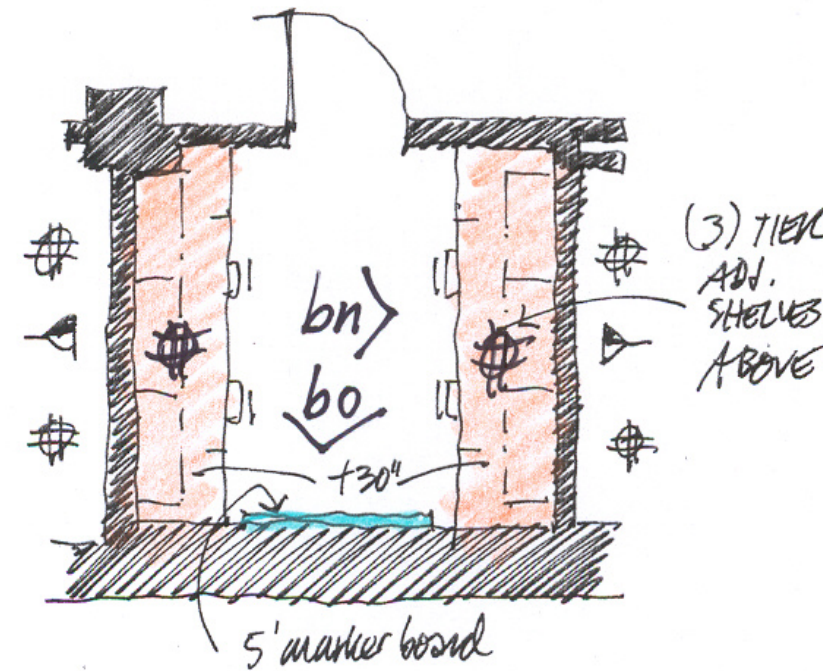
Fixed bench
 Adj. Wall shelves
 Marker board

GROUP 2 EQUIPMENT (Owner Furnished)

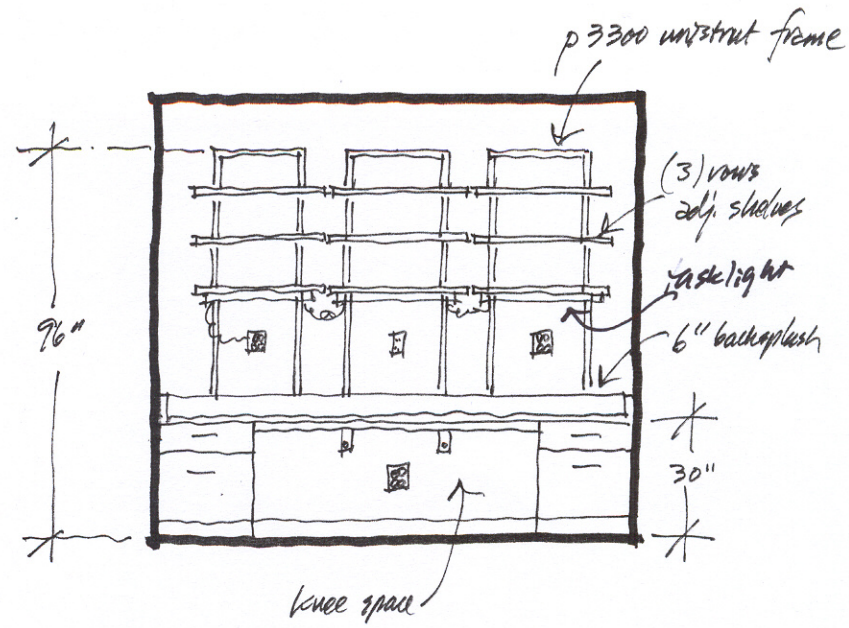
Chairs

SCIENTIFIC EQUIPMENT

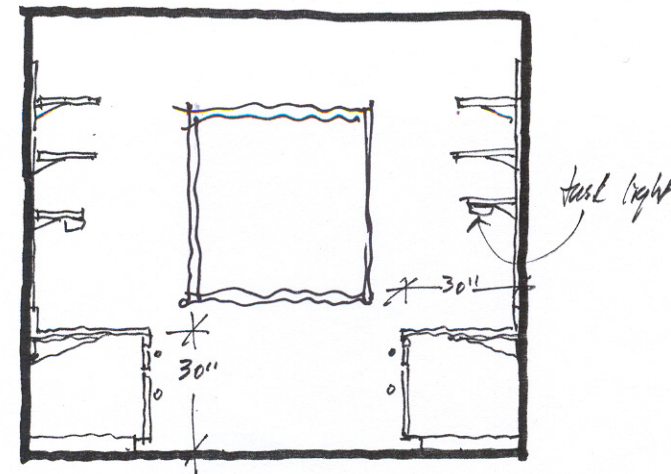
Computers;
 Benchtap analytical Instruments;
 Microscopes



Elevations B2A11



bn



bo

Molecular Biology Lab B2A61

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/24"x84";
 PCR and Extraction doors: 42"x84"
 Office and Computer Room doors: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum
 Recirculated air in office and computer room

PLUMBING

Hot Water (HW) at sinks
 Cold Water (CW) at sinks and fume hood
 Gas at fume hood
 Drench Hose (DH) as sinks

ELECTRICAL

110v20a1ph fourplex at perimeter and
 suspended at service columns
 110v20a1ph duplex at perimeter and fume hood
 Standby power (e) at equipment space
 Data junction boxes at perimeter and
 and suspended at service column
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting at underside of wall cabinets and
 underside of bottom adjustable shelf

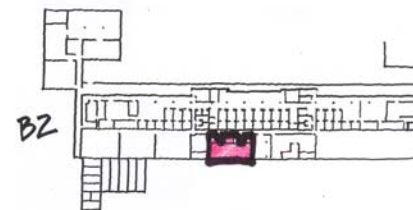
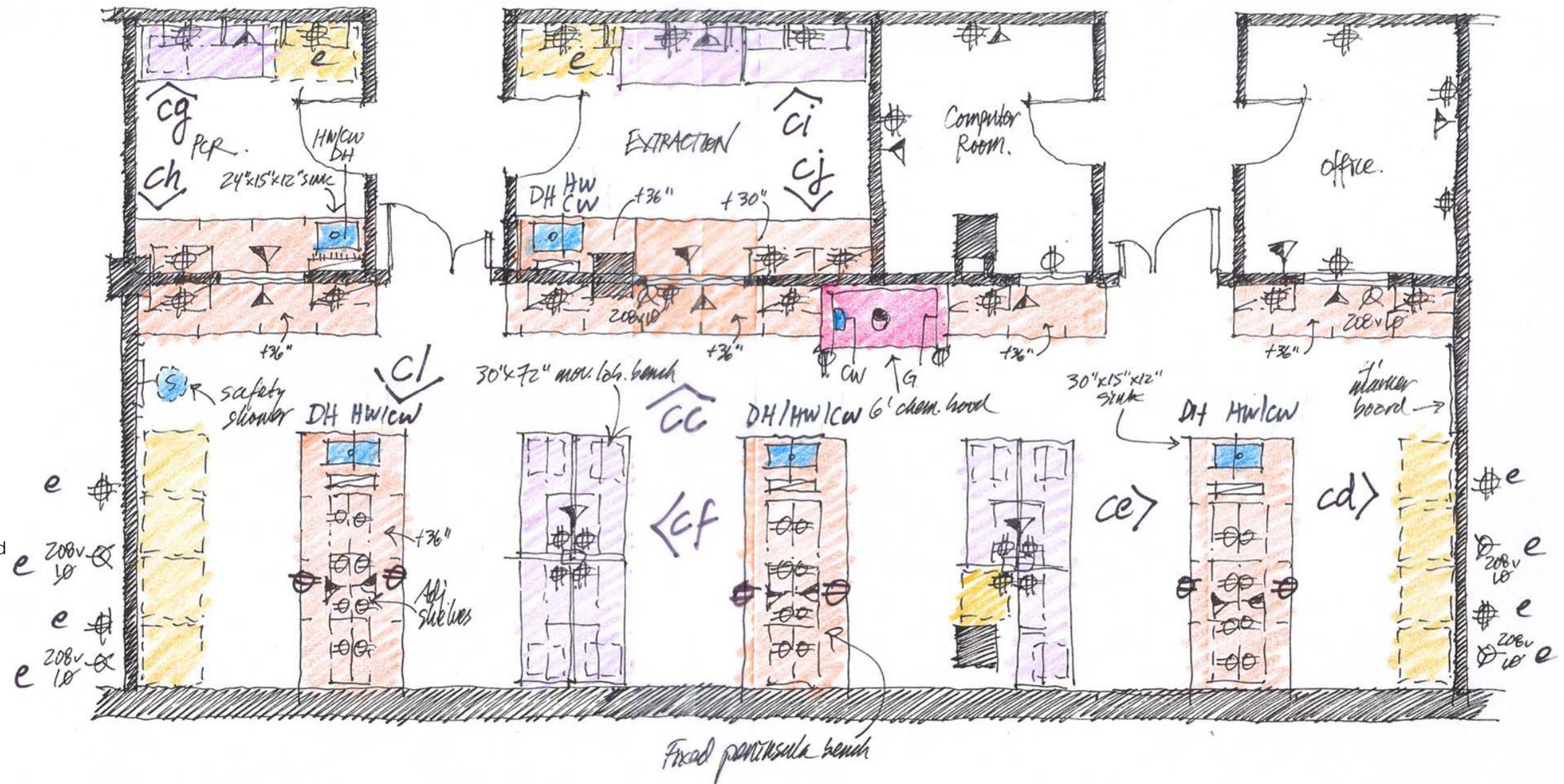
GROUP 1 EQUIPMENT (Contractor Furnished)

Fixed bench with sink, pipe enclosure
 Wall cabinets
 Marker board
 Mobile lab benches
 Chemical fume hood

GROUP 2 EQUIPMENT (Owner Furnished)

SCIENTIFIC EQUIPMENT

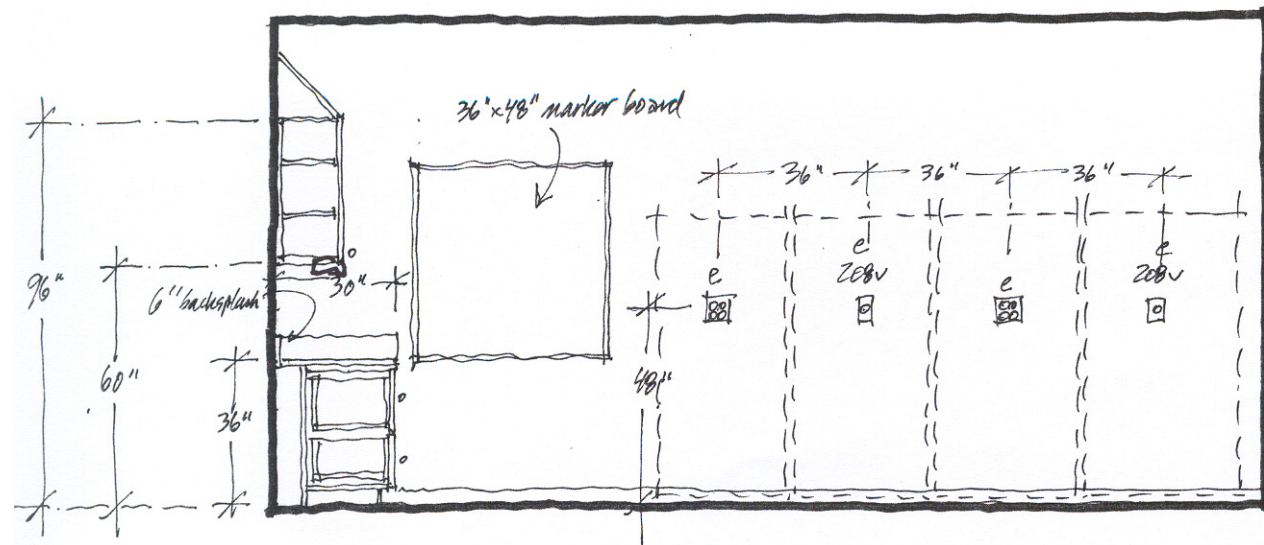
Computers;
 Benchtop analytical Instruments;
 Freezers, refrigerators



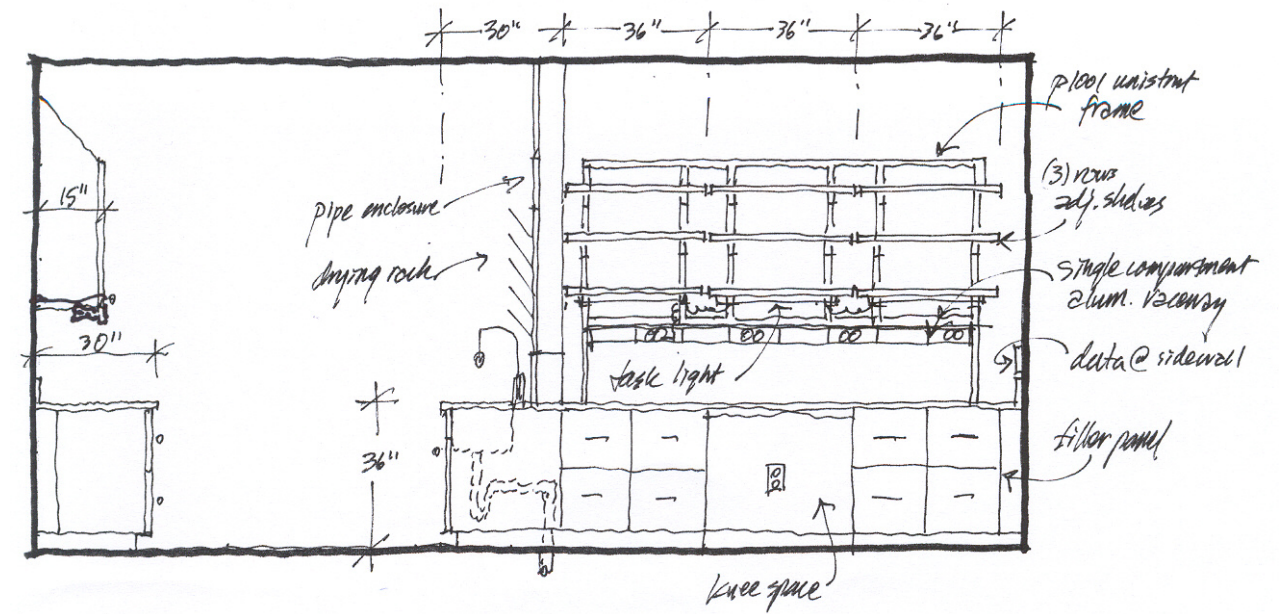
Elevations B2A61



CC

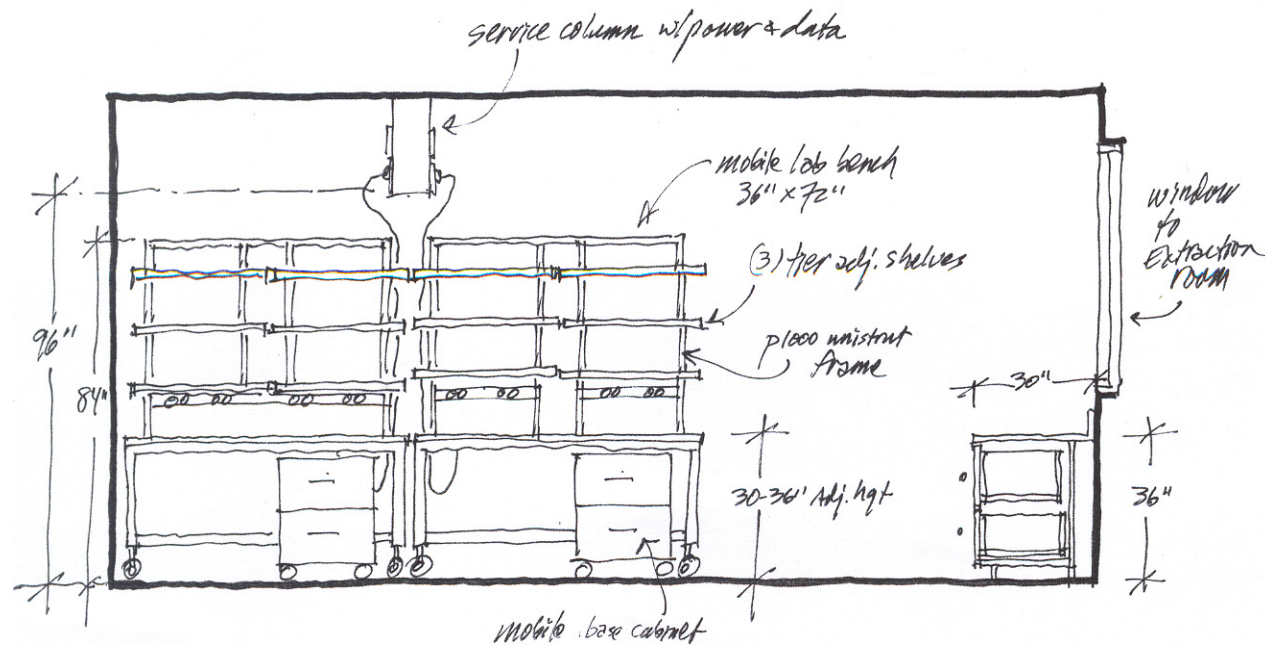


cd

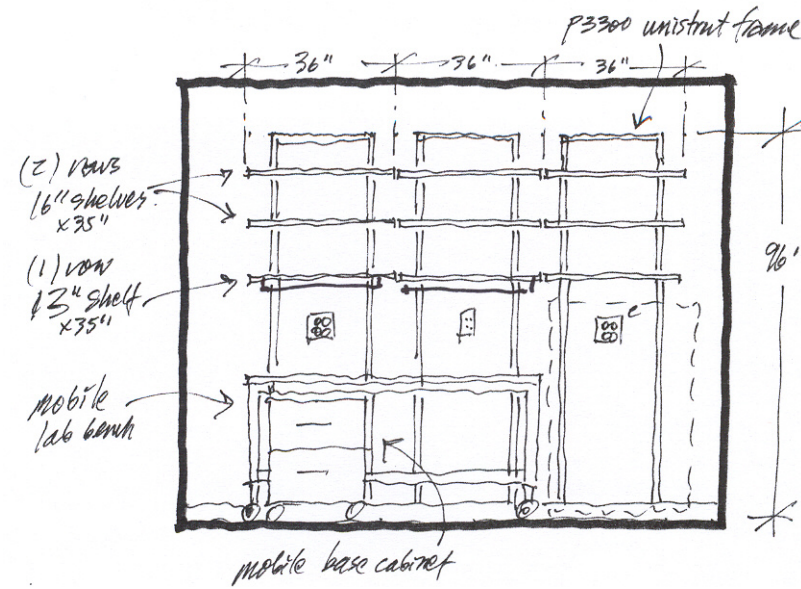


ce

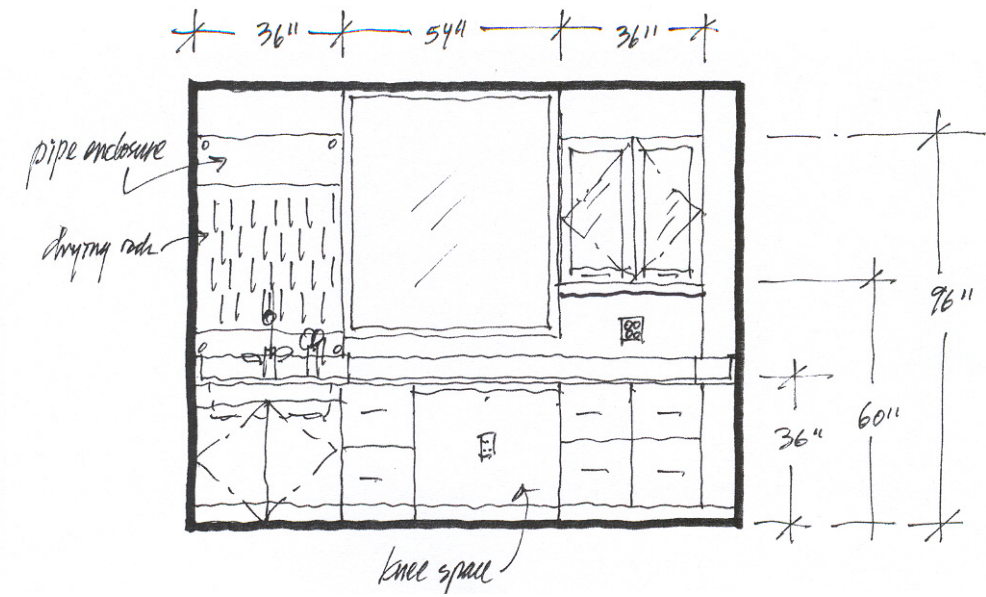
Elevations B2A61



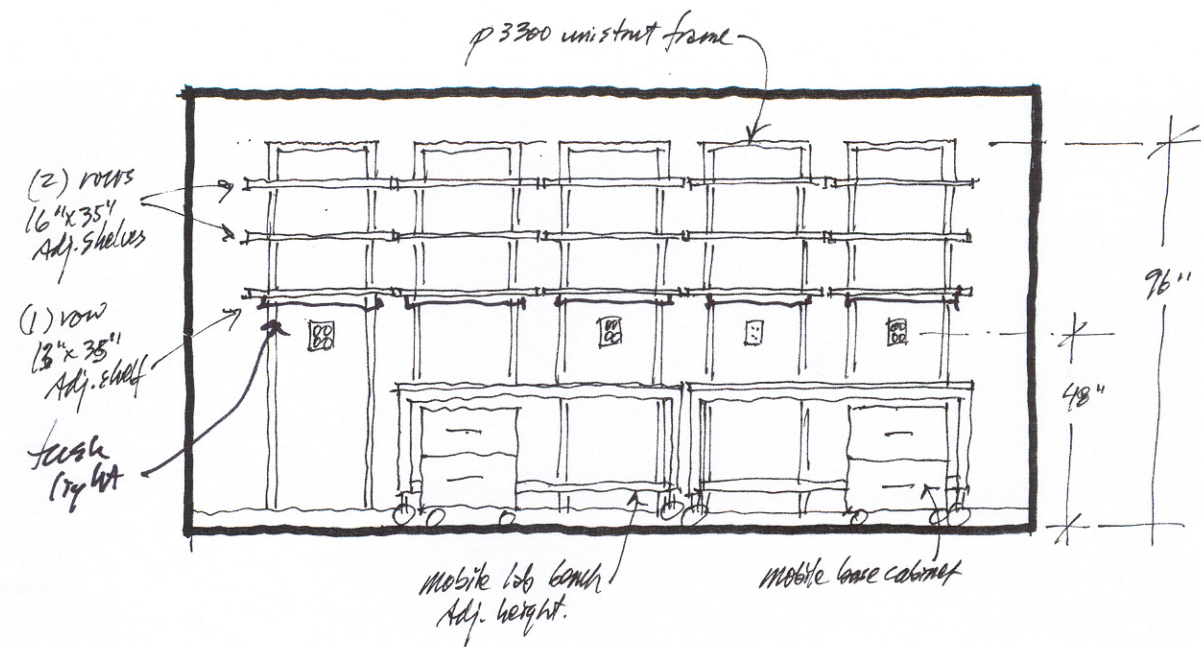
cf



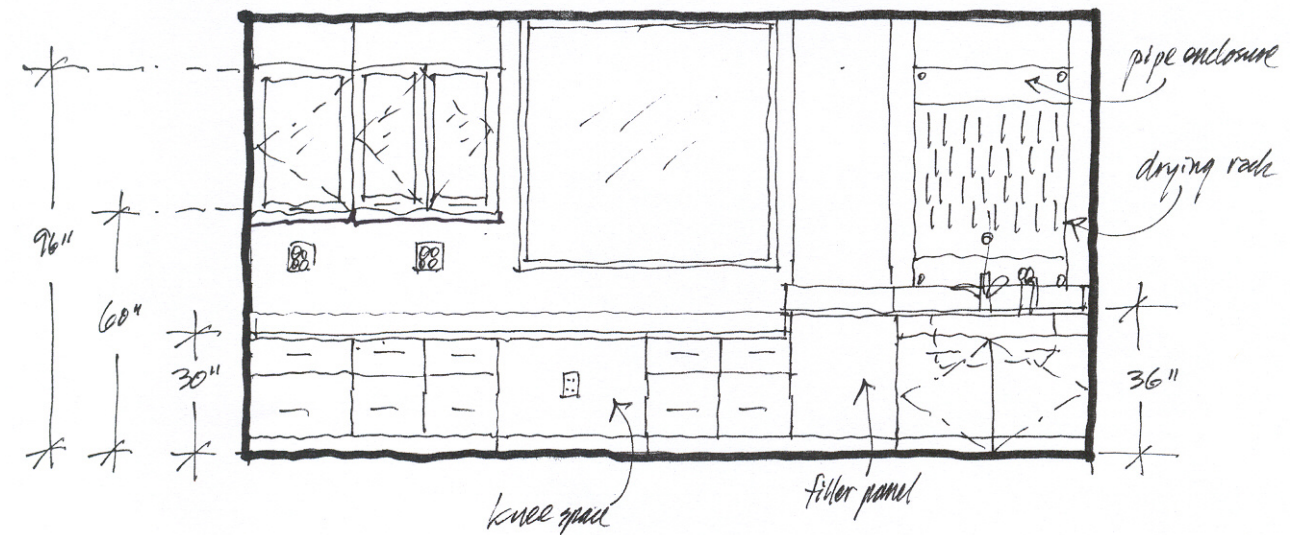
cg



ch



ci



cj

Freezer Room B2B56

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36"x84";
 Sound attenuation: NC 55 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; recirculated air;
 Equipment heat gain: 75 btu/h per square foot

PLUMBING

None identified

ELECTRICAL

Standby 110v and 208v at perimeter in single compartment
 aluminum raceway
 Lighting: Direct/indirect 75 f.c. at work surface

GROUP 1 EQUIPMENT (Contractor Furnished)

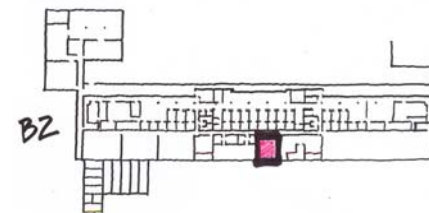
None identified

GROUP 2 EQUIPMENT (Owner Furnished)

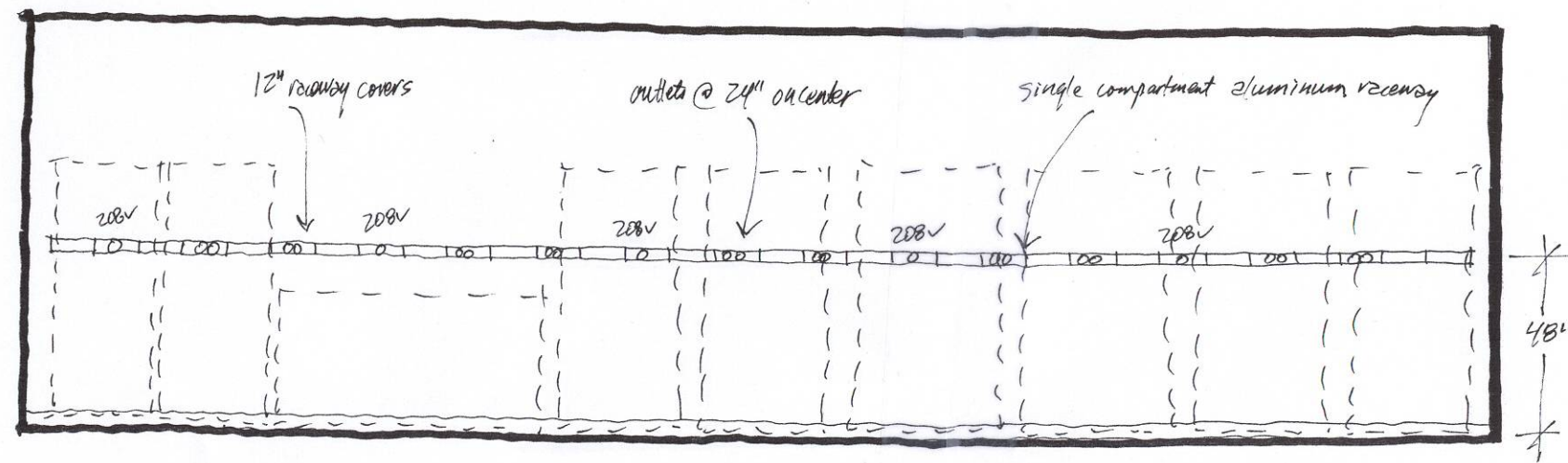
None identified

SCIENTIFIC EQUIPMENT

Freezers
 Ultra low freezers



Elevations B2B56



ck

SEM B2B40

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: 42" x 84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; recirculated air;
 Equipment heat gain: 50 btu/h per square foot

PLUMBING

None identified

ELECTRICAL

110v fourplex outlets
 208v30a1ph outlet (2)
 Data outlets
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting at underside of wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

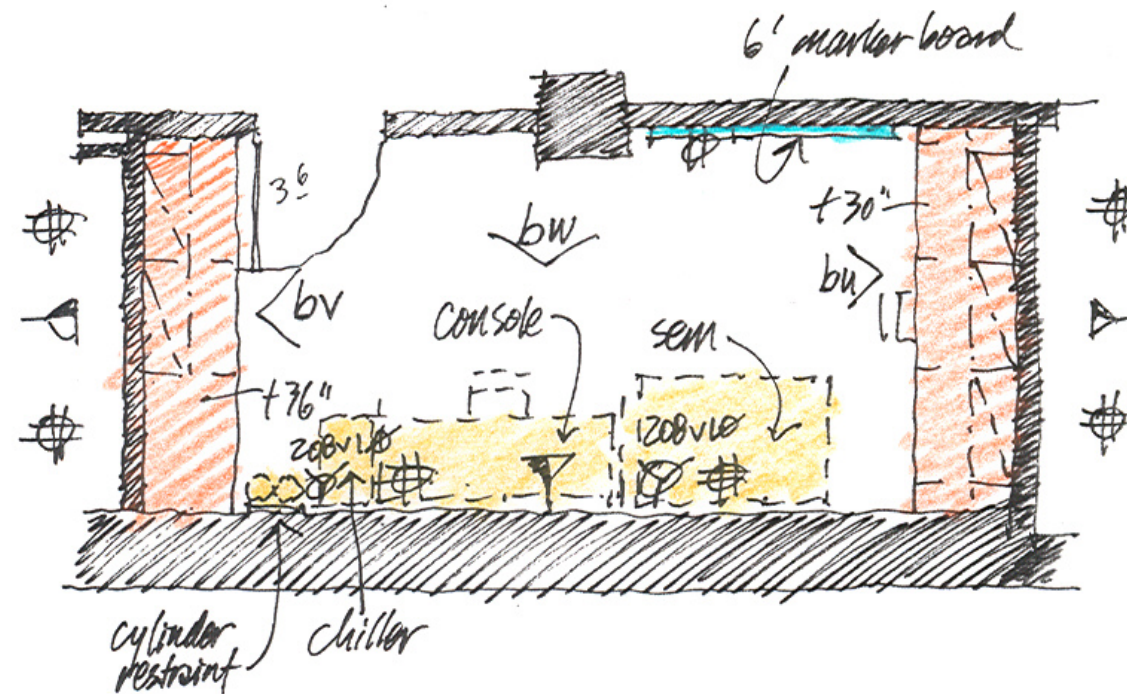
Wall cabinets
 Base cabinets
 Tops
 Marker Board
 Cylinder Restraint

GROUP 2 EQUIPMENT (Owner Furnished)

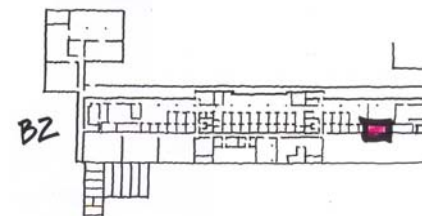
None identified

SCIENTIFIC EQUIPMENT

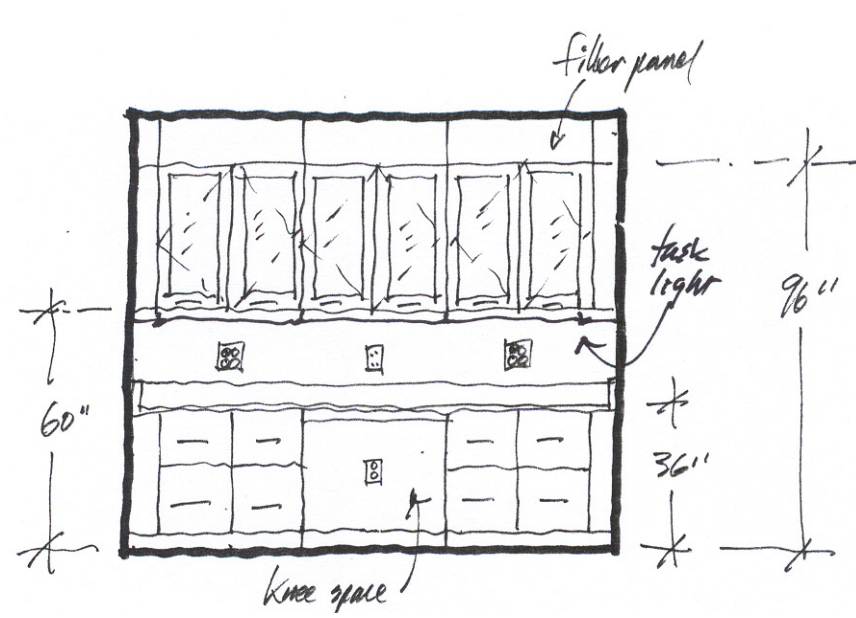
Scanning Electron Microscope (200,000 magnification)
 Control Console
 Chiller



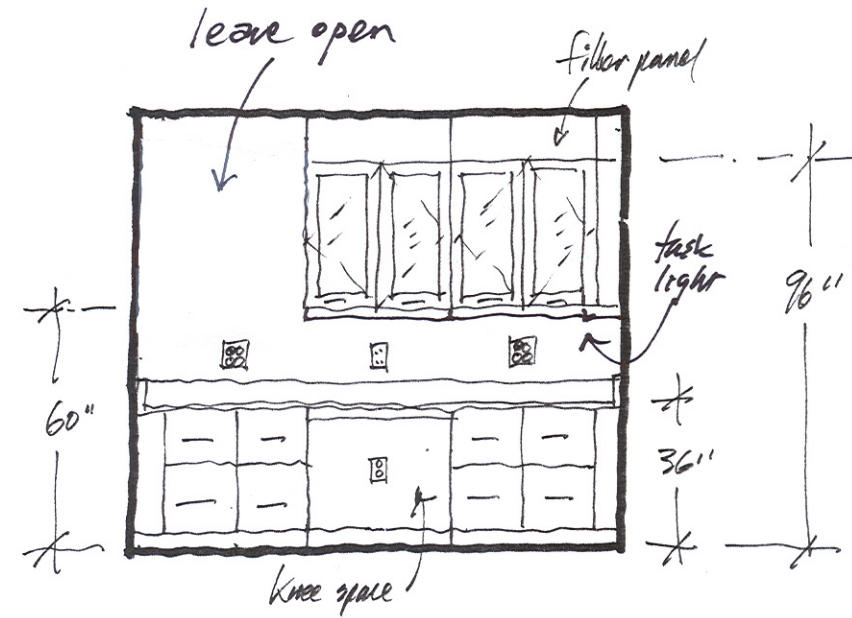
SEM. B2B40.



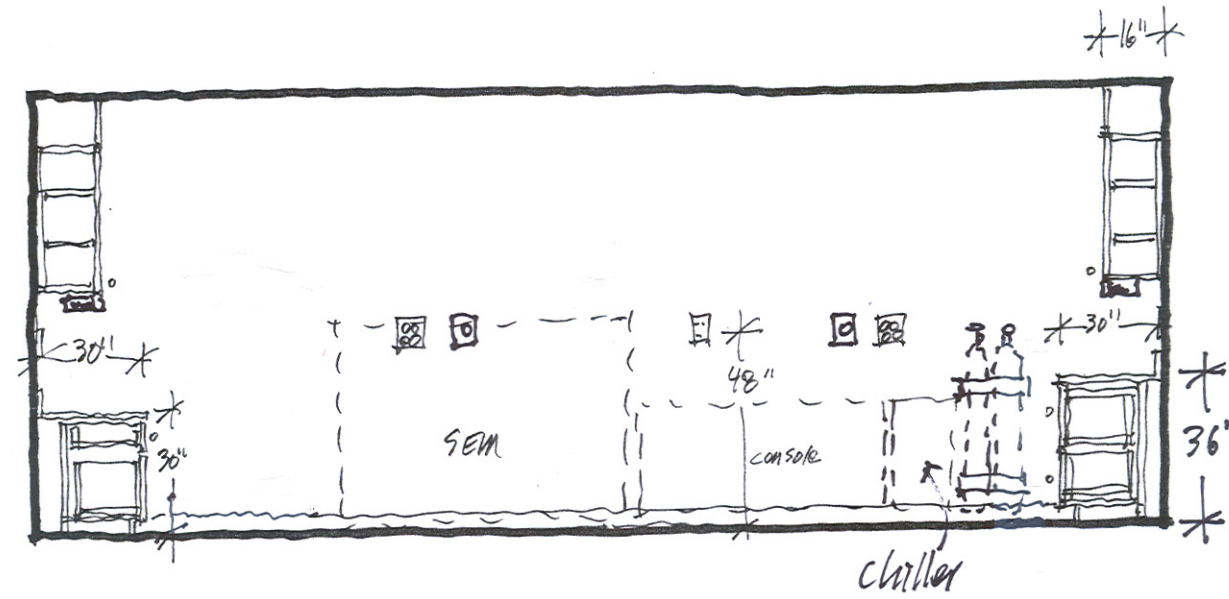
Elevations B2B40



bu



bv



bw

(bw)

Entomology Work Area B2B44

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; recirculated air;
 4 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink
 Cold Water (CW) at sink

ELECTRICAL

110v20a1ph fourplex at perimeter and recessed at floor
 Data junction boxes at perimeter and Recessed at floor
 Lighting: Direct/indirect 50 f.c. at work surface
 Task lighting at underside of wall cabinets

GROUP 1 EQUIPMENT (Contractor Furnished)

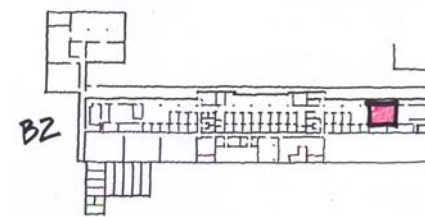
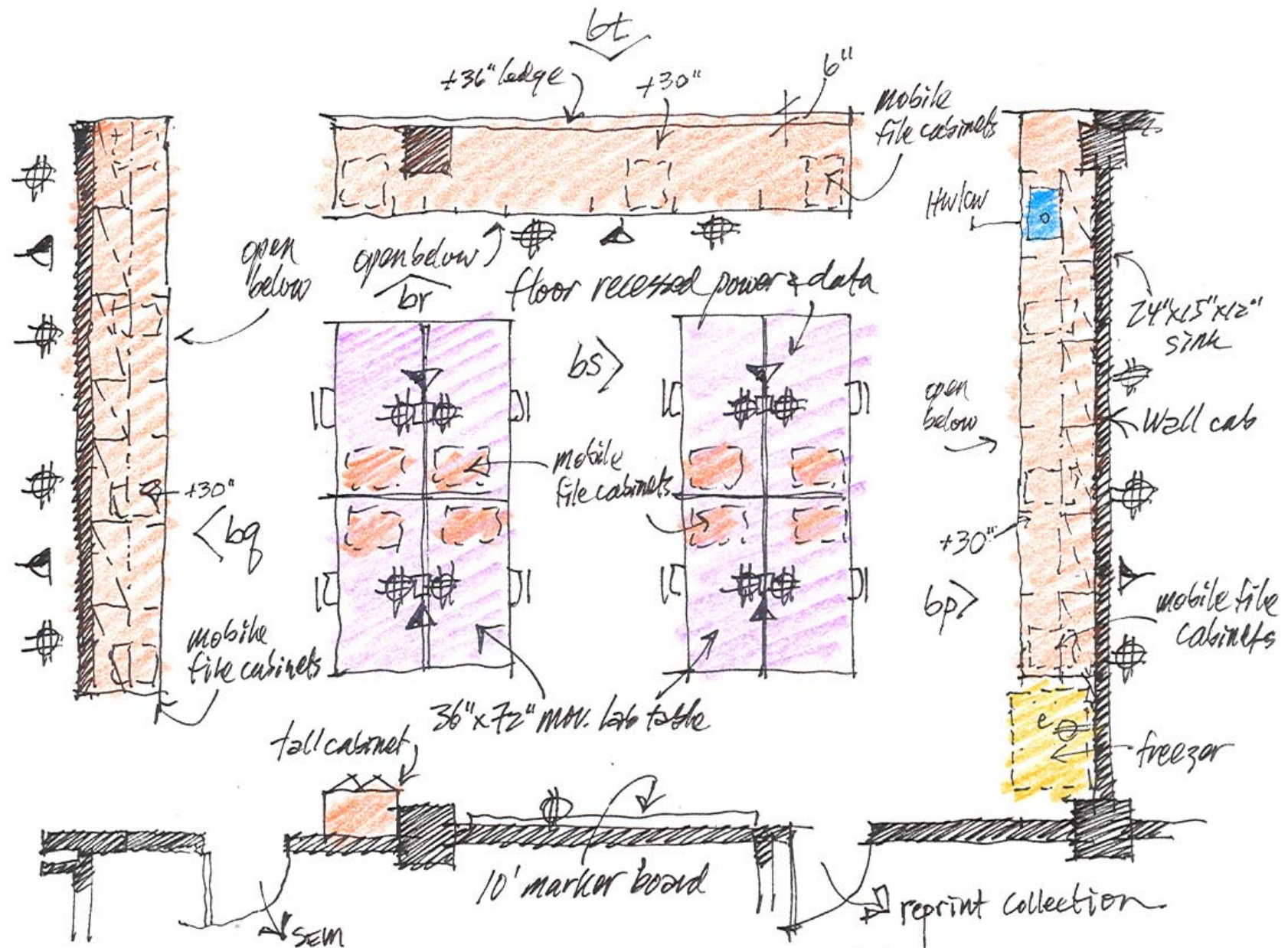
Fixed bench with sink
 Base cabinets
 Wall cabinets
 Marker board
 Tall storage cabinets

GROUP 2 EQUIPMENT (Owner Furnished)

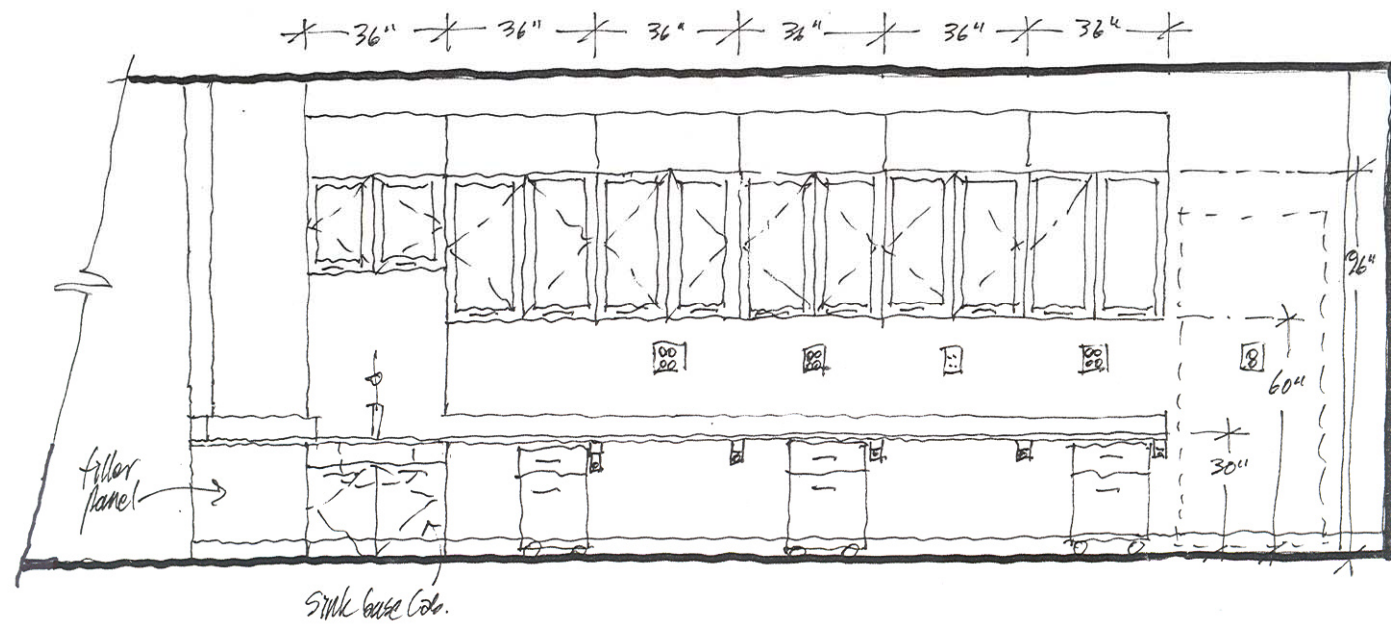
Chairs

SCIENTIFIC EQUIPMENT

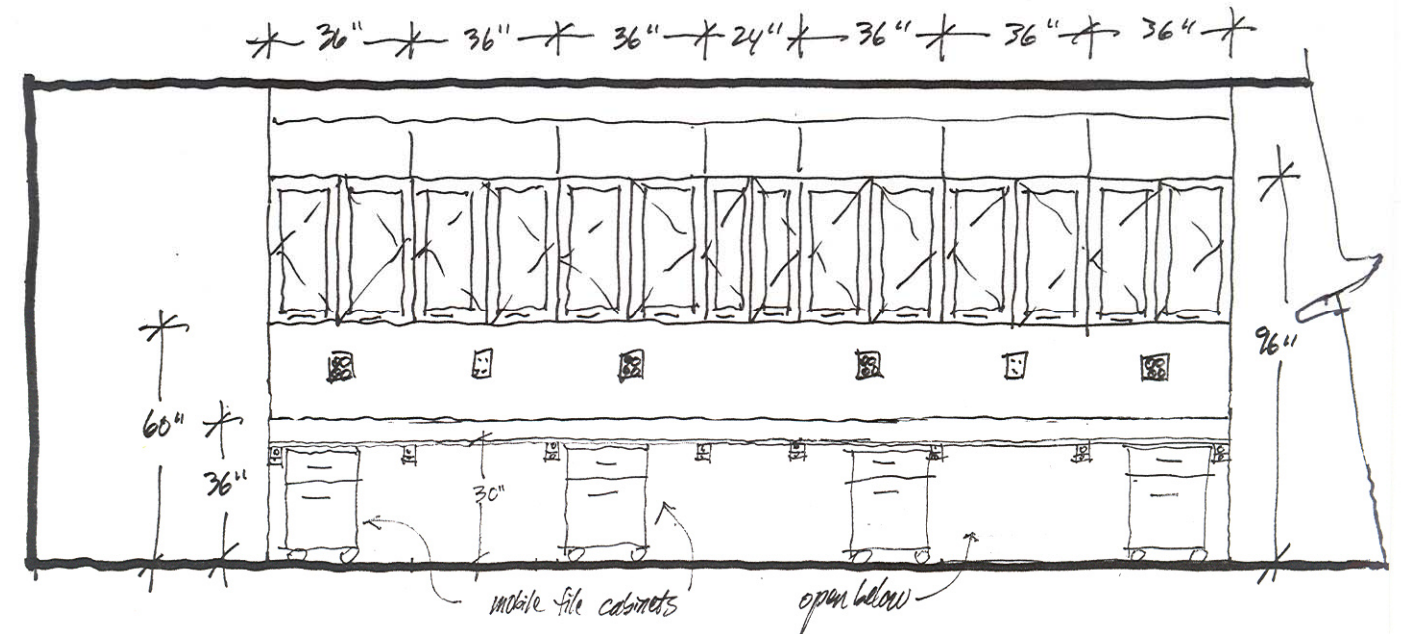
Computers;
 Benchtop analytical Instruments;



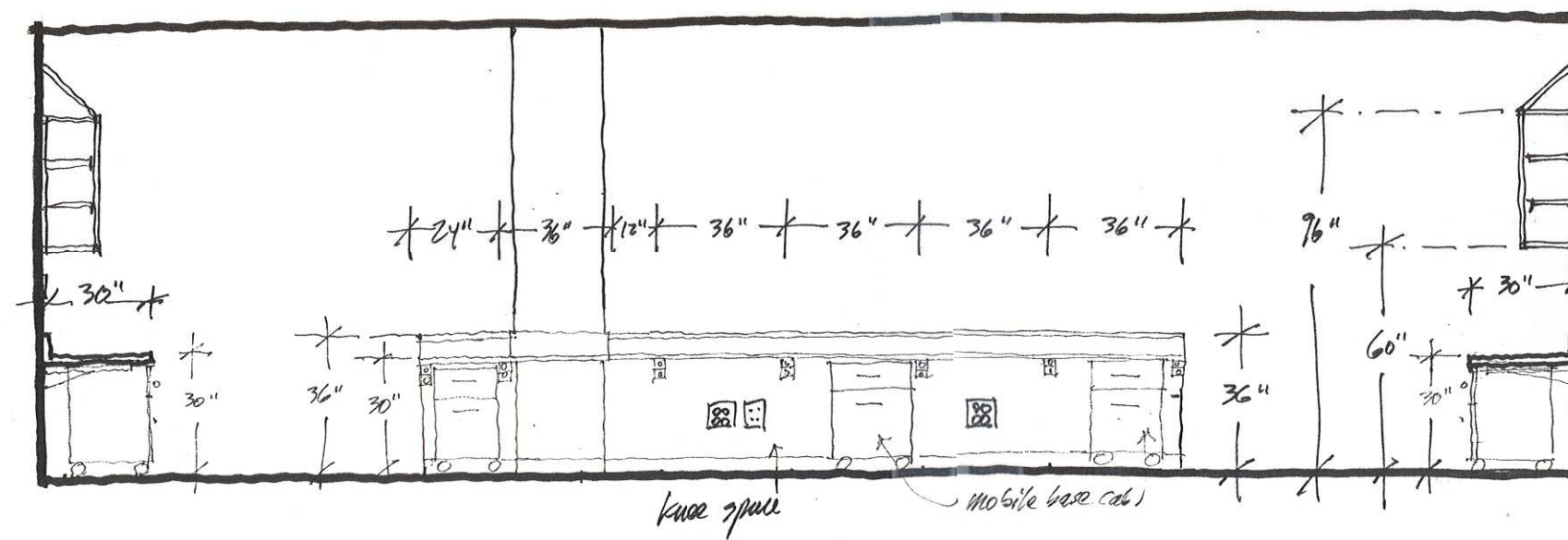
Elevations B2B44



bp

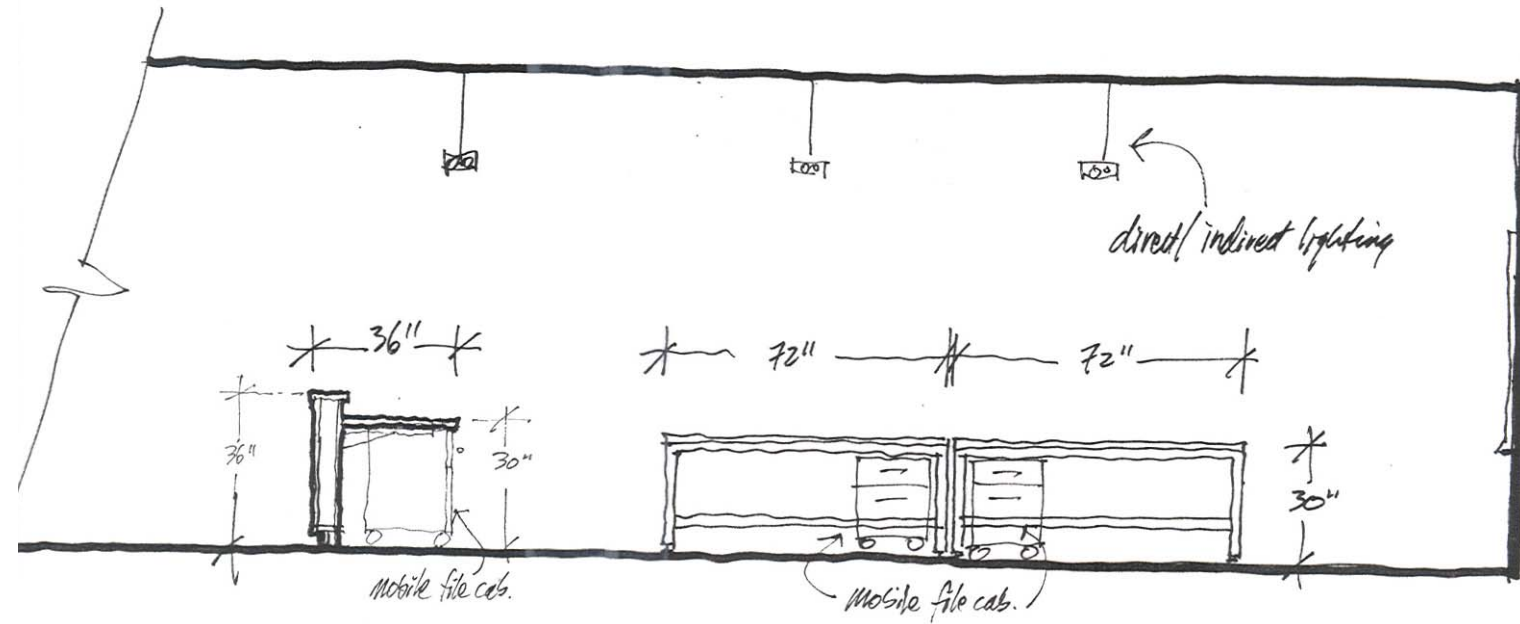


bq

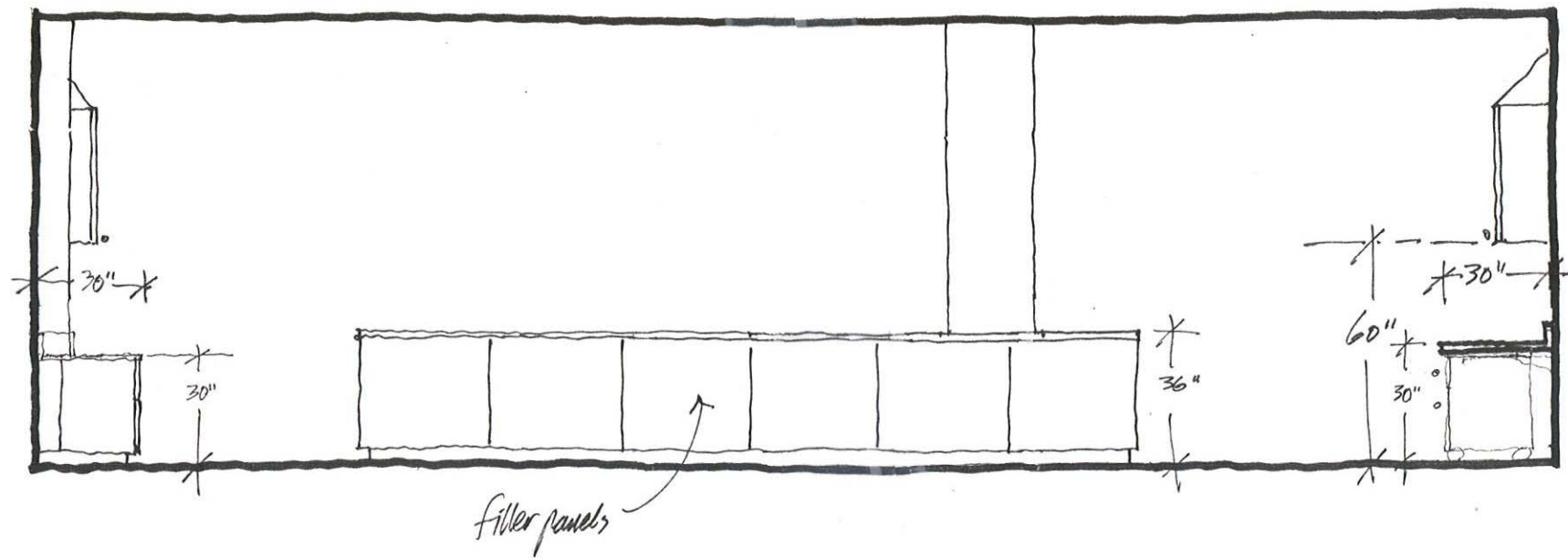


br

Elevations B2B44



bs



bt

Entomology Lab B2B45

with collections supply B2B46

ARCHITECTURAL

Floor: rubber tile
 Walls: dens board, enamel paint
 Ceiling: acoustic tile
 Entry door: pair 36"x84"/36'x84"; Side door: 36"x84"
 Sound attenuation: NC 45 or less

STRUCTURAL

Slab on grade

MECHANICAL

72° F; 100% exhaust; Negative pressure;
 6 air changes per hour, minimum

PLUMBING

Hot Water (HW) at sink;
 Drench Hose (DH) as sink;

ELECTRICAL

110v20a1ph fourplex at perimeter and recessed at floor
 Data junction boxes at perimeter and recessed at floor
 Lighting: Direct/indirect 75 f.c. at work surface
 Task lighting at underside of wall cabinets
 Standby power at equipment space

GROUP 1 EQUIPMENT (Contractor Furnished)

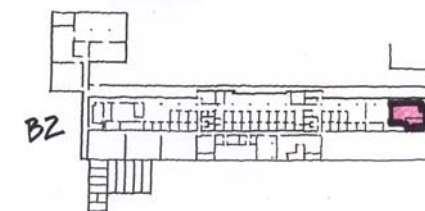
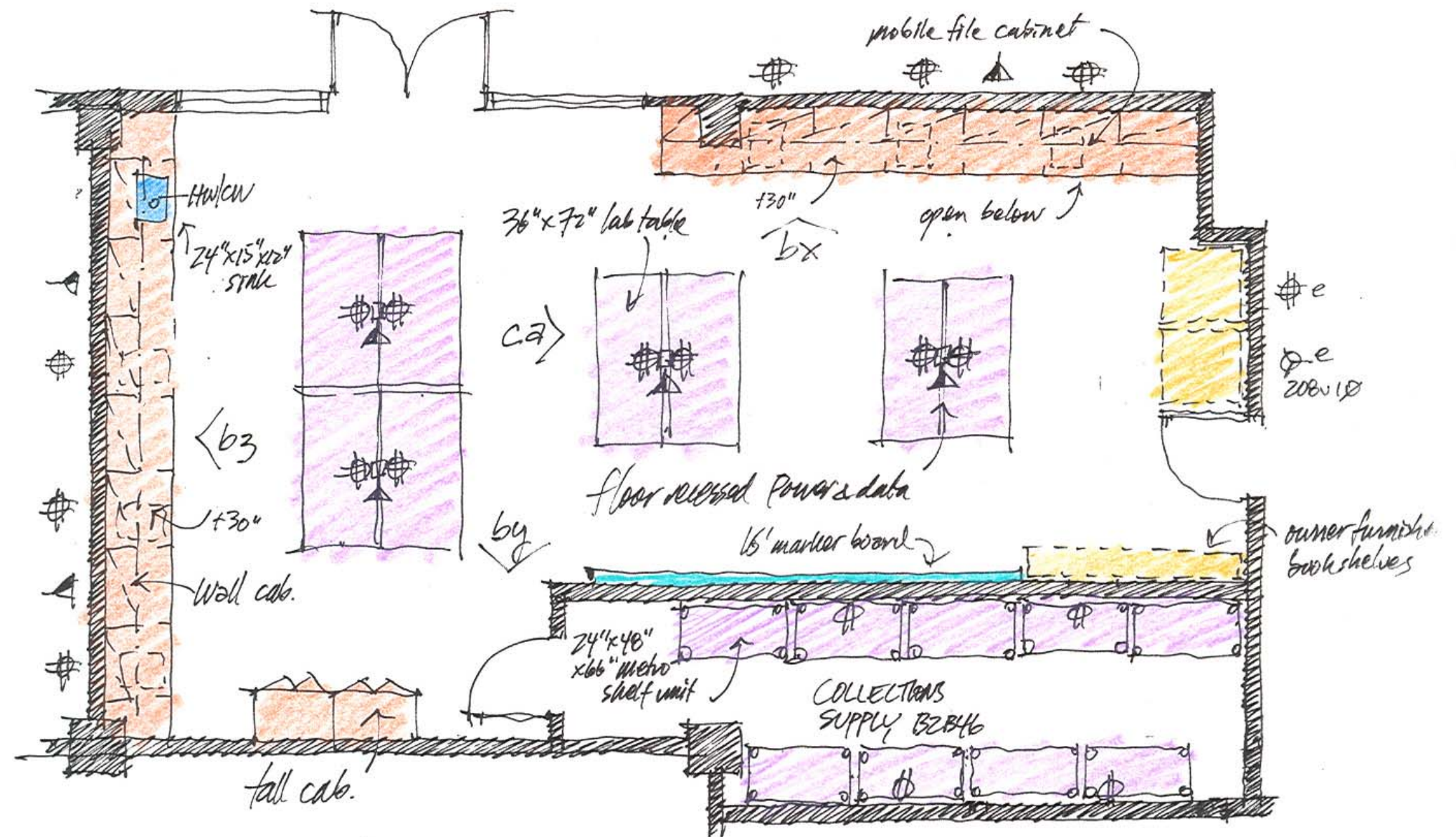
Fixed bench with sink
 Base cabinets
 Wall cabinets
 Tall storage cabinets
 Marker board
 Moveable lab tables
 Metro shelf units in adjacent storage room

GROUP 2 EQUIPMENT (Owner Furnished)

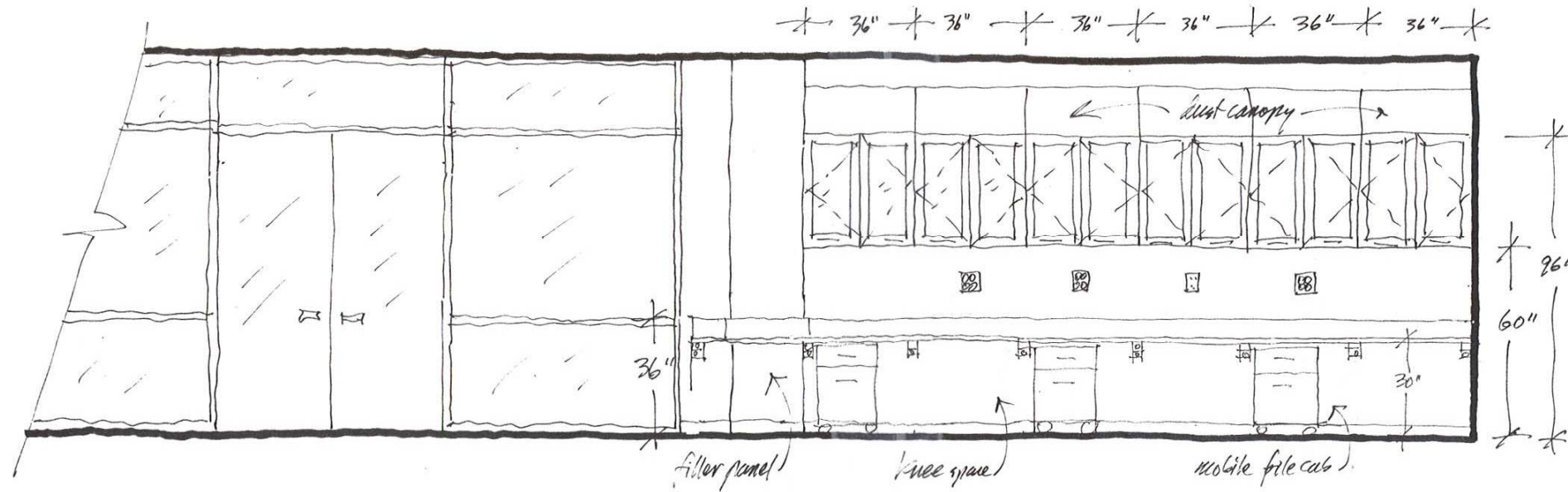
Chairs

SCIENTIFIC EQUIPMENT

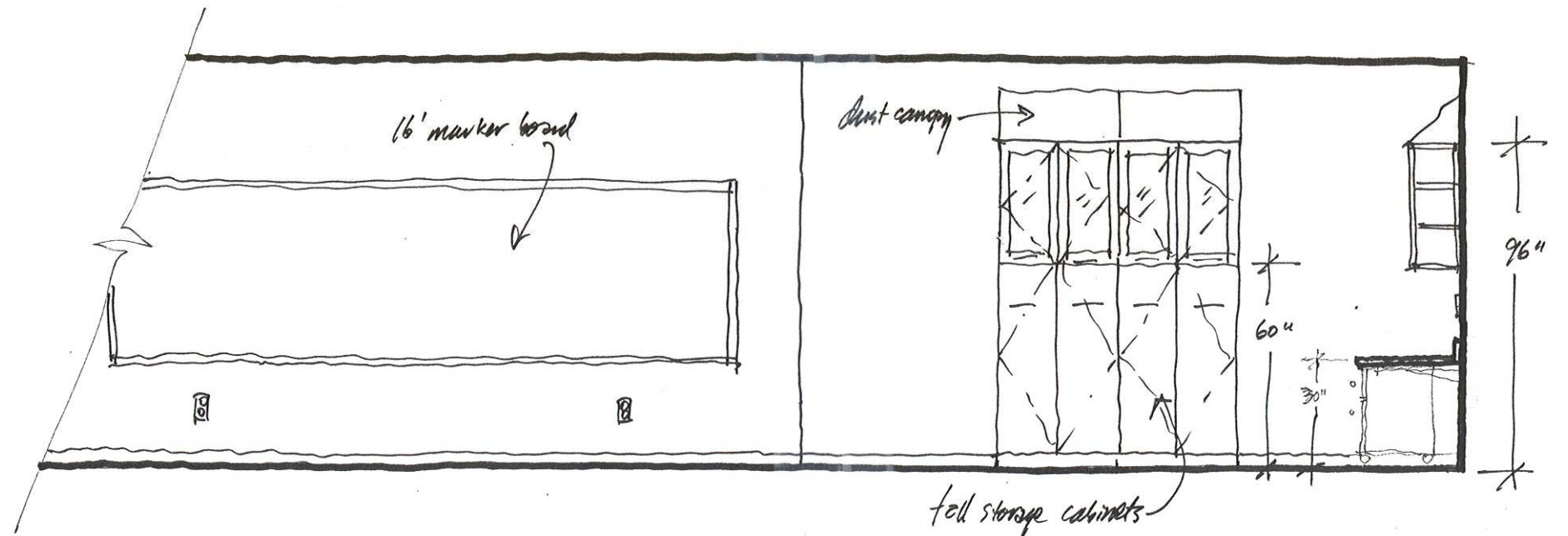
Computers;
 Benchtop analytical Instruments;



Elevations B2B45

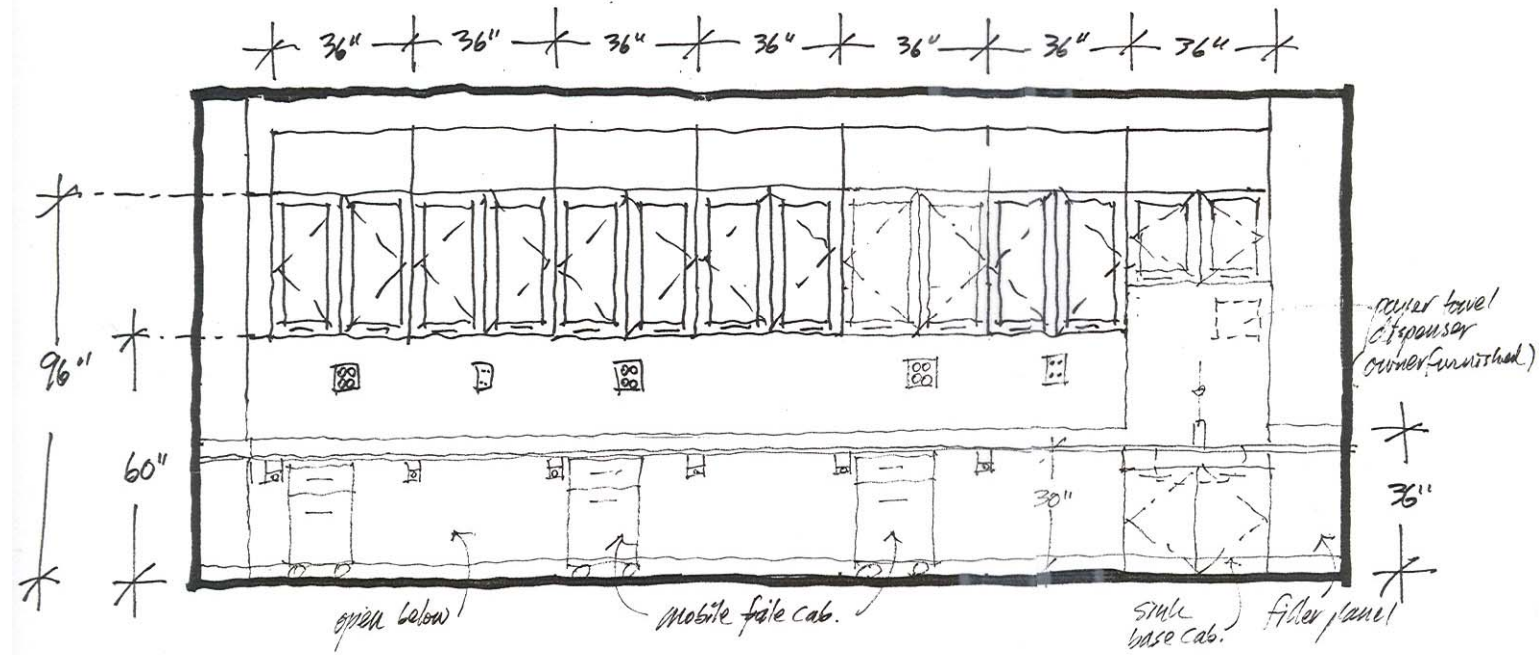


bx

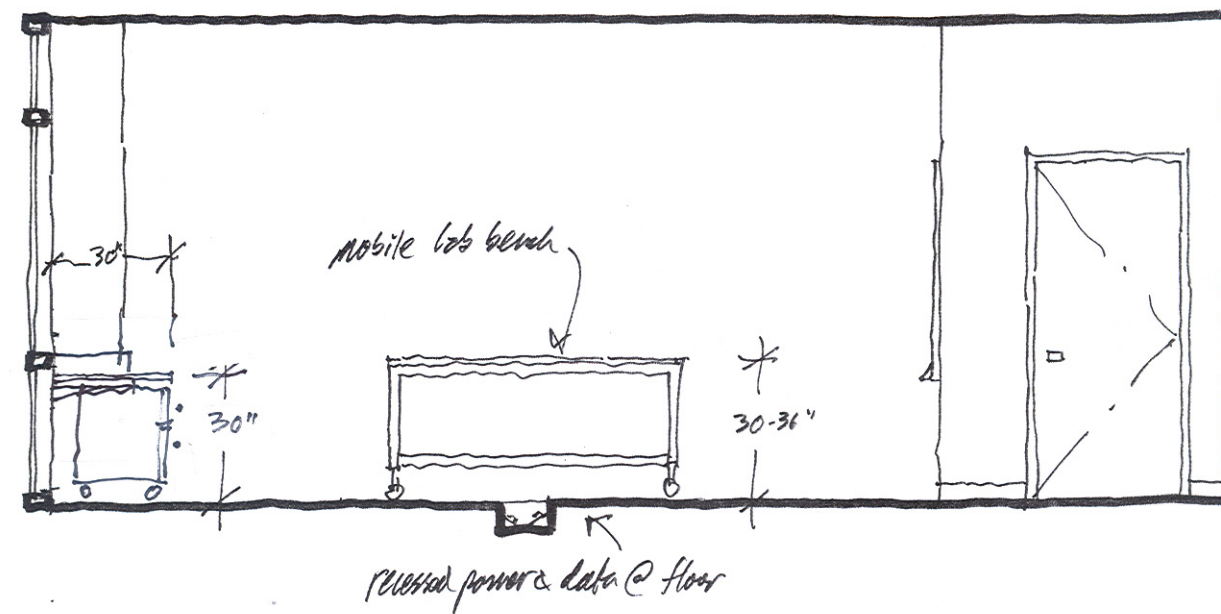


by

Elevations B2B45



bz



ca

Fume Hood Cut Sheet

Protector® XStream® Laboratory Hoods



Protector XStream Laboratory Hood 9940600 is shown with SpillStopper Work Surface 9949800, Protector Acid Storage Cabinet 9901100 and Protector Standard Storage Cabinet 9900100. Blower, ductwork, work surface and base cabinets must be ordered separately.

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 **816-333-8611** for ordering information on explosion-proof lighting and other sash configurations and for blower sizing assistance.

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

■ Height of switches, electrical receptacle and service fixtures meet requirements of ADA.

■ Exclusive Feature



Protector® XStream® Laboratory Hoods

Additional Features & Benefits

Front and side panels may be easily removed for lamp replacement and access to electrical supply connections.

Fluorescent lighting illuminates the interior. The high efficiency, instant start, T8 fluorescent lights are located outside the hood interior for corrosion-resistance and easy replacement. Contact Labconco for ordering information on explosion-proof lighting.

Durable and attractive exterior is glacier white, dry powder epoxy-coated steel.

Large 28" sash opening offers superior viewing. When fully open, the sash does not extend above the hood.

Vertical-rising tempered safety glass sash is anti-racking for smooth operation.

Chemical-resistant, fiberglass-reinforced composite panel liner surpasses all national codes for flame spread and has a bright white surface for excellent light reflectivity.

Service access panels allow accessibility to plumbing from the front and inside of the hood.

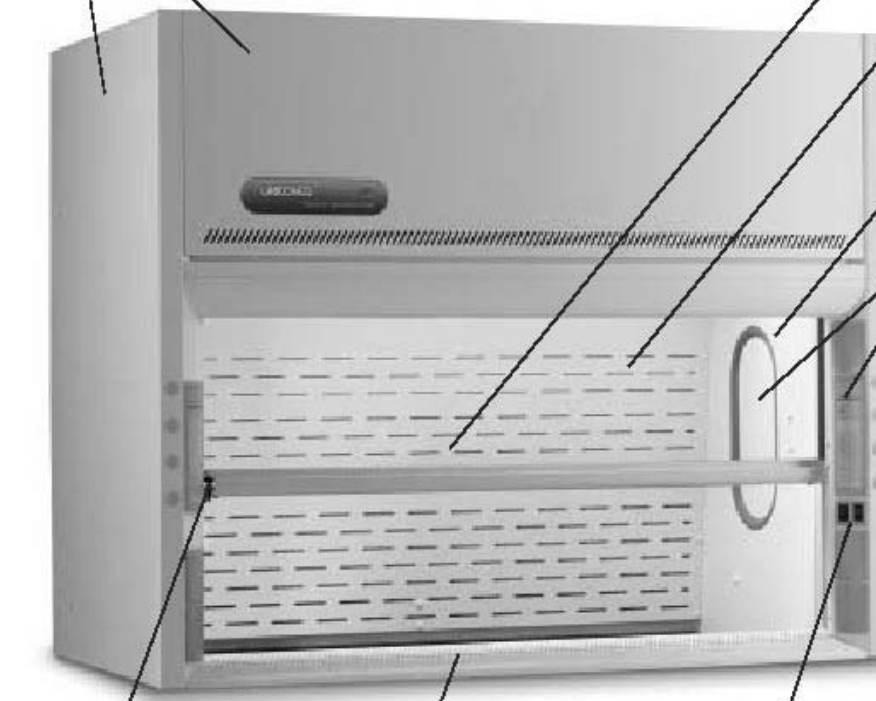
Color-coded service fixtures for gas, air, water, vacuum and other services have remote controls for use regardless of the sash position. Two service fixtures are pre-plumbed on fixture models. Each hood is factory prepared for up to eight service fixtures (four on each side).

Modified by-pass airflow design ensures stable face velocities that meet or exceed established standards.

ETL-listed. Hoods carry the ETL mark signifying that they are certified to UL 3101-1/61010-1, UL 1806 and CAN/CSA C22.2 No. 1010.1.

Performance tested to ASHRAE 110-1995.

CE mark†. All 230 volt, 50 Hz models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.



Sash stop located at 18" working height maximizes energy conservation by preventing the sash from being raised further unless manually released.

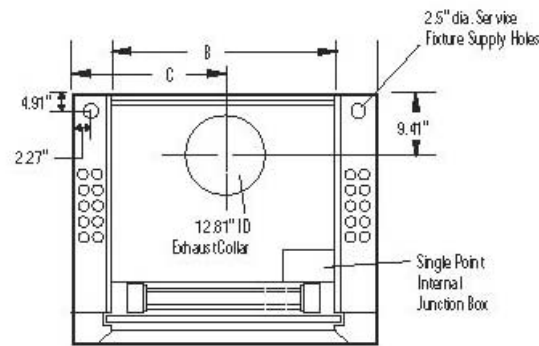
■ Ergonomic air foil allows air to sweep the work surface for maximum containment. Clean-Sweep® airflow openings pull inflow air from under the air foil so that clean air continually flows over the air foil creating a constant barrier of protection from contaminants.

Pre-wired electrical components. Fluorescent lights and switches are factory-wired to the hood's single point junction box. One electrical duplex receptacle is factory-wired on 115 volt, 60 Hz fixture models. Each hood is factory-prepared for up to four electrical duplexes and an airflow monitor.

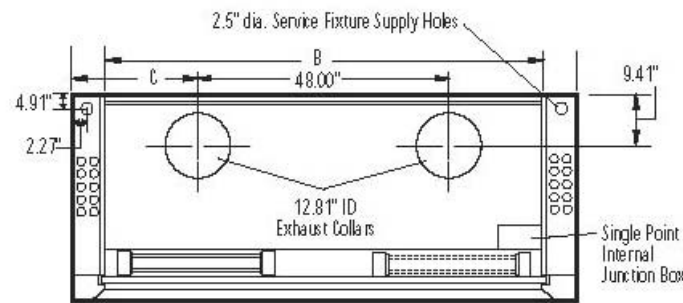


Fume Hood Cut Sheet

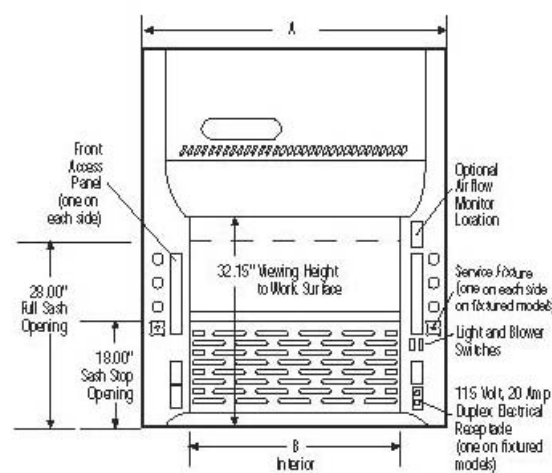
Dimensional Data Protector® XStream™ Laboratory Hoods



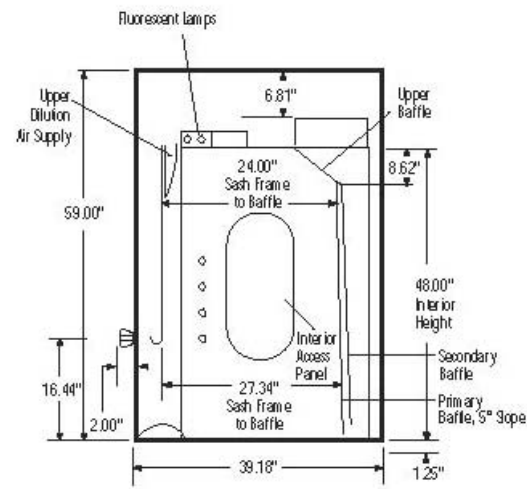
TOP 4', 5', 6'



TOP 8'



FRONT



SIDE

	A	B	C
4' Hood	48.00'	38.25'	24.00'
5' Hood	60.00'	50.25'	30.00'
6' Hood	72.00'	62.25'	36.00'
8' Hood	96.00'	86.25'	48.00'

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'	380	0.07'	280	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

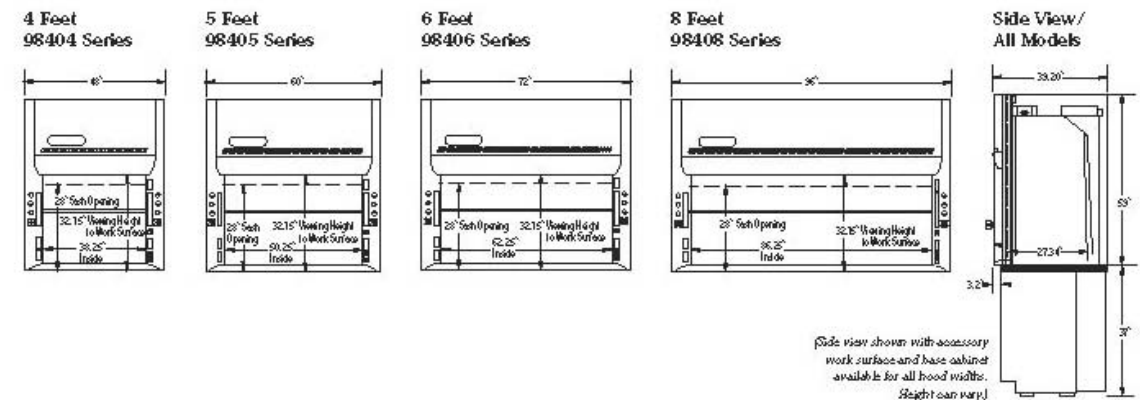
Total Exhaust CFM and Static Pressure @ 28" Sash Opening (100% open)

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'	1390	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

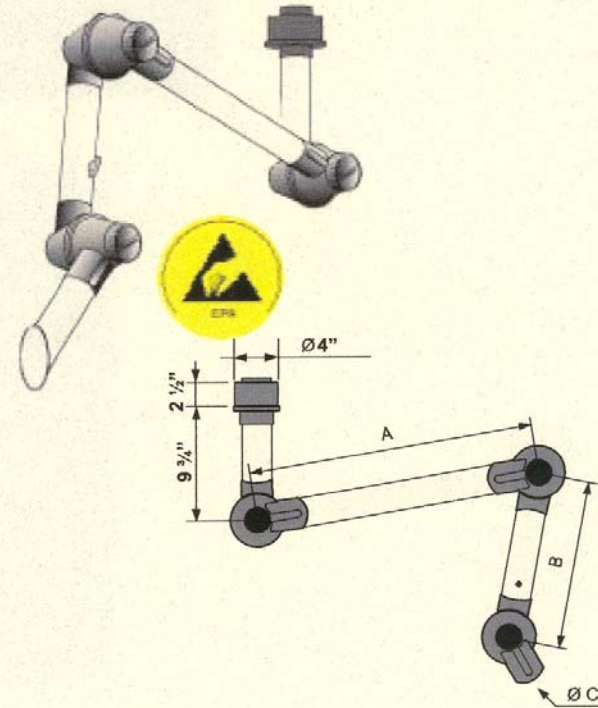
**International electrical configuration



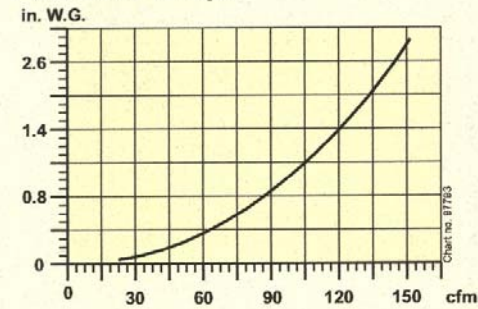
Snorkel Exhaust Cut Sheet

Technical Description

FX Arm 3" - ESD Wall/Ceiling Model 3 Joints



Pressure Drops



Arm Sections

Thin walled ESD safe, anodized aluminum sections with a high corrosion resistance against most solvents. In contact with alkaline materials the surface may be stained or damaged. Best resistance between PH 4 and PH 9.

Swivel

Two layer swivel with 360 degree rotation. This means that connected ductwork will remain stationary and not rotate with the arm.

Joints

The knurled adjustment on the friction joints are supported by ball-bearings, with low friction sealing rings. Spring, washer and bolts are treated steel.

Other

All the arms are provided with tight sealing dampers. Rated for an underpressure of 14" W.G.

Accessories

Metal hood, Flange nozzle and Angle nozzle

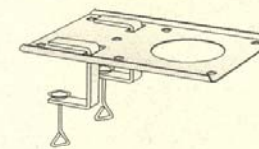
ØC (in.)	A (in.)	B (in.)	Length (in.)	Part.No
3	16	11 3/4	37 1/2	70501939
3	22 1/2	17 1/4	49 1/2	70502039
3	29 1/2	17 1/4	57	70502139

FACTS	
Material	
Arm sections	Aluminum (SS4007)
Damper	Polypropylene(PP) Thermoplastic elastomere(TPE)
Swivel socket, Joint, Flange, Lock knob	Polypropylene (PP) Conductive
Washer, Bolt, Spring	Steel
Sealing ring	Rubber, nitril
Surface treatment	
Arm sections	Anodized
Washer, Bolt, Spring	Electrolytic galvanizing
Air Temperature	5-195 degrees F



Technical Description

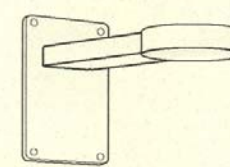
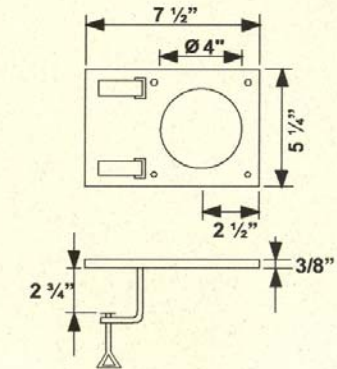
FX Arm - Mounting Brackets



Adjustable Bench Bracket
For flexible mounting of arms on a work surface without causing any damage.

Part No. 70371761
Part No. 70371703 - ESD

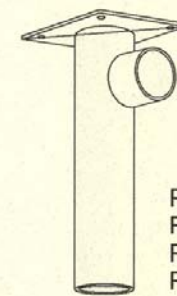
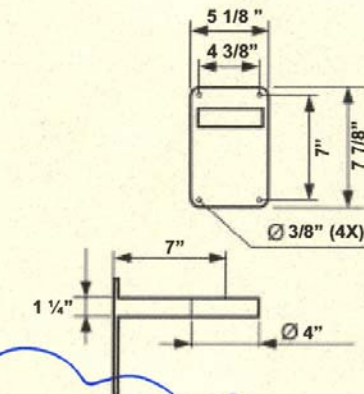
FACTS - STANDARD	
Material	Steel
Surface treatment	
Plate	White powder coating
Clamps	Electrolytic galvanizing



Wall Bracket
Allows arm to be mounted both hanging or standing from a nearby wall or column.

Part No. 70371622
Part No. 70371702 - ESD

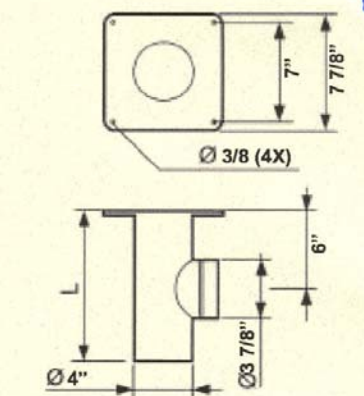
FACTS - STANDARD	
Material	Steel
Surface treatment	White powder coating



Ceiling Wall Bracket
For mounting the extraction arm suspended from a ceiling.

Part No. 70371623 -L=10"
Part No. 70371624 -L=20"
Part No. 70371625 -L=30"
Part No. 70371626 -L=40"

FACTS - STANDARD	
Material	Steel
Surface treatment	White powder coating



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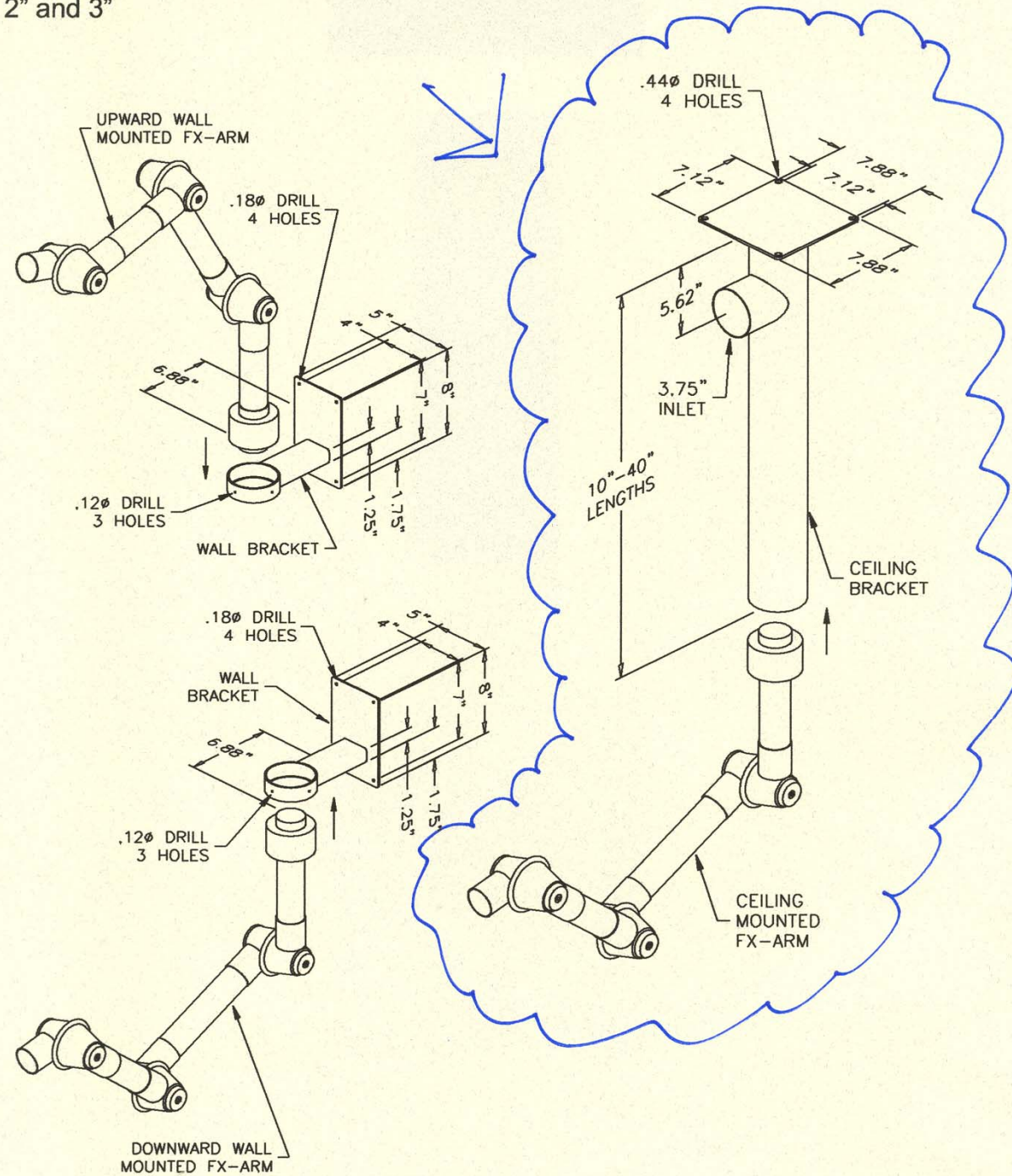
Doc. 30-137

Snorkel Exhaust Cut Sheet



Technical Description

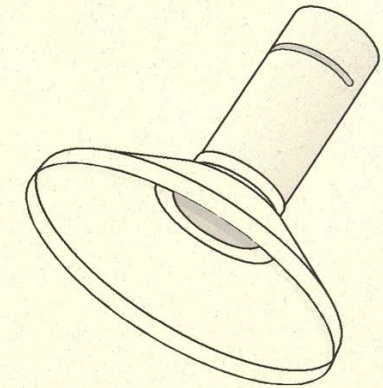
FX Arm - Mounting Options 2" and 3"



Technical Description

FX Arm Round Metallic Hood - 3"

Part No. 70371643 - Standard
Part No. 70371749 - w/Light
Part No. 70371649 - ESD



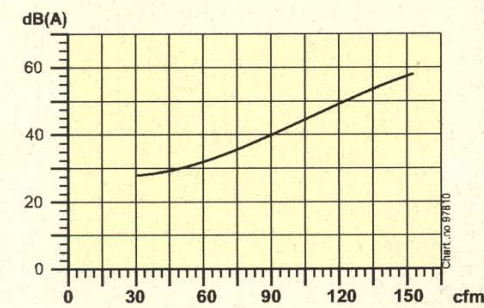
Round hood

Made of powder coated aluminum. Available with optional halogen lamp. To be used when extracting hot fumes, gases and high impact particles.

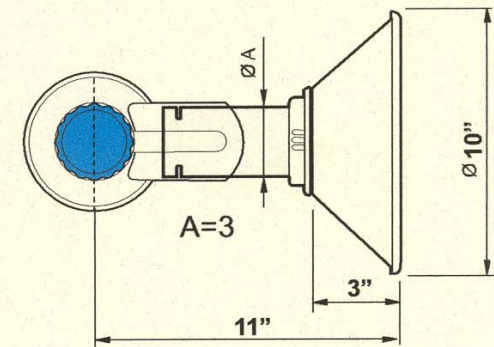
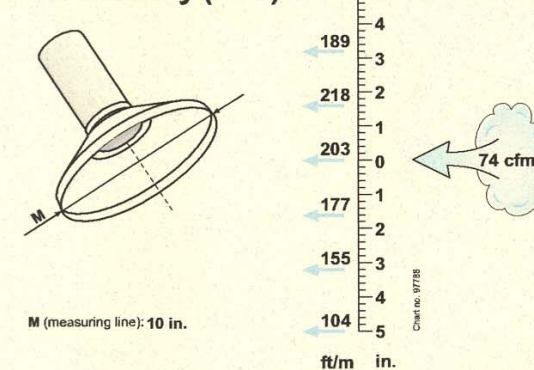
FACTS	
Material	
Metal hood	Aluminum (SS4007),
Connection tube	Aluminum (SS4007)
Hood connection	Polyamide (PA)
Surface treatment	
Tube	Anodized
Hood	Powder coated
Air temperature	5 - 195 degrees F

Sound Level

Distance to measuring point = 3 ft.



Air Velocity (ft/m)



Made of chromate aluminum. To be used when extracting hot fumes, gases and high impact particles in an ESD Safe area.

FACTS	
Material	
Metal hood	Aluminum (SS4007),
Connection tube	Aluminum (SS4007),
Hood connection	Polypropylene (PP)
	-Conductive
Surface treatment	
Tube	Anodized
Hood	Chromate
Air Temperature	5 - 195 degrees F

Safety Shower/Eyewash Cut Sheet



Recessed Laboratory Units

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

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

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

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

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

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

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

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

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

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

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

Pipe and Fittings: All pipe and fittings are brass.

Supply: 1" IPS female inlet.

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

Sign: Furnished with ANSI-compliant identification sign.

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

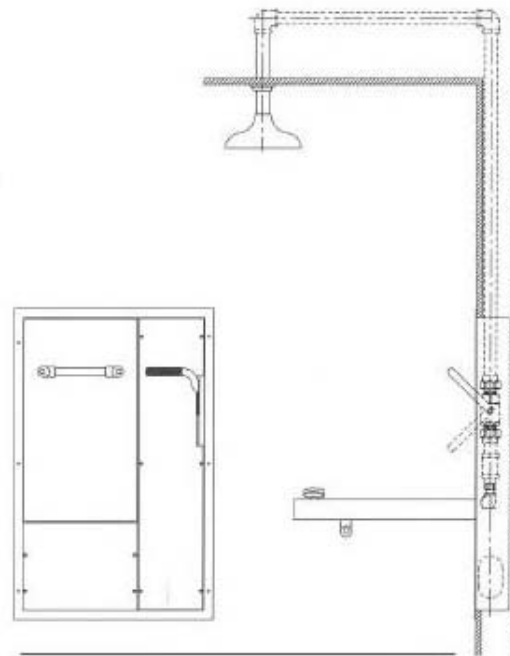
U.S. Patent: 5,768,721

Available Options:

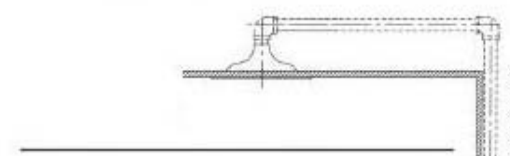
AP280-220 Electric Light and Alarm Horn. Flashing light is mounted on wall above unit. Alarm horn is recess mounted in wall next to light. Light is illuminated and horn sounds when either eye/face wash or shower is activated. See page 87 for complete information.

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

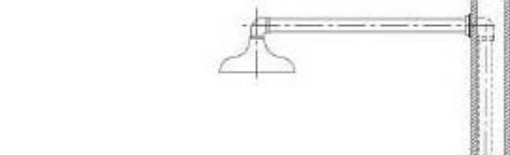
CTSSBF2150
Recessed Safety Station
with Drain Pan



CTSSBF2160
Same as above except with recess mounted shower head.



CTSSBF2170
Same as above except with wall mounted shower head.



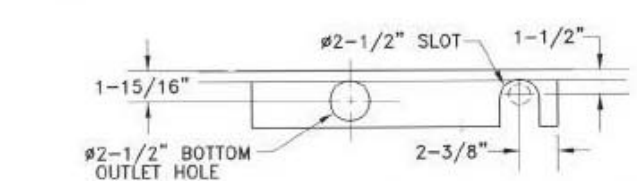
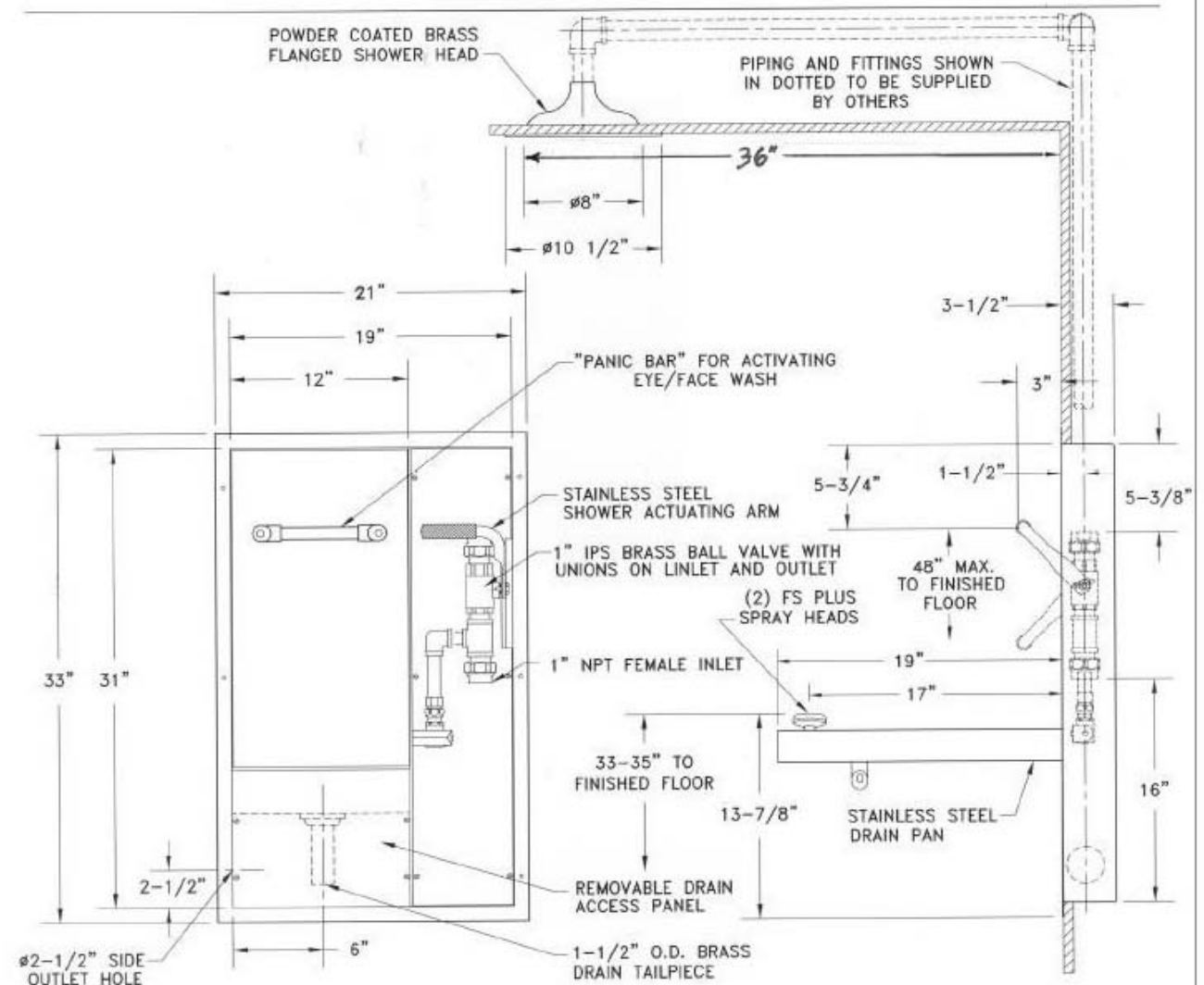
COLORTECH

Laboratory Service Fixtures by
WaterSaver Faucet Co.

CTSSBF2160

BARRIER-FREE COMBINATION EMERGENCY SHOWER AND SWING-DOWN EYE/FACE WASH WITH DRAINPAN AND RECESSED STAINLESS STEEL CABINET

701 West Erie Street Phone 312 666 5600
Chicago, Illinois 60610 Fax 312 666 8597



- NOTES:**
1. ALL EXPOSED BRASS PIPE, FITTING AND VALVE COMPONENTS HAVE COLORTECH EPOXY POWDER-COATED FINISH.
 1. EACH FS-PLUS SPRAY HEAD HAS A "FLIP-TOP" DUST COVER, INTERNAL FLOW CONTROL AND FILTER TO REMOVE IMPURITIES FROM THE WATER FLOW.
 2. U.S. PATENT NO. 5,768,721.

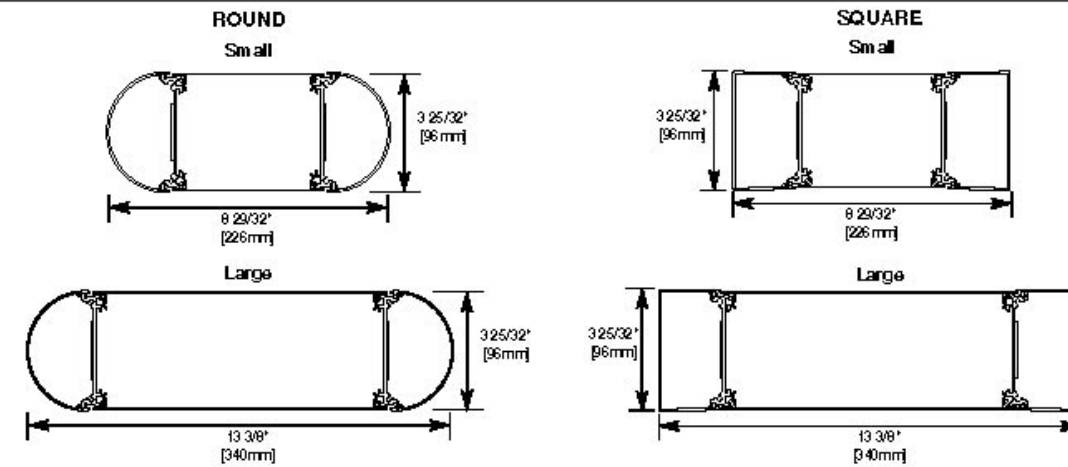
UNITS (EXCEPT THOSE WITH SELF-CLOSING VALVES) COMPLY WITH THE REQUIREMENTS OF ANSI Z358.1. TEST ALL EMERGENCY EQUIPMENT AT LEAST WEEKLY. MEASUREMENTS MAY VARY ±1/4".

Drawing Number: **C504-600** Revision Number: **051403-TPS**

Service Column Cut Sheet



Overall Dimensions



Vista Series Wire Fill Capacity for Communication									
	CABLE/WIRE SIZE	O.D. Inches	O.D. [mm]	ONE SQUARE END CHANNEL	ONE ROUND END CHANNEL	SMALL CENTER	LARGE CENTER	ONE SQUARE EXTENSION	ONE ROUND EXTENSION
UNSHIELDED TWISTED PAIR	Cat 3, 2-pair, 24 AWG	0.140	[3.6]	190	150	40	80	131	94
	Cat 3, 3-pair, 24 AWG	0.150	[3.8]	166	131	34	68	114	82
	Cat 3, 4-pair, 24 AWG	0.190	[4.8]	103	81	22	44	71	51
	Cat 3, 25-pair, 24 AWG	0.410	[10.4]	22	17	4	8	15	11
	Cat 5e, 4-pair, 24 AWG	0.220	[5.6]	77	61	16	32	53	38
	Cat 6, 4-pair, 24 AWG	0.250	[6.3]	59	47	12	24	41	29
SHIELDED TWISTED PAIR	Type 1, 22 AWG	0.390	[9.9]	24	19	4	8	16	12
	Type 2, 22 AWG	0.465	[11.8]	17	13	2	4	11	8
	Type 3, 24 AWG	0.245	[6.2]	62	49	12	24	42	30
COAXIAL	RG58/U, 20 AWG	0.195	[5.0]	98	77	20	40	67	48
	RG58/U, 22 AWG	0.242	[6.1]	63	50	12	24	43	31
	RG6/U, 22 AWG	0.242	[6.1]	63	50	12	24	43	31
	RG6/U, 18 AWG	0.270	[6.9]	51	40	10	20	25	25
TWINAXIAL	100 Ohm	0.330	[8.4]	34	27	60	12	23	71
FIBER OPTIC		0.180	[4.6]	103	81	22	44	71	51

*Capacity range is calculated at 40% of raceway area as stated in a proposed revision to the Commercial Building Standard for Telecommunication Pathways & Spaces, BIA/ITA-569. Actual wire fill capacity may vary based on applications, cable types, and number, as well as type of fittings. (Fittings may cause additional variances to the fill capacity.)

Capacity of Compartment	WIRE SIZE THHN/THWN				
	6 AWG	8 AWG	10 AWG	12 AWG	14 AWG
One End Channel Round or Square	7	9	16	26	35
Center (Small)	14	18	32	52	70
Center (Large)	28	36	64	104	140
One Extension Round or Square	4	6	10	16	22



The Wiremold Company
 U.S. and International:
 60 Woodlawn Street • West Hartford, CT 06110
 1-800-621-0049 • FAX 860-232-2052 • Outside U.S. 860-233-6251
 Canada:
 850 Gairshore Street • Fergus, Ontario N1M 2W8
 1-800-741-7957 • FAX 519-843-5980

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ED1133R4 - September 2002 - For latest specs visit www.wiremold.com

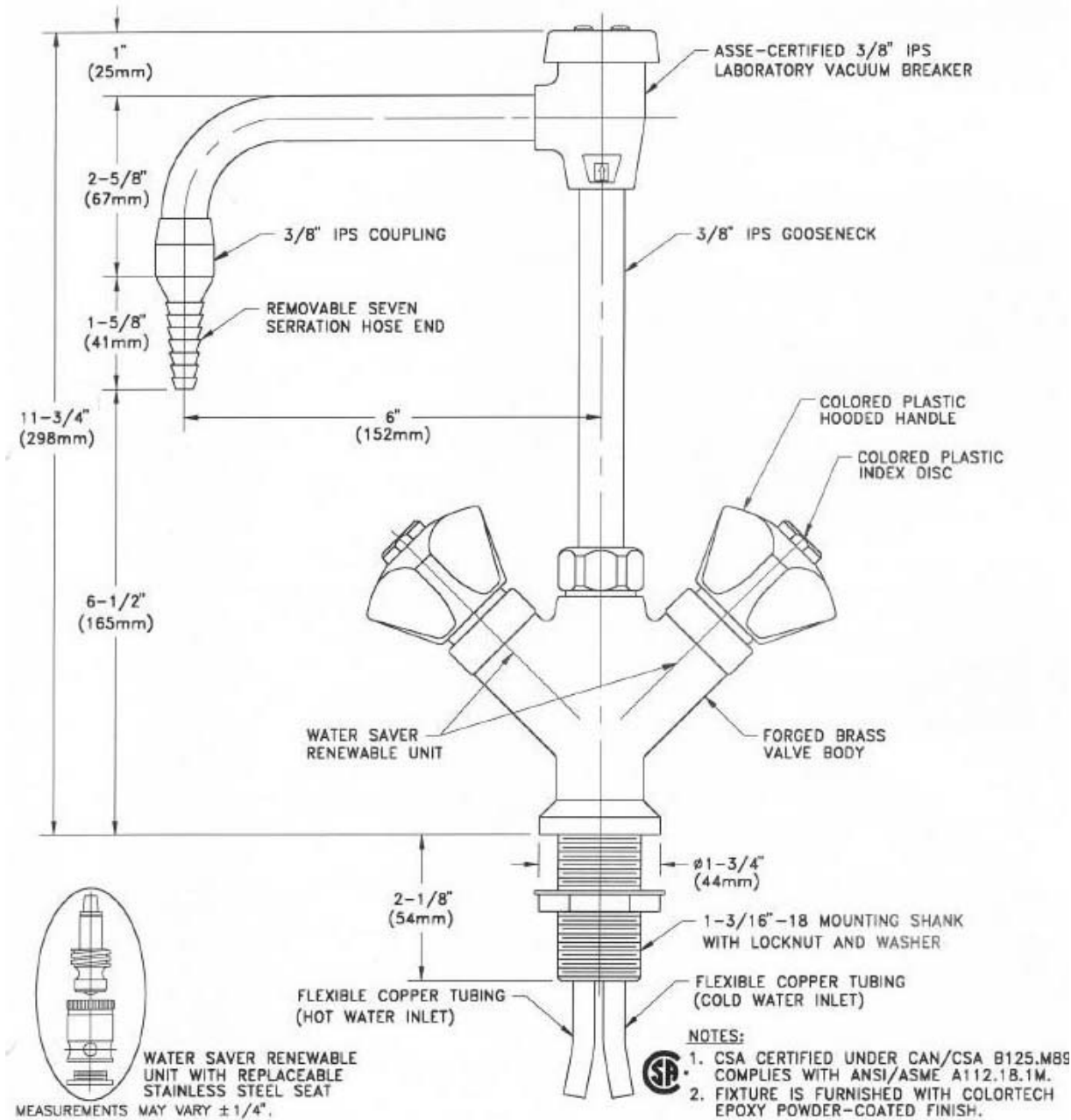


Hot/Cold Water Faucet Cut Sheet

ColorTech by WaterSaver

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

CT4414VB Deck Mounted Mixing Faucet with 6" Rigid/Swing Vacuum Breaker Gooseneck

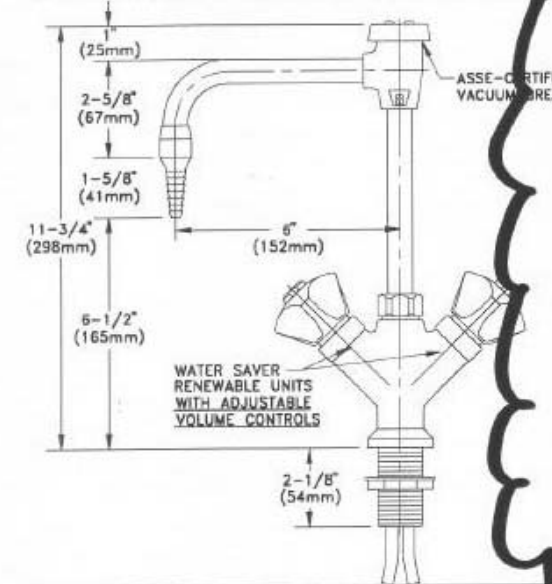


ColorTech by WaterSaver

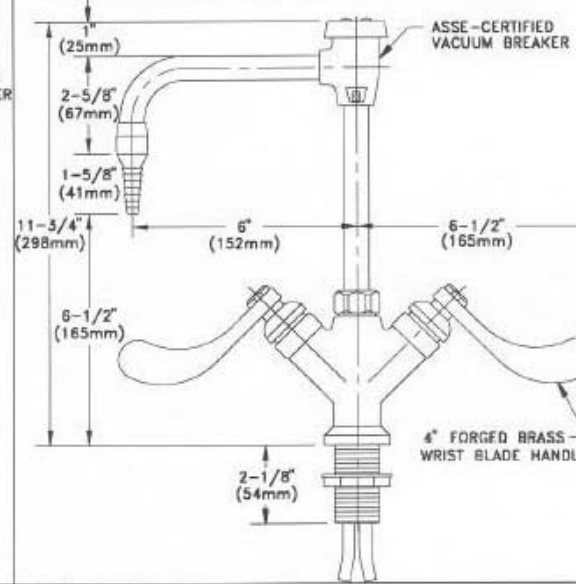
701 West Erie Street
Chicago, Illinois 60610
Phone 312 666 5500
Fax 312 666 8597

CT4414VB Additional Configurations

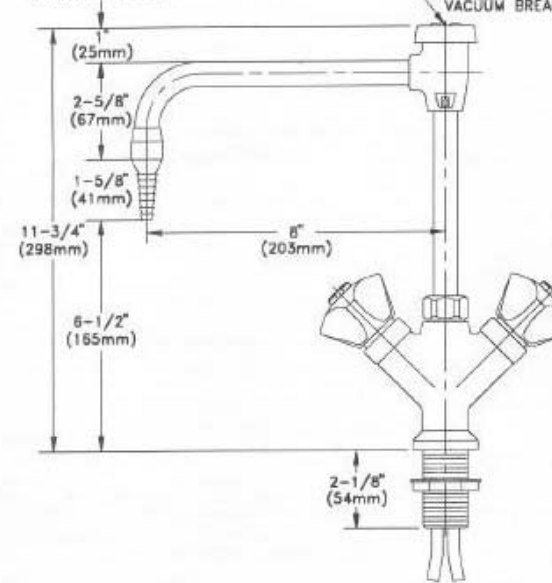
CT4414AC-VB DECK MOUNTED MIXING FAUCET WITH 6" RIGID/SWING VACUUM BREAKER GOOSENECK AND ADJUSTABLE VOLUME CONTROLS



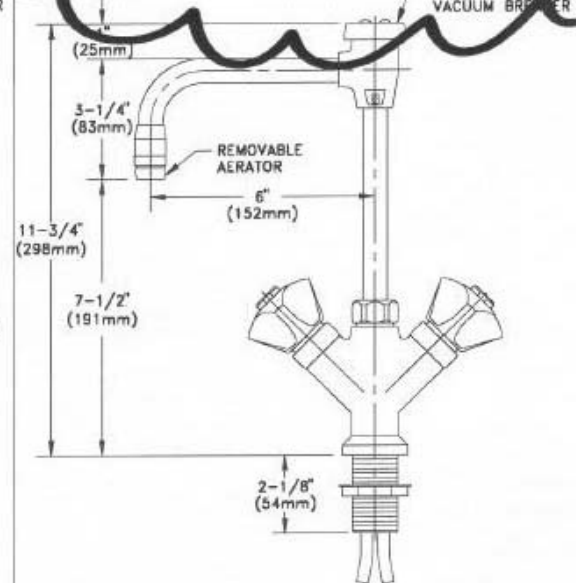
CT4414VB-BH DECK MOUNTED MIXING FAUCET WITH 6" RIGID/SWING VACUUM BREAKER GOOSENECK AND WRIST BLADE HANDLES



CT4414-8VB DECK MOUNTED SINGLE FAUCET WITH 6" RIGID/SWING VACUUM BREAKER GOOSENECK



CT4414VB56 DECK MOUNTED MIXING FAUCET WITH 6" RIGID/SWING VACUUM BREAKER GOOSENECK AND AERATOR



Drench Hose Cut Sheet

WaterSaver

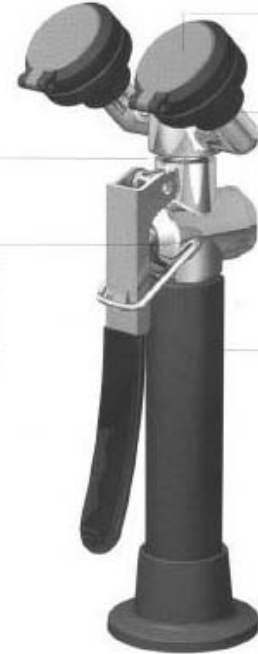
Product Bulletin No. 03-01 Emergency Eye Wash / Drench Hose Units

Twelve years ago, WaterSaver introduced the first dual purpose emergency eye wash and drench hose units. These units meet the requirements of ANSI Z358.1 as both an eye wash and a drench hose. Since that time, these units have become the most widely used type of emergency equipment for laboratory use. Units may be installed on a laboratory countertop or back-splash, close to where accidents might occur. The unit may be left in the deck flange or wall bracket for use as a fixed eye wash. When activated, the valve stays open and the user's

hands are left free to hold their eyes open. Alternatively, the unit may be removed for use as a drench hose to rinse any part of the user's eyes, face or body.

In our continuing efforts to improve the quality of our products, we have entirely redesigned these units. The new units offer the same versatility as the old, while enhancing their performance and durability.

New Product Features



As on previous units, the spray heads have an internal flow control and a "flip top" dust cover that is removed by the water flow.

The unique WaterSaver spray-type outlets deliver more water over a wider area in a more gentle flow than any other type of outlet head.

The valve seat has been changed from brass to stainless steel for increased durability.

Because water often contains impurities such as scale, sand and pipe shavings that can damage internal valve components, the squeeze valve has components that are renewable and replaceable. The valve can be rebuilt without having to replace the entire unit.

The internal diameter of the hose and waterways has been increased to deliver more water. In an emergency, contaminants are rinsed away quickly and completely.

Condensed Specifications

To specify eye wash/drench hose units, please use the following language:

Emergency eye wash/drench hose units shall be capable of use as both a fixed eye wash with hands-free operation and a drench hose. Units shall have two GS-Plus spray heads, each with a "flip top" dust cover, internal flow control and filter to remove impurities from the water flow. Spray heads shall be mounted parallel and angled forward. The valve

shall be self-closing type with a replaceable stainless steel seat, stainless steel squeeze handle and a locking clip to hold the valve open once activated. All of the working components of the valve shall be renewable and replaceable. Units shall be furnished with either a deck flange with locator guide or a wall bracket designed to hold the unit facing forward at all times.

Effective Date

The new, improved eye wash/drench hose units began shipping on April 1, 2003. Please note that the deck flange on the EW1022 deck mounted

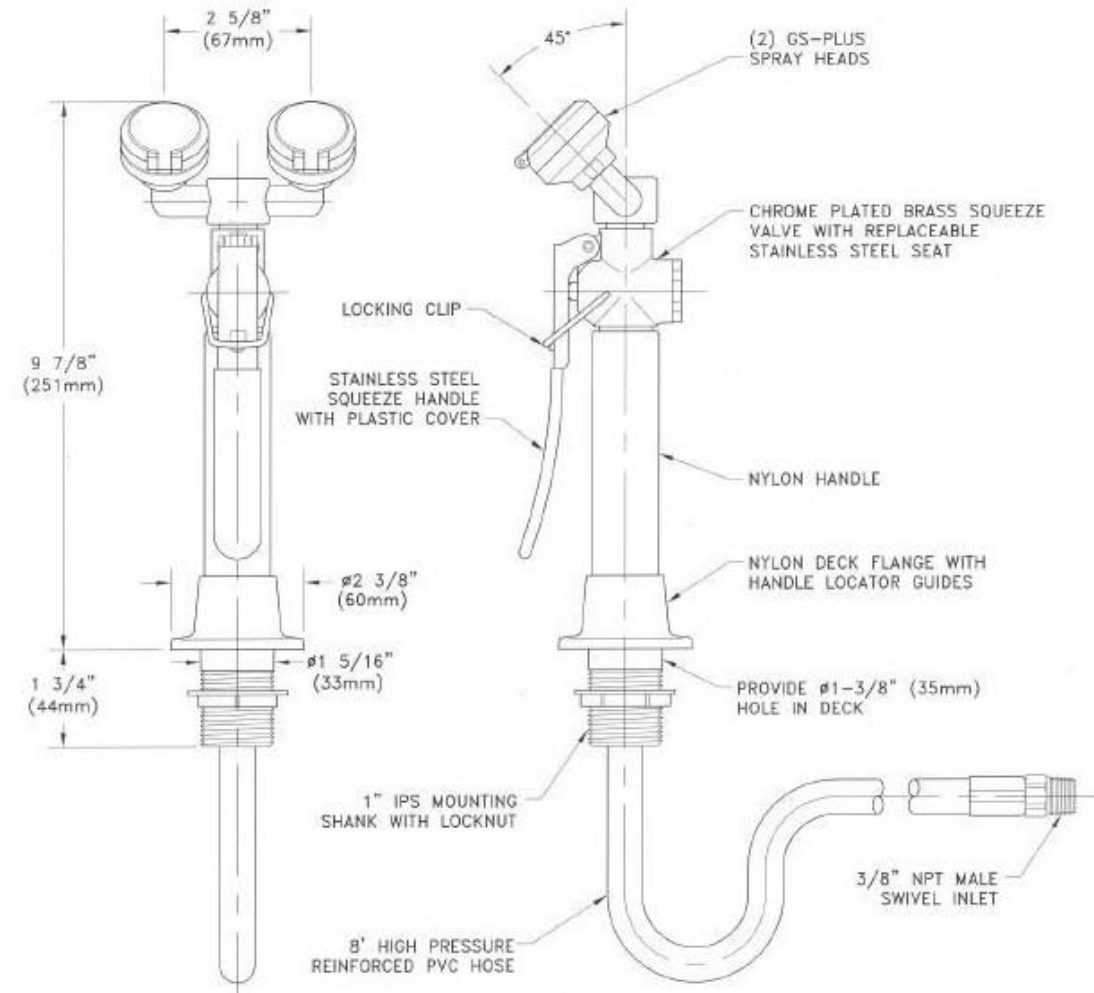
unit has been changed. The new deck flange has a 1" IPS thread. **This deck flange will require a 1 3/8" diameter mounting hole.**

WaterSaver Faucet Company

701 West Erie Street Chicago, Illinois 60610 312.666.5500 Phone 312.666.8597 Fax watersaverfaucet.com

WaterSaver

EW1022 Eye Wash/Drench Hose Unit, Deck Mounted



NOTES:

1. EACH GS-PLUS SPRAY HEAD HAS A "FLIP-TOP" DUST COVER, INTERNAL FLOW CONTROL AND FILTER TO REMOVE IMPURITIES FROM THE WATER FLOW.
2. HOSE SHOULD NOT BE USED IN APPLICATIONS WHERE WATER PRESSURE EXCEEDS 90 PSI. HOSE SHOULD BE INSPECTED PERIODICALLY FOR DETERIORATION.

WaterSaver Faucet Company

701 West Erie Street Chicago, Illinois 60610 312.666.5500 Phone 312.666.8597 Fax watersaverfaucet.com

Undercounter Glassware Washer Cut Sheet

SteamScrubbers® Features & Benefits

Ideal washer for cleaning beakers and other general purpose labware

MIRROR BRIGHT TYPE 304 STAINLESS STEEL INTERIOR
The shiny, non-porous finish provides a corrosion-resistant surface which reduces contaminant carry over during wash and rinse cycles.

PARTICLE FILTER
One-piece stainless steel screen filters fine particles, protecting the pump from broken glass and debris.

MELAMINE-COVERED TOP
On mobile and freestanding models, the high-density particle board top is melamine-coated on all sides to repel moisture.

QUIET, ENERGY EFFICIENT OPERATION AT 62 DECIBELS
Aluminum-backed, sound-dampening material is strategically placed throughout the washer to absorb noise. An insulation blanket optimizes internal tank temperature while conserving energy.

UPPER AND LOWER ROTATING WASH ARMS WITH ADJUSTABLE HEIGHT CENTER TOWER
Distribute up to 60 gallons (227 liters) of water per minute. Wash arms clean with a 360° revolving motion. The lower arm pumps water upward through the bottom rack while the upper arm propels water down across glassware below and up through the top rack. The center telescoping tower has a locking pin that adjusts the upper arm to 2 positions to accommodate various glassware heights.

BUILT-IN FORCED AIR DRYING SYSTEM
Dries glassware with hot, dry air.

STEAM GENERATOR
Produces hot vapor to penetrate and soften dried residue allowing detergent and hot water to work effectively.

DUAL HEATERS
Boost water and glassware temperatures to enhance washing and drying results by applying heat during all cycles. Models for operation on 115 volts have 1450 watts of heating power; 230 volt models have 2150 watts. With a minimum inlet temperature of 120° F (49° C), the surge heater elevates water temperature approximately 20° F (11° C) on 115 volt models and 60° F (33° C) on 230 volt models.

BUILT-IN PURIFIED WATER PUMP
Draws from a storage tank or pressurized system to deliver purified water during final two rinses.

EASY INSTALLATION
To begin operation, tap and purified water, a drain and electricity are required. Mobile models feature a quick-disconnect attachment for tap water and drain. Undercounter and freestanding models have straight line plumbing and electrical connections accessible from the front. Higher built-in drain location prevents self-draining and plumbing errors.

DRY OR LIQUID DETERGENT DISPENSER
Detergent compartments release a premeasured amount (1.35 ounces or 40 ml) ensuring clean labware.

FULL ONE YEAR WARRANTY
Is provided against defects in materials and workmanship.

DRAW LATCH
Securely locks the door energizing the electronic controls.

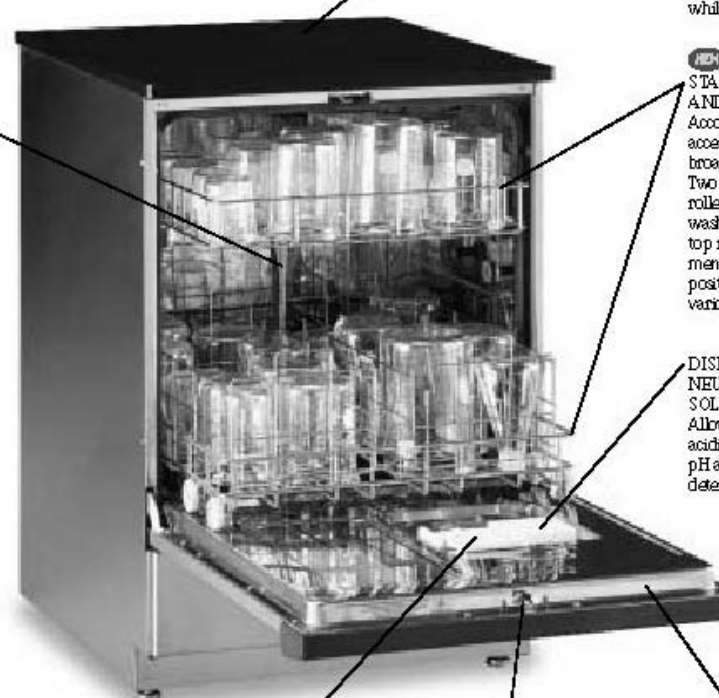
INTERNATIONAL ELECTRICAL CONFIGURATIONS AVAILABLE
All 230 volt models conform to the CE (European Community) requirements for electrical safety and electromagnetic compatibility.

TYPE 304 STAINLESS STEEL DOOR
Front door is sleek brushed stainless steel. Mobile and freestanding models also have brushed stainless steel sides and epoxy-coated steel backs.

ETL LISTED
Washer carries the ETL Testing Laboratories seal in the U.S. and ETL-C seal in Canada, signifying it meets or exceeds all minimum requirements of UL Standard 3101-1 and CAN/CSA C22.2 No. 1010.1.

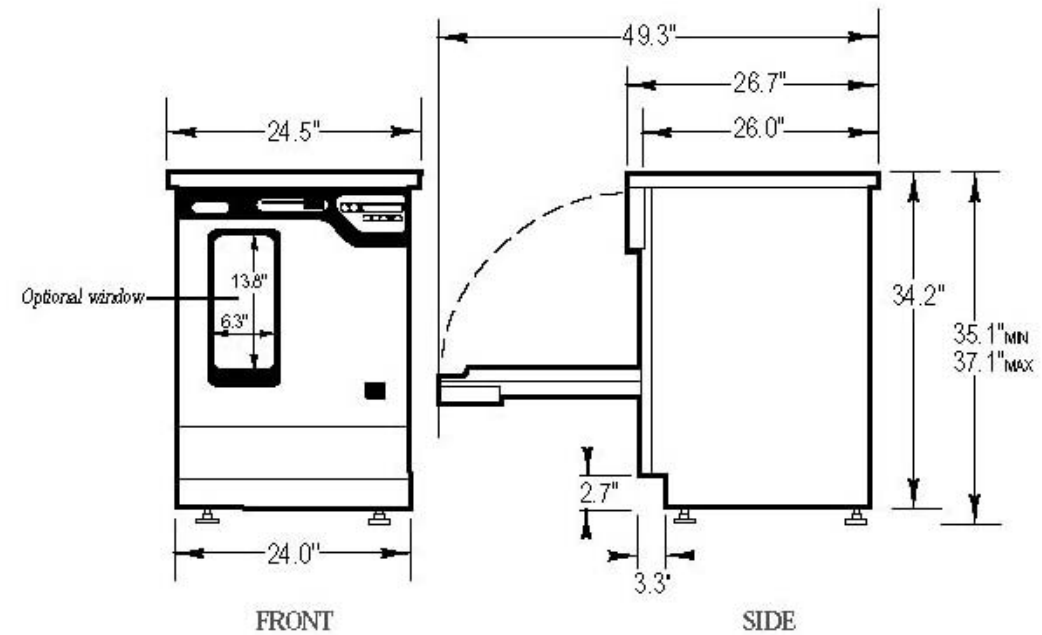


† Exclusive feature

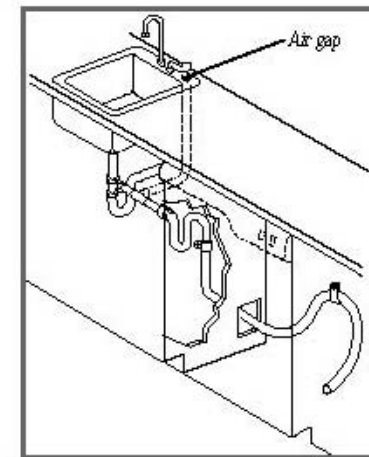


FlaskScrubbers® & SteamScrubbers® Dimensional Data

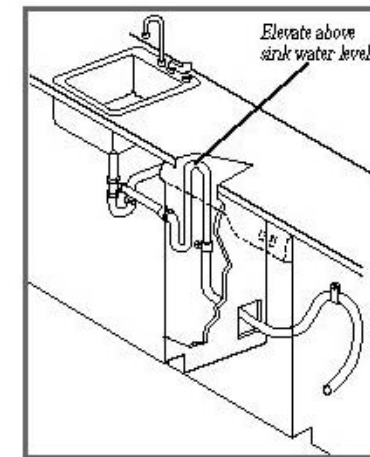
Freestanding Model Series 44204 & 44004



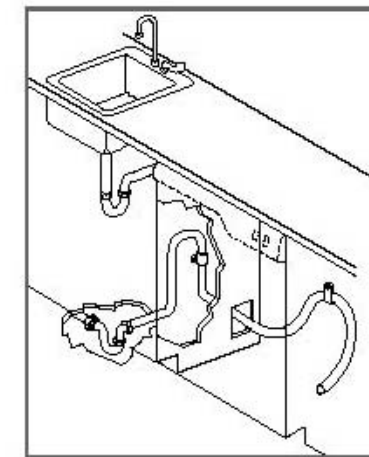
Typical Plumbing Connections for Undercounter Model Series 44203 & 44003 & Freestanding Model Series 44204 & 44004



Installation with air gap and connection to sink drain



Installation without air gap and connection to sink drain



Installation without air gap and connection to floor drain

Metro Shelf Unit Cut Sheet



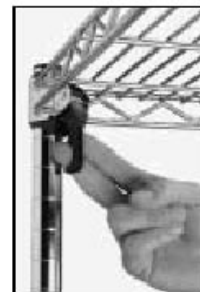
Item # _____

Job _____

SUPER ADJUSTABLE SUPER ERECTA SHELF® WIRE SHELVING

Super Adjustable Super Erecta Wire Shelving is the most advanced and innovative wire storage system available. A unique Corner Release System and SiteSelect™ Posts make changing shelf levels fast and easy, without tools! And Super Adjustable Shelving works in conjunction with the entire Super Erecta System of shelves and accessories.

- Easily Adjustable:** Unique Corner Release and SiteSelect Posts create a total system that offers "Tool-Free," fast adjustment at 1" (25mm) intervals along the entire height of the posts.
- Easily Assembled:** The Corner Release System and SiteSelect Posts, combined with the original "bottom up" assembly process, creates a complete shelving system in minutes, without tools! SiteSelect Posts with the double-groove visual guide feature, have circular grooves at 1" (25mm) intervals and are numbered at 2" (50mm) intervals. Shelves simply seat into place using the Corner Release.
- Unique Shelf Design:** The open wire design of these heavy-gauge shelves minimizes dust accumulation and allows a free circulation of air, greater visibility of stored items and greater light penetration. Shelf ribs run front to back allowing you to slide items on and off easily. Shelves can be loaded and unloaded from all sides. This open construction allows use of maximum storage space of cube.
- Unique Post Design:** New SiteSelect post design provides a visual guide for positioning and adjusting shelves, saving considerable time during assembly and adjustment. An easy-to-identify double groove, every 8" (203mm), offers a quick way to align all shelves. Bolt leveler on post bottom compensates for uneven surfaces.
- Fast, Easy Reconfiguration:** Super Adjustable Super Erecta can change as quickly as your needs change. By using various accessories, hundreds of shelving configurations become possible.
- Choice of Finishes:** Super Adjustable Super Erecta Wire Shelving is available in a variety of finishes: Super Erecta Brite and chrome-plated for dry storage, Metroseal 3™ with antimicrobial product protection, and stainless steel for corrosive environments, and a large array of designer colors (see Catalog Sheet 10.14A).



Corner Release System

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



Dry Storage – Chrome or Super Erecta Brite™



Metroseal 3™ with *Microban® Antimicrobial Product Protection.

SUPER ADJUSTABLE SUPER ERECTA SHELF®
Adjustable Wire Shelving

10.01A

10.01A

SUPER ADJUSTABLE SUPER ERECTA SHELF®
Adjustable Wire Shelving

10.01A

Job _____

SUPER ADJUSTABLE SUPER ERECTA SHELF® WIRE SHELVING



Dimensions

Super Adjustable Super Erecta Wire Shelving

Shelf Width/Length (in./mm)	Approx. Pkd. Wt. (lbs./kg)	Cat. No. Super Erecta Brite	Cat. No. Chrome	Cat. No. Metroseal 3	Cat. No. Stainless
18x24 457x610	7 3.2	A1824BR	A1824NC	A1824NK3	A1824NS
18x30 457x760	8 3.6	A1830BR	A1830NC	A1830NK3	A1830NS
18x36 457x914	9 1/2 4.3	A1836BR	A1836NC	A1836NK3	A1836NS
18x42 457x1066	11 5.0	A1842BR	A1842NC	A1842NK3	A1842NS
18x48 457x1219	12 5.4	A1848BR	A1848NC	A1848NK3	A1848NS
18x54 457x1370	14 1/2 6.6	A1854BR	A1854NC	A1854NK3	A1854NS
18x60 457x1524	17 7.7	A1860BR	A1860NC	A1860NK3	A1860NS
18x72 457x1825	20 9.1	A1872BR	A1872NC	A1872NK3	A1872NS
21x24 530x610	8 3.6	A2124BR	A2124NC	A2124NK3	A2124NS
21x30 530x760	9 4.1	A2130BR	A2130NC	A2130NK3	A2130NS
21x36 530x914	11 5.0	A2136BR	A2136NC	A2136NK3	A2136NS
21x42 530x1066	12 5.4	A2142BR	A2142NC	A2142NK3	A2142NS
21x48 530x1219	14 6.4	A2148BR	A2148NC	A2148NK3	A2148NS
21x54 530x1370	16 7.3	A2154BR	A2154NC	A2154NK3	A2154NS
21x60 530x1524	18 8.2	A2160BR	A2160NC	A2160NK3	A2160NS
21x72 530x1825	24 10.9	A2172BR	A2172NC	A2172NK3	A2172NS
24x24 610x610	9 4.1	A2424BR	A2424NC	A2424NK3	A2424NS
24x30 610x760	11 5.0	A2430BR	A2430NC	A2430NK3	A2430NS
24x36 610x914	13 5.9	A2436BR	A2436NC	A2436NK3	A2436NS
24x42 610x1066	15 6.8	A2442BR	A2442NC	A2442NK3	A2442NS
24x48 610x1219	16 7.3	A2448BR	A2448NC	A2448NK3	A2448NS
24x54 610x1370	18 8.6	A2454BR	A2454NC	A2454NK3	A2454NS
24x60 610x1524	21 9.5	A2460BR	A2460NC	A2460NK3	A2460NS
24x72 610x1825	26 11.8	A2472BR	A2472NC	A2472NK3	A2472NS

NOTE: For Metroseal 3 shelving information see sheet # 10.10A.



Sleeves/Wedges

Package of 4 per shelf.
Cat. No. A9985

SiteSelect™ Posts are grooved at 1" (25mm) increments and numbered at 2" (50mm) increments. Posts are double-grooved every 8" (203mm) for easy identification. Wedge Windows™ allow sight of post number for easy visual identification.

*MICROBAN® protects the Metroseal 3 coating from bacteria, mold, mildew and fungi that cause odors, stains and product degradation.

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

SiteSelect™ Posts

Height* (in./mm)	Approx. Pkd. Wt. (lbs./kg)	Cat. No. Plated	Cat. No. Metroseal 3	Cat. No. Stainless
7 1/2 191	1 1/2 0.3	7P		
14 1/2 370	1 0.5	13P	13PK3	33PS
27 1/2 700	1 1/4 0.75	27P		27PS
34 1/2 875	2 0.9	33P	33PK3	33PS
54 1/2 1385	3 1.4	54P	54PK3	54PS
62 1/2 1580	3 1/2 1.6	63P	63PK3	63PS
74 1/2 1895	4 1.8	74P	74PK3	74PS
86 1/2 2200	5 2.3	86P	86PK3	86PS
98 1/2 2454	5 1/2 2.5	**98P		

*Height includes leveling bolt and cap.

**98P should not be used in units less than 24" (610mm) deep.

Consult Metro Engineering for alternate recommendations.

Post lengths to be specified as out to a round number, i.e. 74" cut to 69"...

This will result in an overall post height with adjustment of 69" to 69 1/2".

Important: When ordering by components remember that for maximum stability, units should be kept as wide and low as possible.

All Metro Catalog Sheets are available on our Web Site: www.metro.com



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 Wilkes-Barre, PA 18705
www.metro.com



10.01A



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**AMSCO® EXAMINER® 10
EXAMINATION LIGHTING SYSTEM**

APPLICATION

The Amsco Examiner 10 Examination Lighting System, available in four configurations, provides cool, color-corrected light for examination, treatment, and emergency areas.

DESCRIPTION

Ceiling-mounted fixtures are suspended on a seamless, vertical tube (cut to size by others). The lighthead suspension arm slips into a casting on the lower end of the vertical tube, and is secured by a close-fitting hinge pin. The upper end of the vertical tube is welded to a steel ceiling plate. A brushed-aluminum cover is furnished to conceal the plate.

The vertical tube may be cut to length to suit various ceiling heights. STERIS recommends a minimum ceiling height of 8' (2438.4 mm) to a maximum ceiling height of 11' (3353 mm).

Wall-mounted fixtures are furnished with a predrilled mounting bracket assembly. With this type of mounting, the lighthead may be extended, or, when not in use, the lighthead folds close to the wall. Optional 14" (356 mm) or two 14" extensions available to maximize reach.



(Typical only - some details may vary.)

Track-mounted fixtures are provided with a painted-aluminum track. The lighthead is suspended on a seamless, vertical tube (cut to size by others). The upper end of the vertical tube is fastened to a carriage to allow free articulation of lighthead along the track.

Mobile floor stand fixtures are provided with a vertical stand. The stand supports the lighthead suspension arm. The stand is affixed to a

sturdy metal base having ball-bearing casters with neoprene wheels. The stand options are: 55" (1397 mm) high for the 28" (711 mm) base; 55" (1397 mm) or 67" (1702 mm) high with a 34" (864 mm) base. Mobile floor units are equipped with a 20' (6096 mm) power cord to provide more area coverage.

The Selections Checked Below Apply To This Equipment

MODEL

- Ceiling Mounted
 - Single
 - With 14" (356 mm) Horizontal Suspension Arm Extension
 - Without Horizontal Suspension Arm Extension
 - Dual
 - With 14" Horizontal Suspension Arm Extension
 - Without Horizontal Suspension Arm Extension
- Wall Mounted
 - With one 14" (356 mm) Horizontal Suspension Arm Extension
 - With two 14" (912 mm) Horizontal Suspension Arm Extensions
 - Without Horizontal Suspension Arm Extension

- Mobile Floor Stand Fixture
 - 28" (711 mm) Base, 55" (1397 mm) Stand
 - 34" (864 mm) Base, 55" (1397 mm) Stand
 - 34" (864 mm) Base, 67" (1702 mm) Stand
- Track Mounted
 - 54" (1372 mm) Track, Surface Mount
 - 54" (1372 mm) Track, Recess Mount
 - 108" (2743 mm) Track, Surface Mount
 - 108" (2743 mm) Track, Recess Mount
 - With 14" Horizontal Suspension Arm Extension
 - Without Horizontal Suspension Arm Extension

OPTIONS

- Seismic Design (for Ceiling-mounted Fixtures)

ACCESSORIES

- One 14" (356 mm) Extension (for Wall-, Ceiling- or Track-mounted Fixtures)
- Two 14" (912 mm) Extensions (for Wall-mounted Fixtures)
- Adapter Plate (to make Burton 4-15/16" bolt circle suitable for Examiner 10)
- Sterile Handle Kit (One Required for Each Lighthead)
- 200-240 Volt Transformer

Item _____

Location(s) _____

SD-243R16 (7/1/01)

Single Ceiling-Mounted Fixture*

* 8'0" (2438.4 mm) minimum ceiling height to 11'0" (3353 mm) maximum ceiling height.

Mobile Floor Stand Fixture

Dual Ceiling-Mounted Fixture*

* 8'0" (2438.4 mm) minimum ceiling height to 11'0" (3353 mm) maximum ceiling height.

MOBILE FLOOR STAND FIXTURE

A Stand Height inches (mm)	B Base Size inches (mm)	Approximate Total Weight* lbs (kg)
55 (1397)	28 (711)	41 (18.6)
55 (1397)	34 (864)	55 (25)
67 (1702)	34 (864)	51 (23.2)

Wall-Mounted Fixtures

Mounting Arrangement	Mounted Weight† lbs (kg)	Moment Force lb-ft (kg-m)
Wall	18 (8.2)	72 (10.0)
Wall w/14" (356 mm) extension	20 (9.1)	116 (16.0)
Wall w/two 14" extensions	30 (13.7)	166 (23.1)
Single Ceiling	24 (10.9)*	101 (13.9)
Single Ceiling w/extension	27 (12.2)*	146 (20.2)
Dual Ceiling	40 (18.2)*	300 (41.4)
Dual Ceiling w/extension	45 (20.5)*	365 (50.5)
54" (1372 mm) Track	75 (34)*	146 (20.2)
108" (2743 mm) Track	113 (51.3)*	146 (20.2)

† Includes weight of lighthead(s).
* An additional 13 lbs (5.9 kg) must be added for each lighthead when using the 200-240 Volt transformer accessory.

See following pages for mounting details and notes pertaining to each mounting arrangement.