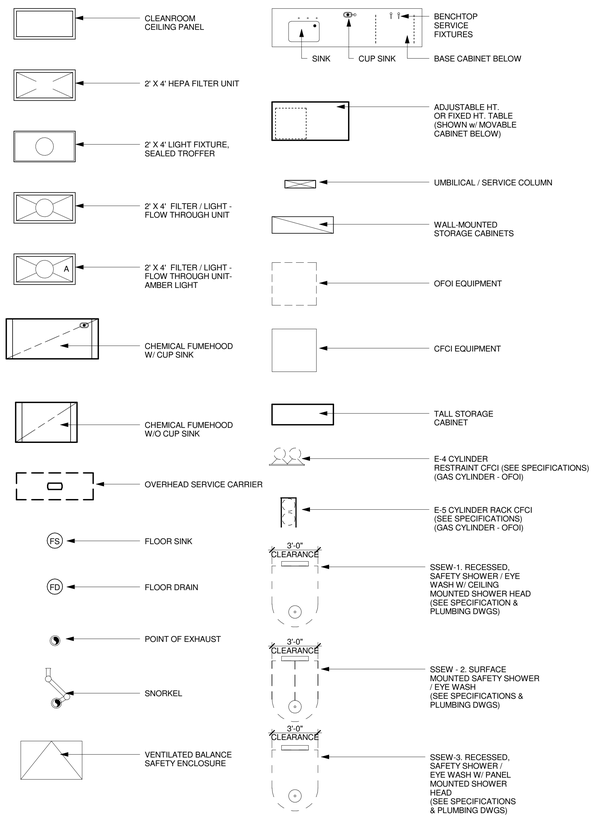
LABORATORY SYMBOLS



LABORATORY GENERAL NOTES

1. LAB FURNISHINGS CONTRACTOR SHALL CAREFULLY EXAMINE THE LABORATORY FURNISHINGS DRAWINGS (QL SHEETS), SPECIFICATIONS AND ALL OTHER DRAWINGS AND SPECIFICATIONS TO PROPERLY DETERMINE CONTRACTUAL RESPONSIBILITIES.
2. FOR ROOM DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.
3. LAB FURNISHINGS CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS PRIOR TO FABRICATION.
4. FILLER PANELS SHALL BE INSTALLED BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS AND WHEN BASE CABINETS AND/OR HOODS ARE SET BACK-TO-BACK. FILLER PANELS SHALL ALSO BE INSTALLED AT THE ENDS OF BENCHES AND ALL KNEE SPACES. PROVIDE FILLER PANELS AT BASE CABINETS ADJACENT TO WALLS A NEEDED TO ALLOW CABINET DOORS TO PROPERLY OPEN.
5. OVERALL LENGTH OF TOPS SHALL BE DETERMINED BY CASEWORK AND DIMENSIONS AS INDICATED ON PLANS. SUCH LENGTHS SHALL REMAIN CONSTANT REGARDLESS OF SUCCESSFUL BIDDER'S STANDARDS. TOPS TYPICAL SHALL OVERHANG 1" AT EACH END AND 1" FROM FRONT OF BASE CABINET. WHEN OVERALL DIMENSIONS ARE GIVEN, 1" OVERHANG IS INCLUDED.
6. ON WALL-TO-WALL CASEWORK ASSEMBLIES, THE "OPEN" SPACE DIMENSION SHALL BE DETERMINED IN THE FIELD. IF THERE IS MORE THAN ONE "OPEN" SPACE INDICATED, SPACE AVAILABLE FOR "OPEN" SPACE SHALL BE EVENLY DISTRIBUTED - U.O.N.
7. ALL EXPOSED-TO-VIEW COUNTERTOP EDGES, BACKS OF SPLASHES, ALL EDGES OF TABLES, BACKS OF COUNTERTOPS AND SPLASHES SHALL BE CAULKED, FILLED, SEALED AND FINISHED. PROVIDE BACKSPLASHES AT ALL COUNTER EDGES ABUTTING WALLS, COLUMNS, FURRING AND FUME HOODS.
8. ALL FURNITURE EXPOSED-TO-VIEW BACKS AND SIDES AND FILLER PANELS SHALL BE FINISHED.
9. FREESTANDING TALL CASEWORK AND SHELVING UNITS SHALL BE RESTRAINED.
10. ALL PENETRATIONS THROUGH COUNTERTOP SHALL BE CAULKED BY THE LAB FURNISHINGS CONTRACTOR WITH APPROVED CHEMICAL-RESISTANT SEALANT.
11. LOCATION OF EQUIPMENT, SUCH AS PENINSULA BENCH SHELF SUPPORTS, OVERHEAD EQUIPMENT SUPPORT STRUCTURES, SERVICE COLUMNS, FUME HOODS, BRACES, OR ANY OTHER ITEMS THAT MAY INTERFERE WITH LIGHTING, STRUCTURAL OR MECHANICAL SYSTEMS SHALL BE CAREFULLY COORDINATED BY THE LAB FURNISHINGS CONTRACTOR, AND ANY DISCREPANCIES BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.
12. ANY TYPE OF EQUIPMENT SUPPORT STRUCTURES OR SLOTTED STANDARD FRAME SUPPORTS (USED FOR RACKS, SHELVING, ETC.) SHALL BE SPACED AND POSITIONED TO CLEAR FITTINGS, SINKS AND CUP SINKS.
13. ON WALLS WHERE EQUIPMENT SUPPORT STRUCTURES OR SLOTTED STANDARDS RUN FULL HEIGHT AND INTERFERE WITH ELECTRICAL SERVICES, RACEWAYS SHALL BE WALL MOUNTED AND EQUIPMENT SUPPORT STRUCTURE STANDARDS CUT AS REQUIRED - U.O.N.
14. FOR LOCATION OF OVERHEAD EQUIPMENT SUPPORT STRUCTURES, FUME HOODS, SNORKEL EXHAUSTS AND ANY OTHER FURNISHINGS THAT PENETRATE THE CEILING, SEE ARCHITECTURAL REFLECTED CEILING PLANS. SERVICE COLUMN CEILING PENETRATIONS ARE SHOWN APPROXIMATE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
15. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL/DATA RACEWAYS. FOR INSTALLATION SEE ELECTRICAL AND LAB FURNISHINGS DRAWINGS AND SPECIFICATIONS FOR QUANTITY, TYPE AND LOCATION.
16. ALL WALL-MOUNTED SINGLE AND DOUBLE ELECTRICAL/DATA RACEWAY NOT LOCATED ABOVE BENCH TOPS SHALL BE MOUNTED AT +40" A.F.F. TO BOTTOM OF RACEWAY - U.O.N.

LABORATORY ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	LA	LABORATORY AIR (FROM CYLINDERS)
Ar	ARGON	LCW	LABORATORY COLD WATER
ArHe	ARGON HELIUM	LHCW	LABORATORY HOT / COLD WATER MIXING VALVE
BT	BALANCE TABLE	LC	LASER CURTAIN
CBH	CLEAN BENCH	LFH	LAMINAR FLOW HOOD
CO	CARBONMONOXIDE	LHe	LIQUID HELIUM
CO2	CARBONDIOXIDE	LN2	LIQUID NITROGEN
CDA	CLEAN DRY AIR	NIC	NOT IN CONTRACT
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	NH3	AMMONIA
CFH	CHEMICAL FUME HOOD	O2	OXYGEN
CRCS	CLEANROOM CEILIING SYSTEM	OFOI	OWNER FURNISHED OWNER INSTALLED
CRPS	CLEANROOM PANEL SYSTEM	OSC	OVERHEAD SERVICE CARRIER
CS	CUP SINK	PCWS	PROCESS COOLING WATER - SUPPLY
CH4	METHANE	PCWR	PROCESS COOLING WATER - RETURN
DI	DEIONIZED WATER	ROW	REVERSE OSMOSIS WATER
EQ	EQUAL	SiH4	SILANE
EW	EYEWASH	SG	SPECIALITY GASES
FG	FUTURE GAS (HOOKED UP BY OWNER)	SSEW	SAFETY SHOWER / EYE WASH
FSC	FLAMMABLE STORAGE CABINET	UN2	UTILITY NITROGEN
FMFH	FLOOR MOUNTED FUME HOOD	U.O.N	UNLESS OTHERWISE NOTED
H2	HYDROGEN	V	VENTED CABINET
He	HELIUM	VAC	PROCESS VACUUM
HPN2	HIGH PURITY NITROGEN (FROM CYLINDERS)	W/	WITH
		W/O	WITHOUT

LABORATORY DRAWING INDEX

BASE BID DRAWING INDEX

QL - 001	LAB EQ. SYMBOLS AND ABBREVIATIONS
QL - 010	LAB EQUIPMENT CASEWORK KEY
QL - 011	FUMEHOOD & SINK SCHEDULES
QL - 100	LAB EQUIPMENT ORIENTATION PLANS
QL - 101A	FIRST FLOOR LAB EQ. PLAN - AREA A
QL - 101C	BASEMENT & FIRST FLOOR PLAN - MBE/ULV
QL - 101D	FIRST FLOOR LAB EQ. PLAN - CLEAN ROOM
QL - 101E	RCP & RAISED FLOOR PLAN - CLEAN ROOM
QL - 102A	SECOND FLOOR LAB EQ. PLAN - AREA A
QL - 201	LAB ELEVATIONS
QL - 202	LAB ELEVATIONS
QL - 203	LAB ELEVATIONS
QL - 204	LAB ELEVATIONS
QL - 205	LAB ELEVATIONS
QL - 210	CLEAN ROOM ELEVATIONS
QL - 501	LAB EQUIPMENT DETAILS
QL - 502	LAB EQUIPMENT CLEAN ROOM DETAILS

ALTERNATE BID DRAWING INDEX

QL - 010.1	LAB EQUIPMENT CASEWORK KEY
QL - 101A.1	FIRST FLOOR LAB EQ. PLAN - AREA A
QL - 101B.1	FIRST FLOOR LAB EQ. PLAN - AREA B ALT.
QL - 102A.1	SECOND FLOOR LAB EQ. PLAN - AREA A
QL - 102B.1	SECOND FLOOR LAB EQ. PLAN - AREA B ALT.

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9 APR 2010

JOB NO.	SHEET	NO.	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

BROOKHAVEN NATIONAL LABORATORY

UNDER CONTRACT WITH
UNITED STATES DEPARTMENT OF ENERGY
PLANT ENGINEERING DIVISION
UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: LAB EQ. SYMBOLS AND ABBREVIATIONS	
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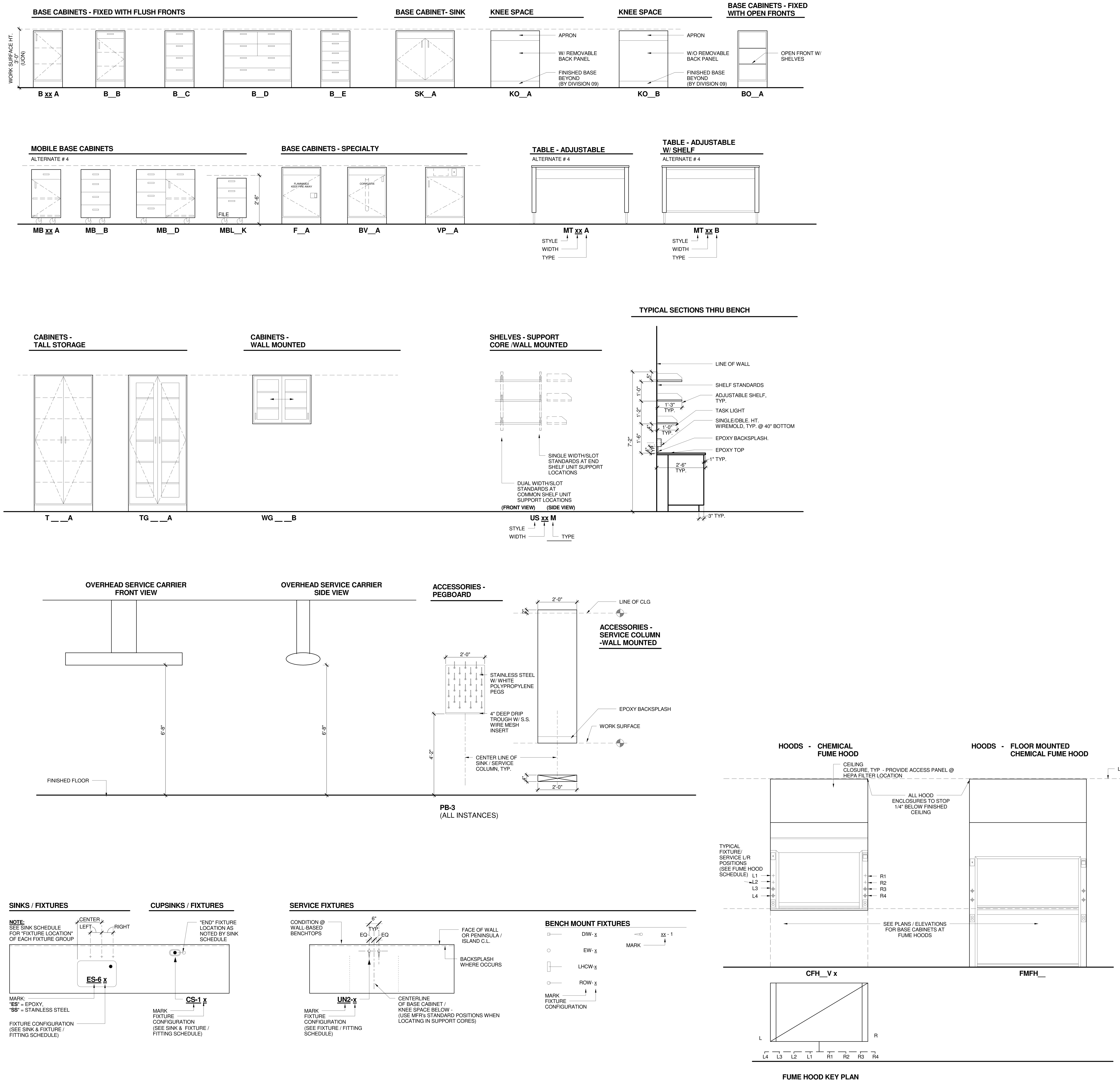

CASEWORK / ACCESORIES STYLE KEY:

B:	BASE CABINET
BO:	OPEN BASE CABINET
BV:	ACID / CORROSIVE BASE CABINET
F:	FLAMMABLE BASE CABINET
KO:	KNEE SPACE
MB:	MOBILE BASE CABINET
MT:	MOBILE TABLE
PB:	PEG BOARD
SK:	SINK BASE CABINET
T:	TALL STORAGE CABINET
TG:	TALL GLASS CABINET
US:	SHELF UNIT (ADJUSTABLE)
UC:	SERVICE COLUMN
VP:	VACUUM PUMP BASE CABINET
WG:	WALL GLASS CABINET

* MB & MT WILL BE PART OF ALTERNATE. REFER TO SPEC. SECTION 01 23 00

BASE CABINET NOMENCLATURE

A X L xx X

- DENOTES CABINET TYPE (SEE ADJACENT TYPE ELEVATIONS)
- DENOTES CABINET WIDTH
- DENOTES SEATED HT. CASEWORK / WORKSURFACE - 30" A.F.F. TO WORK SURFACE (WHERE INCLUDED IN CASEWORK TAG) (SEE BELOW)
- DENOTES CASEWORK STYLE
- DENOTES ACCESSIBLE HT. CASEWORK / WORKSURFACE - 34" A.F.F. TO WORK SURFACE (WHERE INCLUDED IN CASEWORK TAG)

A = **ACCESSIBLE HT. WORKSURFACE** (34" A.F.F.)
L = **SEATED HT. WORKSURFACE** (30" A.F.F.)

TALL & WALL CABINET NOMENCLATURE

T xx xx A

- DENOTES CABINET TYPE (SEE ADJACENT TYPE ELEVATIONS)
- DENOTES CABINET DEPTH
- DENOTES CABINET WIDTH
- DENOTES CASEWORK STYLE

CASEWORK GENERAL NOTES:

1. SEE ALSO SHT. QL-001 FOR LABORATORY GENERAL NOTES
2. REFER TO ARCHITECTURAL FLOOR PLANS FOR ROOM DIMENSIONS, CONSTRUCTION TYPES, AND FINISHES
3. DIMENSIONS ARE NOMINAL, COORDINATE VARIATIONS BASED UPON MANUFACTURER, SUBJECT TO ARCHITECT'S APPROVAL
4. WORK SURFACES SHALL BE 36" AFF, UNLESS OTHERWISE NOTED
5. CASEWORK, HOODS, FIXTURES AND FITTINGS AS DESCRIBED IN THE SPECIFICATIONS
6. LOCATE / INSTALL BLOCKING /BACKING AT WALLS WHERE CASEWORK IS PLACED / MOUNTED, PER SPECIFICATION
7. INSTALL ALL FILLER AND END PANELS AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION. FILLER AND END PANELS NOT TAGGED ON PLANS
8. PROVIDE BACKSPLASHES AT ALL COUNTER EDGES ABUTTING WALLS, COLUMN FURRINGS AND FUME HOODS
9. ALL CASEWORK IN RADIOISOTOPE LAB (RM. 250), SHALL HAVE ALL CABINET DOORS / DRAWERS EQUIPPED WITH KEYED LOCKS
10. AT ALL PENINSULA END-CAP CASEWORK, PROVIDE CONTINUOUS TOE KICK AT END AND SIDE ELEVATIONS OF END-CAP BASE CABINETS

TABLE GENERAL NOTES:

1. EPOXY WORKSURFACES AT ALL FIXED HT. & ADJUSTABLE HT. TABLES
2. REFER TO LABORATORY FURNISHINGS PLANS FOR LOCATIONS

SINK / SERVICE FIXTURE GENERAL NOTES:

1. REFER TO LABORATORY FURNISHINGS PLANS FOR LOCATIONS
2. WALL MOUNTED FIXTURES - LOCATE CENTER LINE OF FIXTURE +49" AFF, TYP., WHERE OCCURS
3. AT PENINSULA / ISLAND BENCHTOPS, LOCATE PLAN C.L. OF FIXTURE(S) ALONG AXIAL CENTERLINE OF BENCHTOP
4. SEE SINK AND FIXTURE & FITTING SCHEDULES FOR ADDITIONAL INFORMATION
5. SERVICE FIXTURE CONFIGURATION KEY:
   XX-h : HOOD MOUNT
   XX-s : SERVICE CARRIER MOUNT
   XX-1 : DECK MOUNT
   XX-5 : PANEL MOUNT

HOOD STYLE KEY:

CFH: CHEMICAL FUME HOOD - BENCH
FMFH: CHEMICAL FUME HOOD - FLOOR MOUNTED

HOOD NOMENCLATURE

A XX(X) xx X x

- DENOTES HOOD SERVICES GROUPING (SEE HOOD SCHEDULE(S))
- DENOTES HOOD TYPE (SEE ADJACENT TYPE ELEVATIONS)
- DENOTES HOOD WIDTH
- DENOTES CASEWORK STYLE
- DENOTES ACCESSIBLE HT. HOOD / WORKSURFACE (WHERE INCLUDED IN CASEWORK TAG) (+ 34" A.F.F to WORKSURFACE)

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REGISTERED ARCHITECT AHMAD M. SOUFID STATE OF NEW YORK No. 029807-1
9 APR 2010

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LABORATORY SINK SCHEDULE											
		BOWL DIM			FIXTURES						
					TYPES			LOCATION			
MARK	DESCRIPTION	L (Left-Right)	W (Front-Back)	D (Depth)	Left	Center/ End	Right	Center	Left	Right	COMMENTS
CS-1	Bench Mounted Cup Sink	6"	3"	1' - 0"	-	LCW-1	-				
CS-10	Panel Mounted Cup Sink	6"	3"	1' - 0"	-	LCW-5	-				
CS-h	Fume Hood Cupsink	6"	3"	1' - 0"	-	-	-				
ES-21	Drop-in Epoxy Lab Sink	2' - 1"	1' - 3"	1' - 0"	ROW-1	IHCW-6	EW-1	1' - 0 1/2"	10"	10"	
ES-h	Drop-in Epoxy Lab Sink	1' - 0"	1' - 6"	5 13/16"	-	-	-	6"	10"	10"	

LABORATORY FIXTURE & FITTINGS SCHEDULE				
MARK	SERVICE	MOUNTING / CONFIGURATION	MODEL NUMBER	REMARKS
Ar-1	Argon	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
Ar-5	Argon	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
Ar-h	Argon	Hood	L740N-022WSA	
Ar-s	Argon	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
ArHe-5	Argon Helium	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
CO2-5	Carbondioxide	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
CO-5	Carbonmonoxide	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
CDA-1	Clean Dry Air	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
CDA-5	Clean Dry Air	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
CDA-h	Clean Dry Air	Hood	L740N-022WSA	
CDA-s	Clean Dry Air	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
DI-h	Deionized Water	Hood	L740xW-L050WSA-BO358B	Fume hood-mounted, remote control, laboratory water valve for purified water
EW-1	Eye Wash, Tempered Water	Deck	EW1022-BP	Dual-purpose eye wash/drench hose, deck mounted
FG1-5	Future Gas 1	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
FG1-s	Future Gas 1	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
FG2-5	Future Gas 2	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
FG2-s	Future Gas 2	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
FG3-5	Future Gas 3	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
FG3-s	Future Gas 3	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
FG4-s	Future Gas 4	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
He-1	Helium	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
He-5	Helium	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
He-h	Helium	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
IHCW-6	Hot/Cold Mixed Water	Deck	L412AC-8GS-BH	Deck-mounted, hot and cold water mixing faucet with 8" swing gooseneck and blade handles
HPN2-1	HP Nitrogen	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
HPN2-5	HP Nitrogen	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
HPN2-h	HP Nitrogen	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
H2-1	Hydrogen	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
H2-5	Hydrogen	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
H2-h	Hydrogen	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
LA-1	Laboratory Air	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
LCW-1	Laboratory Cold Water	Deck	L611AC-BH	Bench-mounted, cupsink fixture
LCW-5	Laboratory Cold Water	Panel	L3100-158-BO188	Wall/panel-mounted, angle pattern water valve
LCW-h	Laboratory Cold Water	Hood	L740xW-L050WSA-BO358B	Fume hood-mounted, remote control, laboratory water valve for water service
O2-5	Oxygen	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
PCWR-1	Process Cooling Water- Return	Deck	L4303-121WSA	Deck-mounted, Turret base with ½ IN ball valve for equipment cooling water
PCWR-5	Process Cooling Water- Return	Panel	L4303-169WSA	Wall/panel-mounted, 1/2 IN ball valve for equipment cooling water
PCWR-h	Process Cooling Water- Return	Hood	L4285B-L023WSA-BO358B	Fume hood-mounted, remote control, laboratory ball valve for equipment cooling water
PCWR-s	Process Cooling Water- Return	Service Carrier	L4303-169WSA	Service panel-mounted, 1/2 IN ball valve for equipment cooling water
PCWS-1	Process Cooling Water- Supply	Deck	L4303-121WSA	Deck-mounted, Turret base with ½ IN ball valve for equipment cooling water
PCWS-5	Process Cooling Water- Supply	Panel	L4303-169WSA	Wall/panel-mounted, 1/2 IN ball valve for equipment cooling water
PCWS-h	Process Cooling Water- Supply	Hood	L4285B-L023WSA-BO358B	Fume hood-mounted, remote control, laboratory ball valve for equipment cooling water
PCWS-s	Process Cooling Water- Supply	Service Carrier	L4303-169WSA	Service panel-mounted, 1/2 IN ball valve for equipment cooling water
VAC-1	Process Vacuum	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
VAC-5	Process Vacuum	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
VAC-h	Process Vacuum	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
VAC-s	Process Vacuum	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
ROW-1	Reverse Osmosis Water	Deck	L7833SC	Deck-mounted purified water fixture
ROW-5	Reverse Osmosis Water	Panel	L3100AC-158-PP-WSA	Wall-mounted purified water valve, for water polisher
ROW-h	Reverse Osmosis Water	Hood	L740xW-L050WSA-BO358B	Fume hood-mounted, remote control, laboratory water valve for purified water
SG1-1	Specialty Gas 1	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
SG1-5	Specialty Gas 1	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG1-h	Specialty Gas 1	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
SG1-s	Specialty Gas 1	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
SG2-1	Specialty Gas 2	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
SG2-5	Specialty Gas 2	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG2-h	Specialty Gas 2	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
SG2-s	Specialty Gas 2	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
SG3-1	Specialty Gas 3	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
SG3-5	Specialty Gas 3	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG3-h	Specialty Gas 3	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
SG3-s	Specialty Gas 3	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
SG4-1	Specialty Gas 4	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
SG4-5	Specialty Gas 4	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG4-h	Specialty Gas 4	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
SG4-s	Specialty Gas 4	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment
SG5-5	Specialty Gas 5	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG6-5	Specialty Gas 6	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG7-5	Specialty Gas 7	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
SG8-5	Specialty Gas 8	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
UN2-1	Utility Nitrogen	Deck	L2880-131WSA	Bench-mounted, single straight pattern, needle valve
UN2-5	Utility Nitrogen	Panel	L3180-158WSA	Wall/panel-mounted, single angle pattern, needle valve
UN2-h	Utility Nitrogen	Hood	L740N-022WSA	Fume hood-mounted, remote control, laboratory needle valve for gas service
UN2-s	Utility Nitrogen	Service Carrier	L3180-131SWSA	Overhead service carrier-mounted, dual angle pattern, needle valves, 180 degree straight alignment

LABORATORY FUMEHOOD SCHEDULE																									
											EXHAUST			FIXTURES								ELECTRICAL			
														LEFT SIDE				RIGHT SIDE							
ROOM NAME	RM #	HOOD TYPE	CONFIG.	DESCRIPTION	HOOD WIDTH (INCHES)	DEPTH (INCHES)	FACE VELOCITY (FPM)	DESIGN SASH OPENING	DESIGN EXHAUST (CFM)	VAV MIN EXHAUST (CFM)	EXHAUST DUCT COLLAR	MAXIMUM STATIC PRESSURE	CUPSINK TYPE & LOC.	L1	L2	L3	L4	R1	R2	R3	R4	LEFT CONV. OUTLET	RIGHT CONV. OUTLET	REMARKS	ALTERNATE
FIRST																									
DEVICE FABRICATION	120	CFH72V	01	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	VAC-h	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA. Provide power for undercounter Vac pump cabinet	
SOLAR MAT. PROCESS	121	CFH72V	01	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	VAC-h	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA. Provide power for undercounter Vac pump cabinet	
CHEM. LAB	126	CFH72V	02	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	SG1-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA	
CHEM. LAB	126	CFH72V	03	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	NA	-	-	-	SG2-h	-	UN2-h	CDA-h	-	Yes	Yes	HEPA	
CHEM. LAB	126	CFH72V	03	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	NA	-	-	-	SG3-h	-	UN2-h	CDA-h	-	Yes	Yes	HEPA	
CHEM. LAB	126	CFH72V	19	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	SG4-h	VAC-h	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA	
MATERIAL/ CHARACTERIZATION	130	CFH72V	04	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	ROW-h	Yes	Yes	HEPA	
MATERIAL/ CHARACTERIZATION	130	CFH72V	05	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
PROCESS LAB	131	CFH48V	04	Chemical Fume Hood	48	31.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	ROW-h	Yes	Yes		
PROCESS LAB	131	CFH72V	04	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	ROW-h	Yes	Yes		
SAMPLE MEASUREMENT	133	CFH48V	00	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	ES-2	-	-	-	-	-	-	-	-	Yes	Yes		
SAMPLE MEASUREMENT	133	CFH48V	00	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	ES-2	-	-	-	-	-	-	-	-	Yes	Yes		
SAMPLE MEASUREMENT	133	CFH48V	00	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	ES-2	-	-	-	-	-	-	-	-	Yes	Yes	HEPA	
SAMPLE MEASUREMENT	133	CFH72V	07	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	O2-h	H2-h	Ar-h	-	VAC-h	UN2-h	ROW-h	Yes	Yes	HEPA, S/S Liner	
FURNACE ROOM	134	CFH72V	00	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	-	-	-	-	-	-	-	-	Yes	Yes	S/S Liner. (3) 120V, 20A, recpt. inside fumehood. (1) 208V, 30A, 1Ph, below hood + 18" A.F.F., (1) 120V, 20A, duplex, below hood +18"A.F.F.	
FURNACE ROOM	134	CFH72V	00	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	-	-	-	-	-	-	-	-	Yes	Yes	HEPA. S/S Liner. (3) 120V, 20A, recpt. inside fumehood. (1) 208V, 30A, 1Ph, below hood + 18" A.F.F., (1) 120V, 20A, duplex, below hood +18"A.F.F.	
FURNACE ROOM	134	FMFH72	00	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	NA	-	-	-	-	-	-	-	-	Yes	Yes	S/S Liner. (7) 120V, 20A recepticals inside hood	
FURNACE ROOM	134	CFH72V	06	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	-	-	SG2-h	SG1-h	-	O2-h	HPN2-h	Ar-h	Yes	Yes	S/S Liner. 240V, 25A, 1 Ph, Inside hood. (2)120V, 20A, 1Ph circuits (multi. recept.) below hood.	
FURNACE ROOM	134	CFH72V	06	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	-	-	SG2-h	SG1-h	-	O2-h	HPN2-h	Ar-h	Yes	Yes	HEPA, S/S Liner. 240V, 25A, 1Ph, Inside Hood. (2) 120V, 20A, 1Ph circuits (multi. recpt.) below hood.	
FURNACE ROOM	134	CFH96V	06	Chemical Fume Hood	96	37.25	80	18"	930	279	6"x30"	0.09	NA	-	-	SG2-h	SG1-h	-	O2-h	HPN2-h	Ar-h	Yes	Yes	HEPA, S/S Liner. 208V, 40A, 1 Ph	
FLEX LAB	135	CFH72V	08	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	-	-	SG2-h	SG1-h	-	-	-	-	Yes	Yes	HEPA, S/S Liner	
STRUC. CHAR.	136	CFH48V	00	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	NA	-	-	-	-	-	-	-	-	Yes	Yes	HEPA, 120V, 20A, 18" A.F.F Below Fumehood	
STRUC. CHAR.	136	CFH48V	00	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	NA	-	-	-	-	-	-	-	-	Yes	Yes	HEPA, 120V, 20A, 18" A.F.F Below Fumehood, (1) 120 V, 20A, dedicated, sensitive inhood. High-line, No Air Foil. Dedicated circuit.	
SYNTHESIS LAB	137	CFH72V	09	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	VAC-h	Ar-h	UN2-h	CDA-h	-	-	-	ROW-h	Yes	Yes		
SYNTHESIS LAB	137	FMFH72	10	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	CS-h : Right Side	VAC-h	Ar-h	UN2-h	CDA-h	-	PCWR-h	PCWS-h	ROW-h	Yes	Yes	(2) 250V, 60A, 1Ph, +18"A.F.F.	
SYNTHESIS LAB	137	CFH72V	20	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	VAC-h	Ar-h	UN2-h	CDA-h	-	-	O2-h	ROW-h	Yes	Yes	HEPA	
SYNTHESIS LAB	137	CFH72V	20	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	NA	VAC-h	Ar-h	UN2-h	CDA-h	-	-	O2-h	ROW-h	Yes	Yes	HEPA	
CLEANROOM BAY 2 CLASS 1,000	145	CFH72V	04	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	DI-h	Yes	Yes	Bromine Fume Hood	
SAMPLE PREP	165	CFH60V	18	Chemical Fume Hood	60	37.25	80	18"	540	162	6"x23"	0.09	NA	-	-	-	-	-	UN2-h	CDA-h	-	Yes	Yes		
SAMPLE PREP	165	CFH60V	18	Chemical Fume Hood	60	37.25	80	18"	540	162	6"x23"	0.09	NA	-	-	-	-	-	UN2-h	CDA-h	-	Yes	Yes		
PREP. LAB	181	CFH48V	11	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	-	-	LCW-h	Yes	Yes		Alternate 3
PREP. LAB	183	CFH48V	11	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	-	-	LCW-h	Yes	Yes		Alternate 3
SECOND																									
TORCH LAB	223	FMFH72	14	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	NA	-	O2-h	H2-h	Ar-h	-	-	-	-	Yes	Yes	(2) 208V, 30A, 1Ph, recpept. inside hood + 18" A.F.F.	
PROCESS LAB	224	CFH60V	00	Chemical Fume Hood	60	37.25	80	18"	540	162	6"x23"	0.09	NA	-	-	-	-	-	-	-	-	Yes	Yes	HEPA	
PROCESS LAB	224	CFH60V	00	Chemical Fume Hood	60	37.25	80	18"	540	162	6"x23"	0.09	NA	-	-	-	-	-	-	-	-	Yes	Yes		
PROCESS LAB	224	CFH48V	05	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
PROCESS LAB	224	CFH48V	05	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
FURNACE LAB	225	FMFH72	00	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	NA	-	-	-	-	-	-	-	-	Yes	Yes	(2) 208V, 60A, 1Ph ; (2) 208V, 30A, 1 PH Inside Fumehood	
FURNACE LAB	225	FMFH72	14	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	NA	-	SG3-h	SG2-h	SG1-h	-	-	-	-	Yes	Yes	(2) 208V, 60A, 1Ph ; (2) 208V, 30A, 1 PH Inside Fumehood	
FURNACE LAB	225	FMFH72	14	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	NA	-	SG3-h	SG2-h	SG1-h	-	-	-	-	Yes	Yes	(3) 208V, 30A, 1Ph Inside Fumehood	
CRYSTAL GROWTH	226	CFH48V	15	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	NA	-	-	-	-	-	UN2-h	CDA-h	-	Yes	Yes		
CRYSTAL GROWTH	227	CFH48V	15	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	NA	-	-	-	-	-	UN2-h	CDA-h	-	Yes	Yes		
SAMPLE PREP	230	CFH72V	05	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA	
BATTERY LAB	232	CFH48V	05	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA	
BATTERY LAB	232	CFH48V	05	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes	HEPA	
LIQUID FUELS LAB	234	CFH72V	17	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	PCWR-h	PCWS-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes		Alternate 3
LIQUID FUELS LAB	234	CFH72V	17	Chemical Fume Hood	72	37.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	-	-	PCWR-h	PCWS-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes		Alternate 3
LIQUID FUELS LAB	234	CFH48V	17	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	PCWR-h	PCWS-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes		Alternate 3
ADVANCED ENERGY SYSTEM CONCEPTS LAB	236	CFH48V	15	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	NA	-	-	-	-	-	UN2-h	CDA-h	-	Yes	Yes	HEPA	Alternate 3
BIOFUEL PROCESS SCIENCE	237	FMFH72	16	Floor Mounted Fume Hood	72	37.25	80	66.5"	790	237	6"x23"	0.13	CS-h : Left Side	-	-	PCWR-h	PCWS-h	-	UN2-h	CDA-h	-	Yes	Yes		Alternate 3
BIOFUEL PROCESS SCIENCE	237	CFH48V	17	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	PCWR-h	PCWS-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes		Alternate 3
SAMPLE PREP LAB	266	CFH72V	12	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	SG4-h	SG3-h	SG2-h	SG1-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
SAMPLE PREP LAB	266	CFH72V	12	Chemical Fume Hood	72	31.25	80	18"	650	195	6"x23"	0.13	CS-h : Right Rear	SG4-h	SG3-h	SG2-h	SG1-h	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
HYDRIDE SYNTHESIS	267	CFH48V	05	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
HYDRIDE SYNTHESIS	267	CFH48V	05	Chemical Fume Hood	48	37.25	80	18"	400	120	6"x15"	0.09	CS-h : Right Rear	-	-	-	-	-	UN2-h	CDA-h	LCW-h	Yes	Yes		
HYDRIDE SYNTHESIS	267	FMFH48	13	Floor Mounted Fume Hood	48	37.25	80	66.5"	790	237	6"x23"	0.13	NA	-	-	-	He-h	VAC-h	UN2-h	CDA-h	-	Yes	Yes		
HYDRIDE CHARACTERIZATION	268	CFH48V	00	Chemical Fume Hood	48	31.25	80	18"	400	120	6"x15"	0.09	NA	-	-	-	-	-	-	-	-	Yes	Yes		

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BROOKHAVEN NATIONAL LABORATORY

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PLANT ENGINEERING DIVISION
UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: FUMEHOOD & SINK SCHEDULES	
ILR,GPP,LNI, HEM	DATE 04/09/10	ACCT. NO.	SHEET OF
SCALE	DWN. BY Author / REV'D BY Checker	JOB NO. 079872	DWG. NO. QL - 011
ESHQ RISK LEVEL	APP'D. BY Approver	BLDG. NO.	
FILENAME: 079872 QL - 011			

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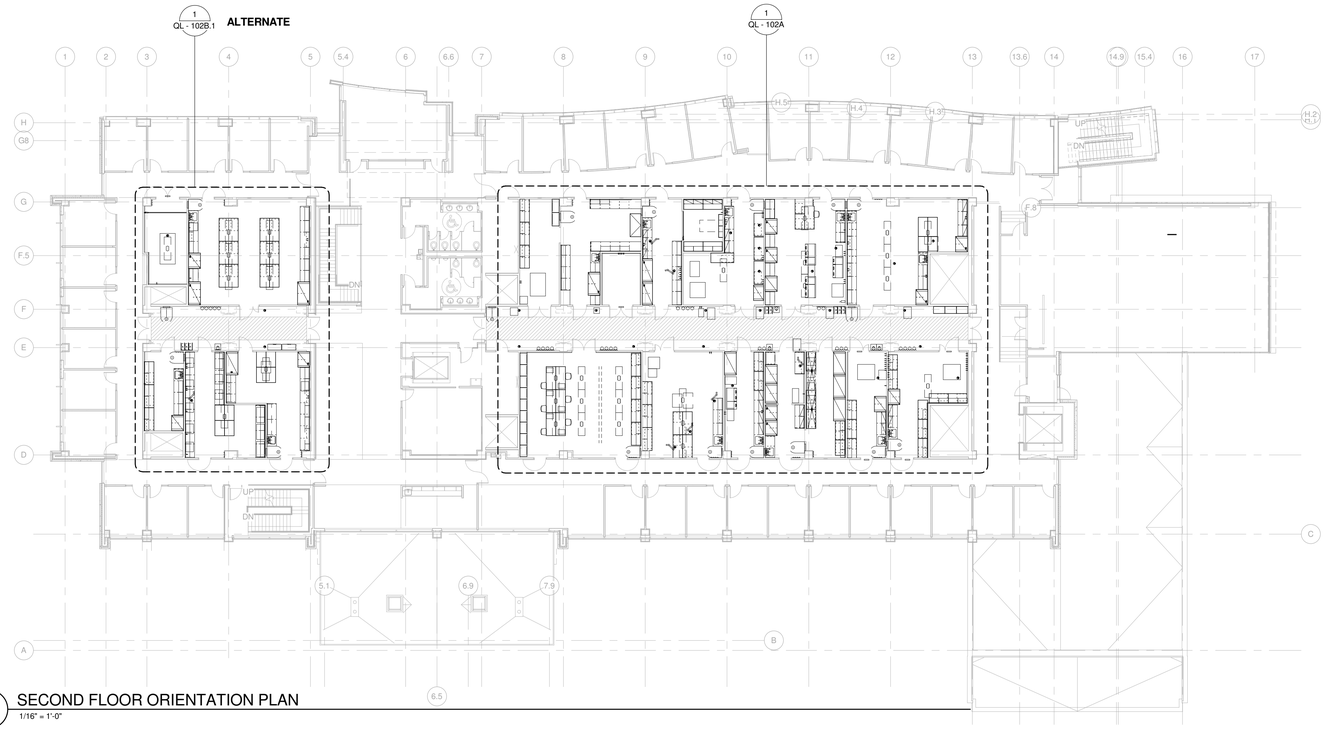
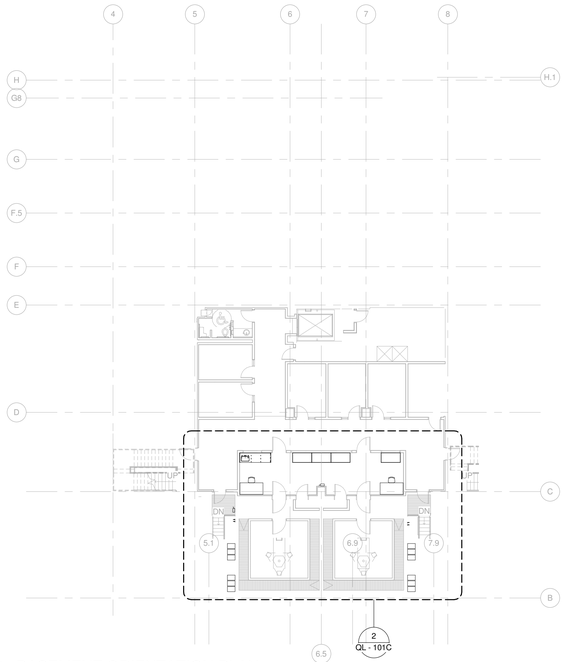
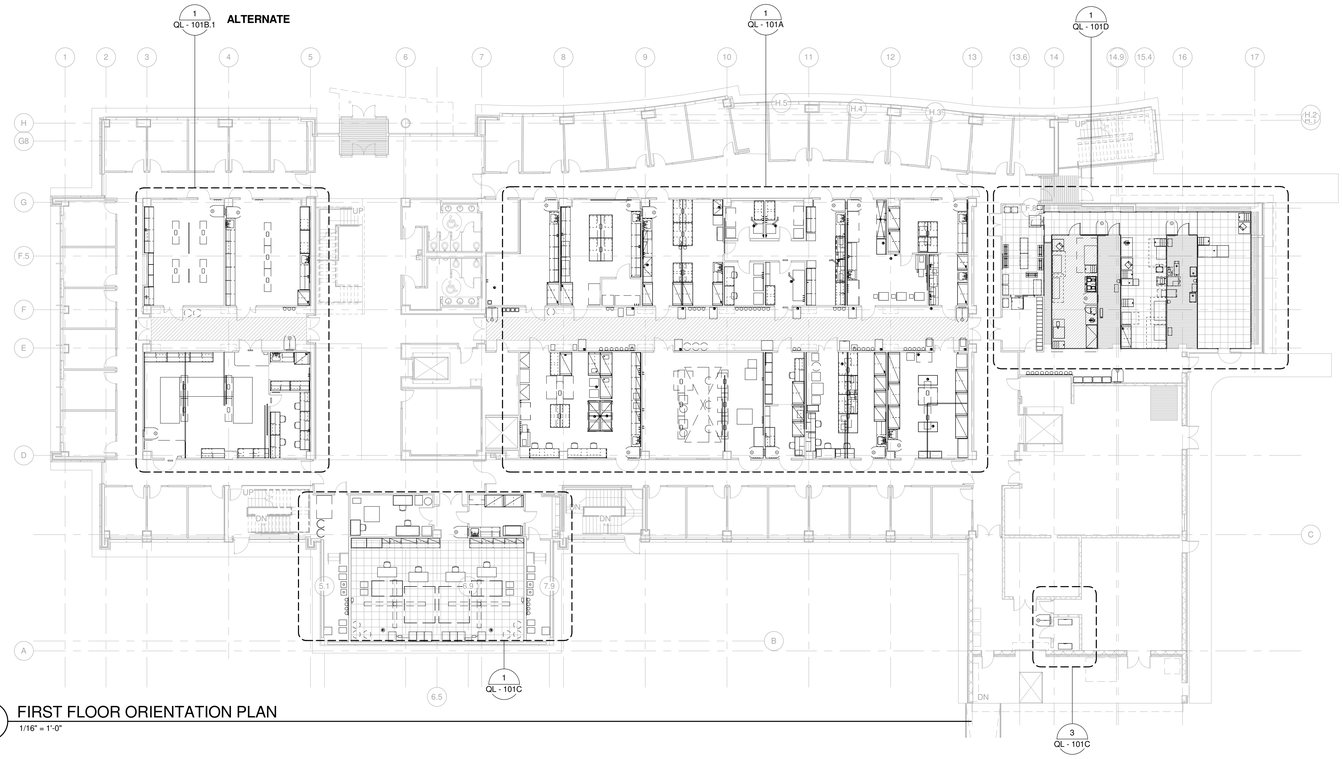


3 SECOND FLOOR ORIENTATION PLAN
1/16" = 1'-0"



1 BASEMENT ORIENTATION PLAN
1/16" = 1'-0"



2 FIRST FLOOR ORIENTATION PLAN
1/16" = 1'-0"

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JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: LAB EQUIPMENT ORIENTATION PLANS	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/16" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.
ESHQ RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	QL - 100
FILENAME: 079872 QL - 100			

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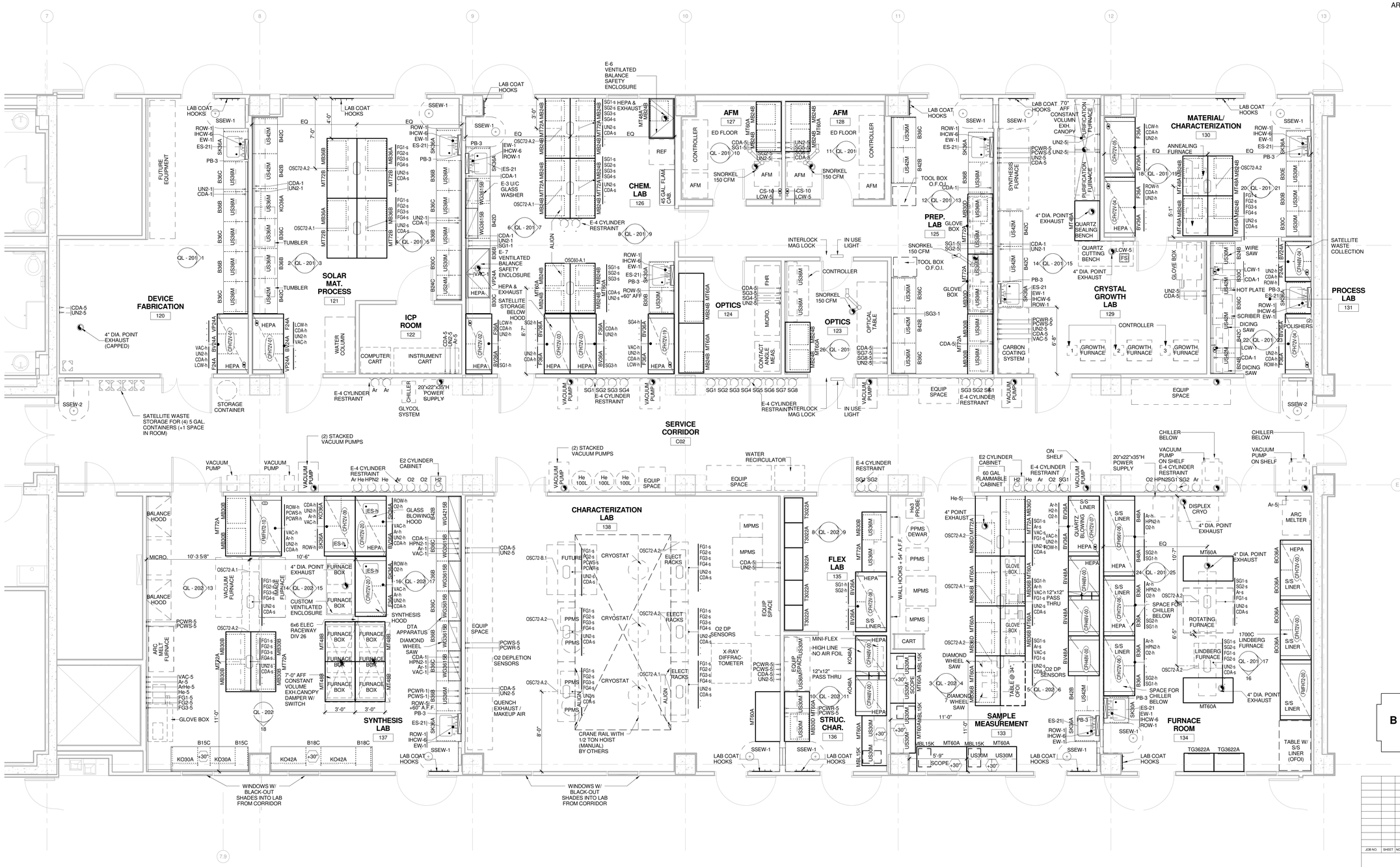

1 LAB EQUIPMENT PLAN FIRST FLOOR - AREA A
1/4" = 1'-0"

JOB NO.	SHEET NO	REVISION	DATE	DWN.	APP'D.	QA
		ISSUE FOR BID	04/09/10			

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JOB TITLE	DWG. TITLE	
INTERDISCIPLINARY SCIENCE BUILDING	FIRST FLOOR LAB EQ. PLAN - AREA A	
ILR,GPP,LNI, HEM	DATE 04/09/10	ACCT. NO. / SHEET OF
SCALE 1/4" = 1'-0"	DWN. BY Author / REV'D BY Checker	JOB NO. 079872 / DWG. NO.
ESHQ RISK LEVEL	APP'D. BY Approver	BLDG. NO. / QL - 101A
FILENAME: 079872 QL - 101A		

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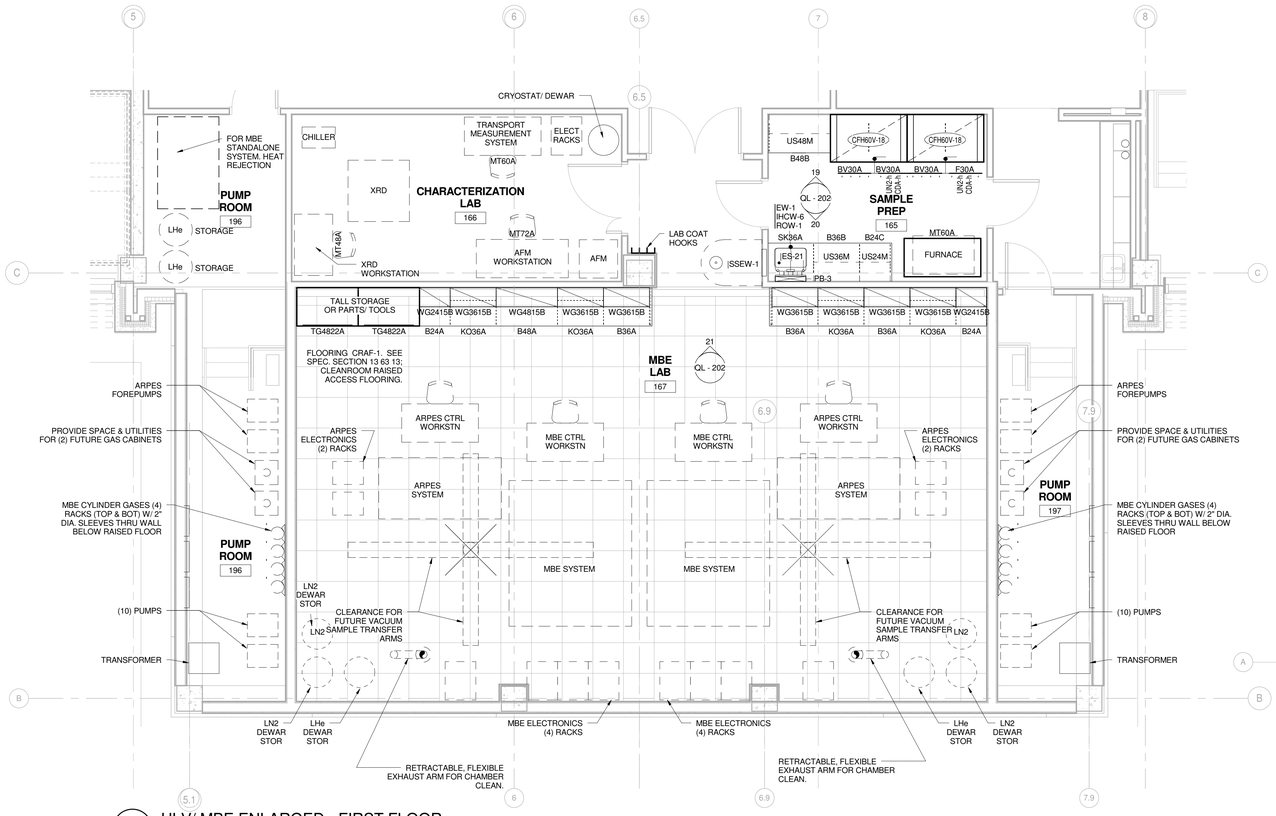
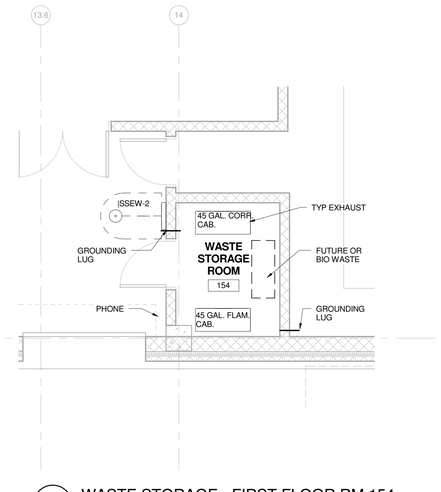
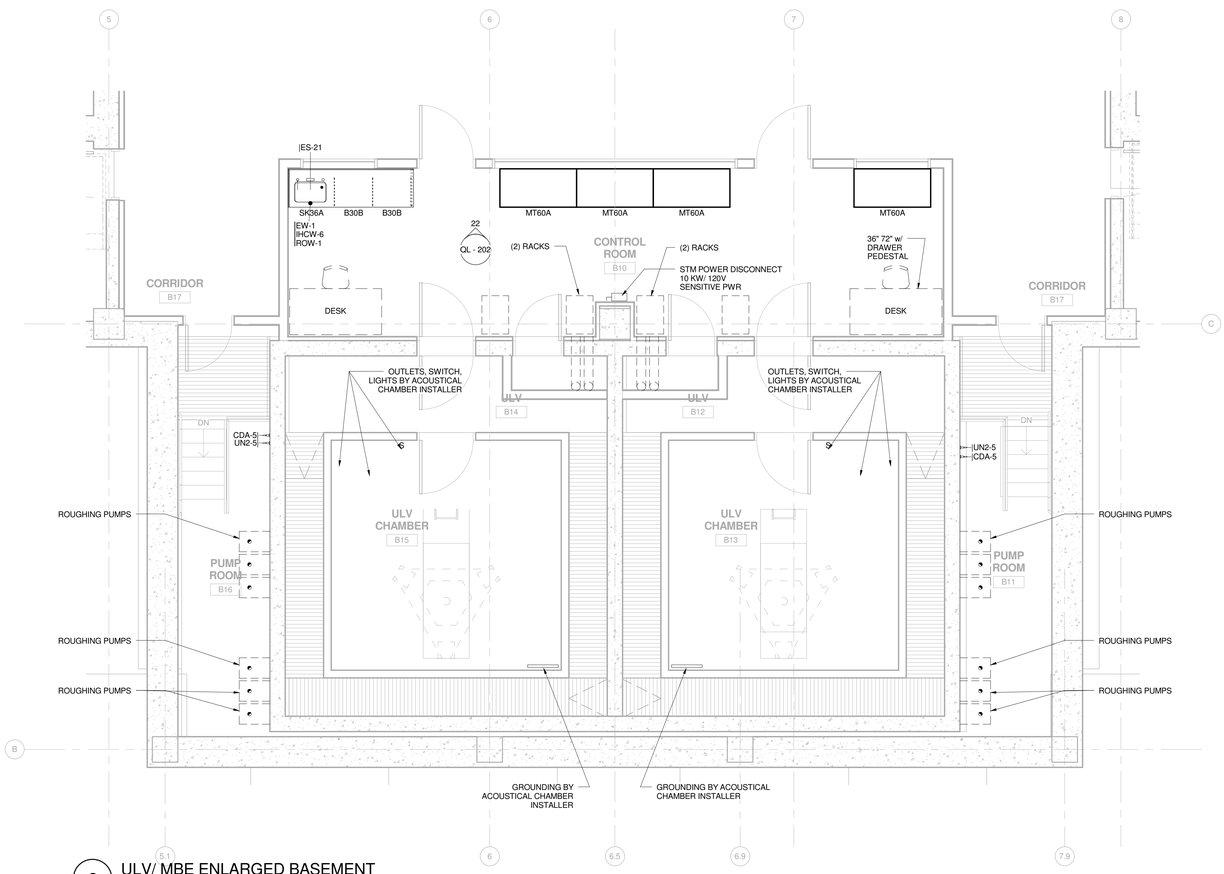


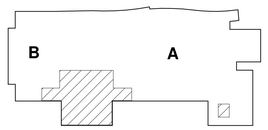
1 ULV/ MBE ENLARGED - FIRST FLOOR
1/4" = 1'-0"

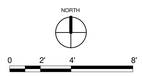


3 WASTE STORAGE - FIRST FLOOR RM 154
1/4" = 1'-0"



2 ULV/ MBE ENLARGED BASEMENT
1/4" = 1'-0"





JOB NO.	SHEET	NO.	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

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JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: BASEMENT & FIRST FLOOR PLAN - MBE/ULV	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/4" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.: QL - 101C
ESHO RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	
FILENAME: 079872-QL - 101C			

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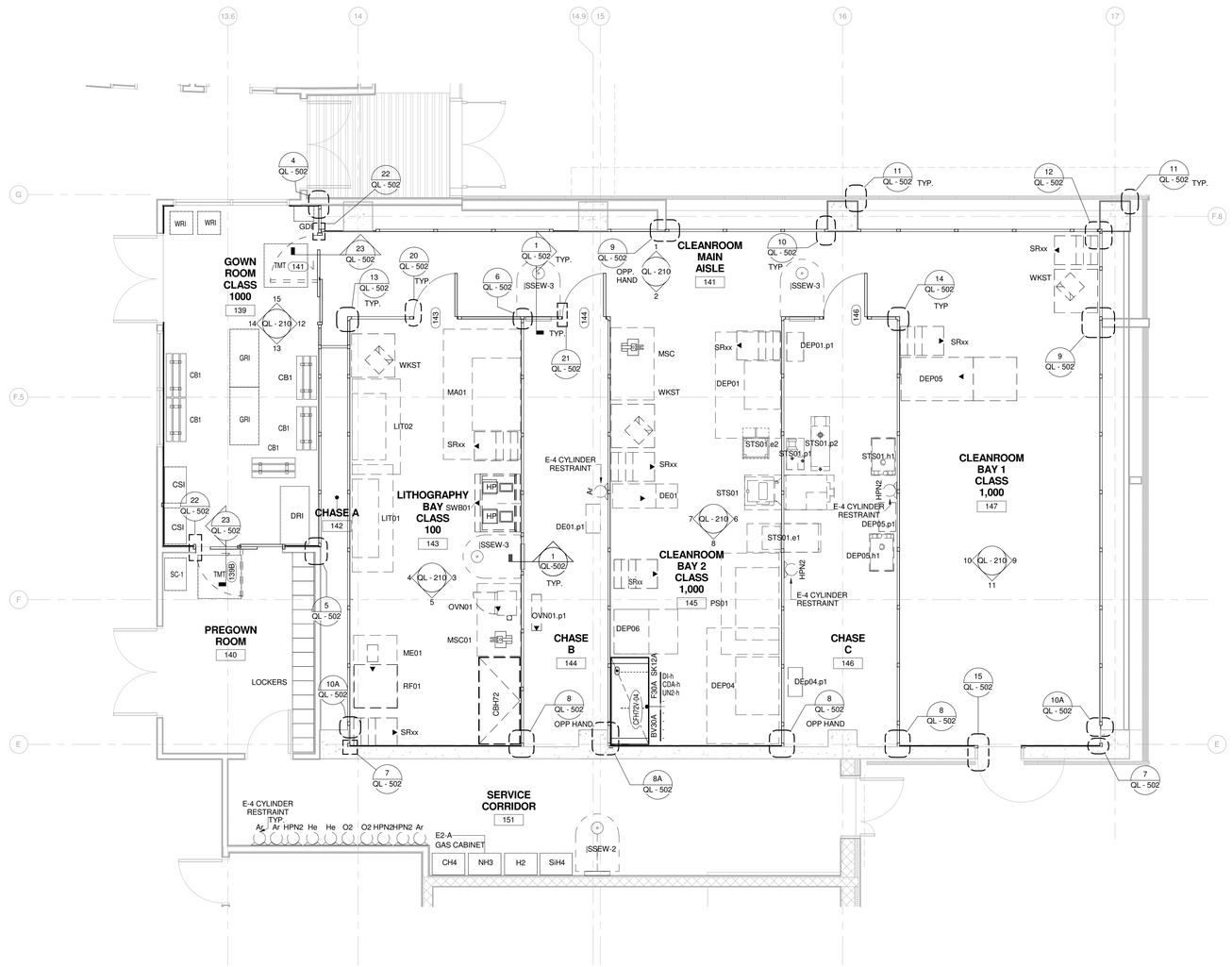
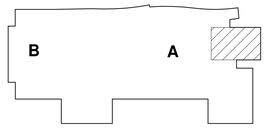
REGISTERED ARCHITECT AHMAD M. SUHEDI No. 029661-1 STATE OF NEW YORK
9 APR 2010



1 LAB EQUIPMENT AND CLEAN ROOM PARTITION PLAN PLAN-FIRST FLOOR
1/4" = 1'-0"

CLEANROOM EQUIPMENT SCHEDULE				
EQUIPMENT ID	DESCRIPTION	MANUFACTURER	MODEL	FURNISHED BY
CHASE B				
DE01.p1	Mechanical Pump	Alcatel	2021SD	OFOI
OVN01.p1	Vacuum Pump	Edwards	E2M18	OFOI
CHASE C				
DEP01.p1	Mechanical Pump	Varian	PTS06001UVP	OFOI
DEp04.p1	Mechanical Pump	Alcatel	2021SD	OFOI
DEP05.h1	Chiller	Lytron	RC9000	OFOI
DEP05.p1	Mechanical Pump	Varian	PTS06001UVP	OFOI
STS01	Rie	STS	MESC	OFOI
STS01.h1	Chiller	STS	Atfinity	OFOI
STS01.p1	Mechanical Pump	STS	E2M40F	OFOI
STS01.p2	Mechanical Pump	Edwards	iQDP80	OFOI
CLEANROOM BAY 1 CLASS 1,000				
DEP05	PE CVD System	Trion Technology	Orion III	OFOI
SRxx	Cleanroom Storage Rack			OFOI
SRxx	Cleanroom Storage Rack			OFOI
WKST	Workstation			OFOI
CLEANROOM BAY 2 CLASS 1,000				
CFH72V	Chemical Fume Hood	Fisher Hamilton	Refer to Fumehood Schedule	CFCI
DE01	Sputtering Coater	Anatech	Hummer VII	OFOI
DEP01	Thermal Evaporator	Veeco	VE 7700	OFOI
DEP04	Thin Film Vacuum Deposition	Kurt J Lesker	PVD 75	OFOI
DEP06	Chemical Mechanical Polishing	Logitech Ltd.	Tribo	OFOI
MSC	Optical Microscope			OFOI
PS01	Probe Station			OFOI
SRxx	Cleanroom Storage Rack			OFOI
SRxx	Cleanroom Storage Rack			OFOI
SRxx	Cleanroom Storage Rack			OFOI
STS01.e1	Power Cabinet	STS	Mesc Multiplex	OFOI
STS01.e2	Power Trolley	STS	Mesc Multiplex	OFOI
WKST	Workstation			OFOI
WKST	Workstation			OFOI
GOWN ROOM CLASS 1000				
CB1	Gownroom Bench		See Spec. Section 13 21 25	CFCI
CB1	Gownroom Bench		See Spec. Section 13 21 25	CFCI
CB1	Gownroom Bench		See Spec. Section 13 21 25	CFCI
CB1	Gownroom Bench		See Spec. Section 13 21 25	CFCI
CB1	Gownroom Bench		See Spec. Section 13 21 25	CFCI
CSI	Consumable Storage		See Spec. Section 13 21 25	CFCI
CSI	Consumable Storage		See Spec. Section 13 21 25	CFCI
DRI	Dispensing Rack		See Spec. Section 13 21 25	CFCI
GDI	Safety Glasses Dispensing Rack		See Spec. Section 13 21 25	CFCI
GRI	Gown Rack		See Spec. Section 13 21 25	CFCI
GRI	Gown Rack		See Spec. Section 13 21 25	CFCI
TMT	Tacky Mat		See Spec. Section 13 21 25	CFCI
WRI	Waste Receptacle		See Spec. Section 13 21 25	CFCI
WRI	Waste Receptacle		See Spec. Section 13 21 25	CFCI
LITHOGRAPHY BAY CLASS 100				
CBH72	6' Laminar Flow Hood	Baker Company	EG6252	OFOI
HP	Hotplate	Brewer Cee	1000	OFOI
HP	Hotplate	Brewer Cee	1000	OFOI
LIT01	Optical Station	Nikon	Eclipse LV100	OFOI
LIT02	Optical Microscope	Nikon		OFOI
MA01	Double Sided Contact Aligner	Karl Suss	MA6	OFOI
ME01	Optical Profilometer	Veeco	Dektek 8200	OFOI
MSC01	Optical Microscope			OFOI
OVN01	Blue M Oven	Blue M	Blue M	OFOI
RF01	Explosive Proof Fridge			OFOI
SRxx	Clean room Storage Rack			OFOI
SRxx	Clean room Storage Rack			OFOI
SWB01	Solvent bench			OFOI
WKST	Workstation			OFOI
WKST	Workstation			OFOI
WKST	Workstation			OFOI
PREGOWN ROOM				
SC-1	Shoe Cleaner		See Spec. Section 13 21 25	CFCI
TMT	Tacky Mat		See Spec. Section 13 21 25	CFCI
SERVICE CORRIDOR				
E2-A	H2 Gas Cabinet		See Spec. Section 11 53 00	CFCI
E2-A	SiH4 Gas Cabinet		See Spec. Section 11 53 00	CFCI
E2-A	CH4 Gas Cabinet		See Spec. Section 11 53 00	CFCI
E2-A	NH3 Gas Cabinet		See Spec. Section 11 53 00	CFCI



JOB NO.	SHEET	NO	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

BROOKHAVEN NATIONAL LABORATORY
UNDER CONTRACT WITH
UNITED STATES DEPARTMENT OF ENERGY
PLANT ENGINEERING DIVISION
UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: FIRST FLOOR LAB EQ. PLAN - CLEAN ROOM	
I/F/LGPP/LN/I, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/4" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO. QL - 101D
ESHQ RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	
FILENAME: 079872 QL - 101D			

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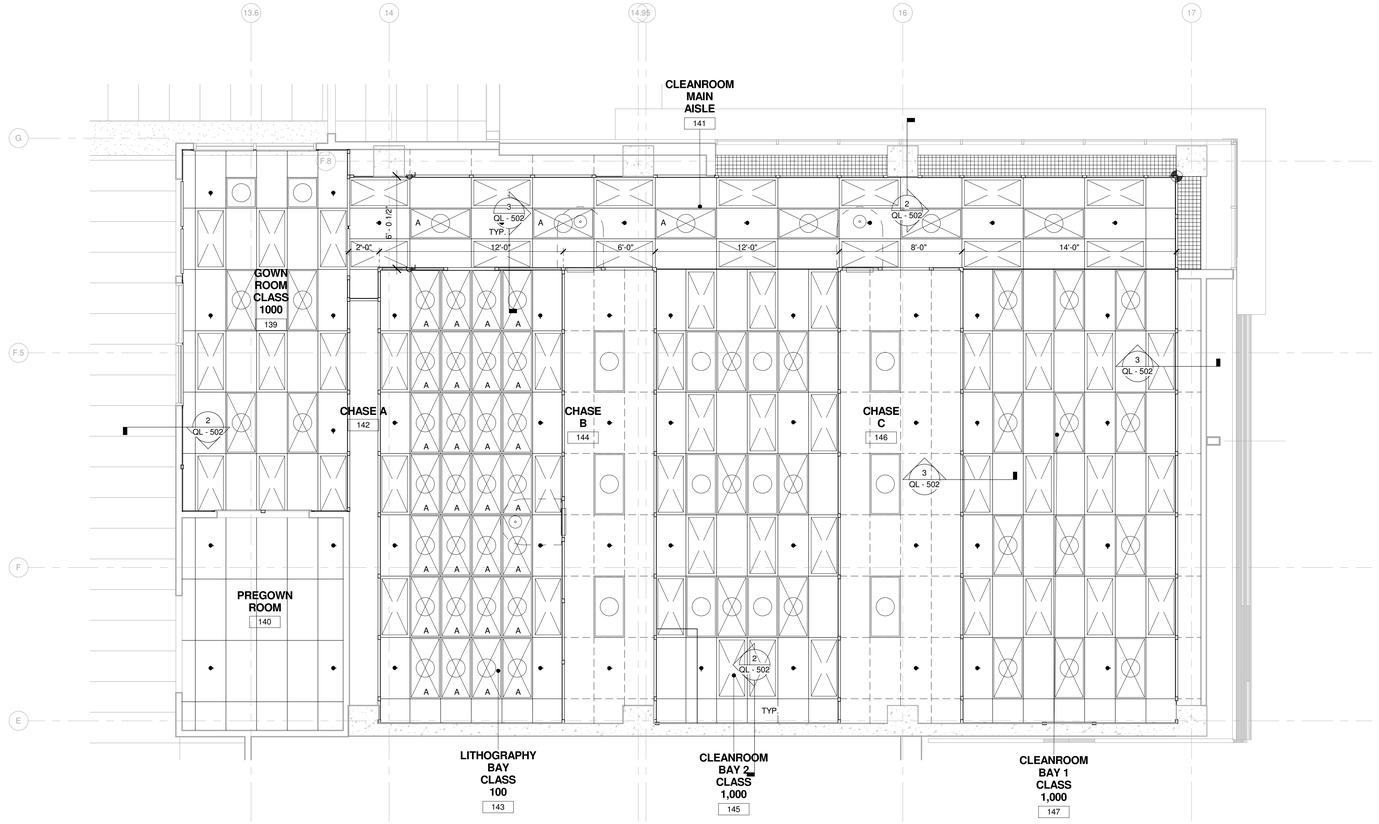
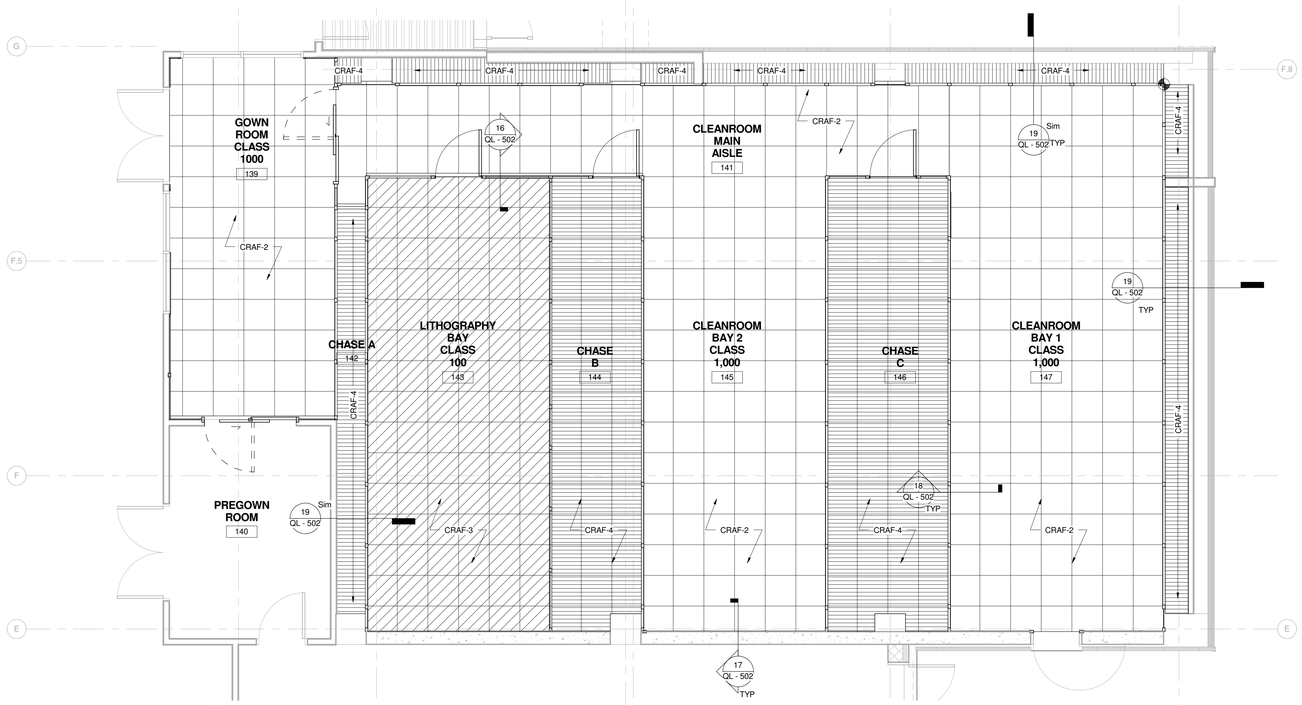


2 CLEANROOM REFLECTED CEILING PLAN
1/4" = 1'-0"



1 CLEANROOM RAISED ACCESS FLOOR PLAN
1/4" = 1'-0"

RCP LEGEND - CLEAN ROOM

- CLEANROOM CEILING PANEL
- 2' X 4' LIGHT FIXTURE, SEALED TROFFER
- 2' X 4' HEPA FILTER
- 2' X 4' FLOW THROUGH LIGHT
- 2' X 4' FLOW THROUGH LIGHT W/ LIGHT FILTER SLEEVES
- EGG CRATE GRILLE
- FIRE SPRINKLER
- STARTING POINT OF GRID
- 2' X 4' CEILING GRID, NO TILE

FLOOR PLAN LEGEND

CRAF-2	2' X 2' RAISED ACCESS FLOOR PERFORATED ROUND-HOLE PANEL
CRAF-3	2' X 2' RAISED ACCESS FLOOR PERFORATED SLOTTED-HOLE PANEL
CRAF-4	2' X 2' RAISED ACCESS FLOOR GRATED PANEL
	STARTING POINT OF GRID

HDR CUH2A
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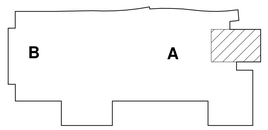
REGISTERED ARCHITECT AHMAD M. SUHED No. 029667-1 STATE OF NEW YORK
9 APR 2010

GENERAL SHEET NOTES:

1 REFER TO MECHANICAL HVAC DRAWINGS FOR HEPA FILTER LOCATIONS AND DUCTED SUPPLY AND RETURNS.

2 REFER TO ELECTRICAL DRAWINGS FOR LIGHTING TYPES & LOCATIONS.



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UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: RCP & RAISED FLOOR PLAN - CLEAN ROOM	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: As indicated	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO. QL - 101E
ESHO RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	
FILENAME: 079872 QL - 101E			

NORTH
0 2' 4' 8'

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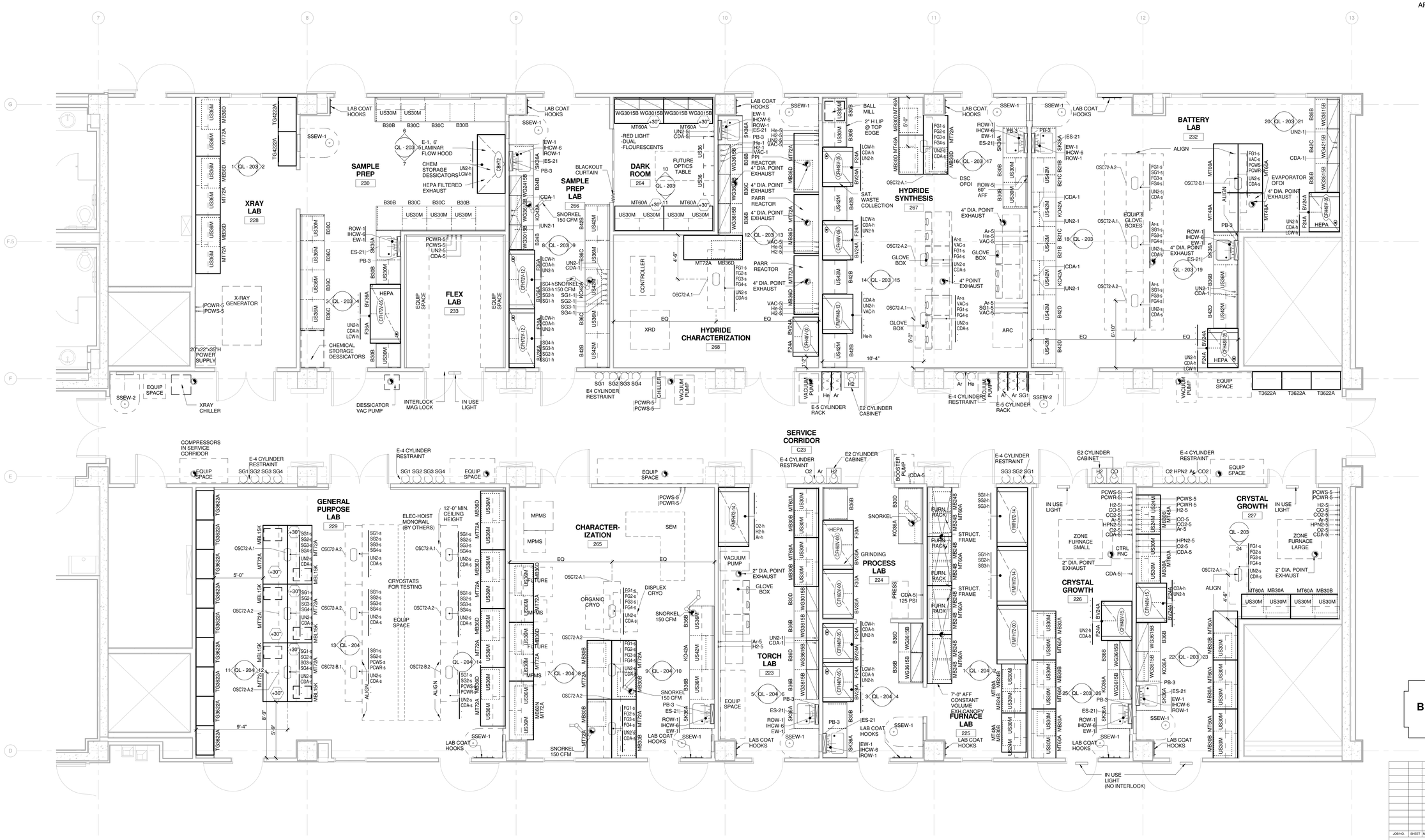
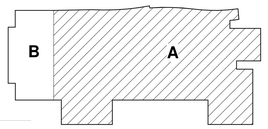
9 APR 2010



1 LAB EQUIPMENT PLAN SECOND FLOOR - AREA A
1/4" = 1'-0"



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		ISSUE FOR BID	04/09/10			

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UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING			DWG. TITLE: SECOND FLOOR LAB EQ. PLAN - AREA A
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/4" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.: QL - 102A
ESHQ RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	
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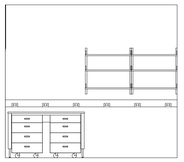
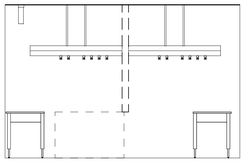


26 RM 123 OPTICS WEST
1/4" = 1'-0"



25 RM 134 FURNACE ROOM EAST
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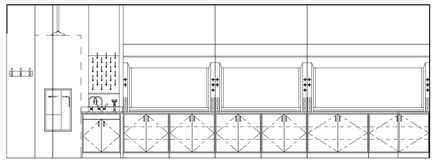

24 RM 134 FURNACE ROOM WEST
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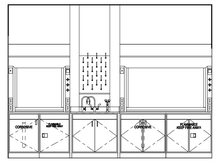
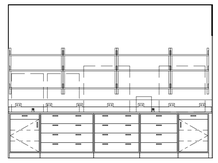


23 RM 131 PROCESS LAB EAST
1/4" = 1'-0"



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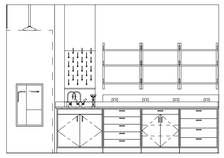
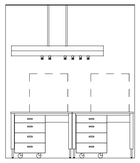
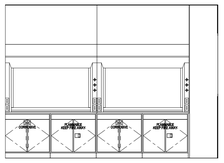


21 RM 130 MATERIAL CHAR EAST
1/4" = 1'-0"

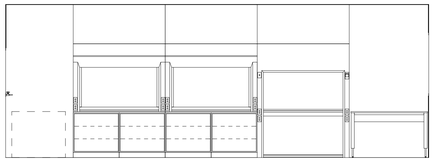
20 RM 130 MATERIAL CHAR. WEST.
NTS



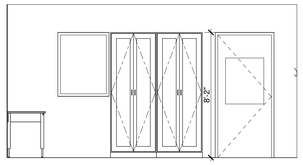
19 RM 130 MATERIAL CHAR EAST.
1/4" = 1'-0"



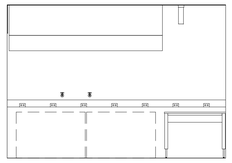
18 RM 130 MATERIAL CHAR WEST
1/4" = 1'-0"



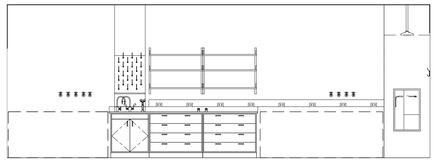
17 RM 134 FURNACE ROOM EAST.
NTS



16 RM 134 FURNACE ROOM SOUTH
1/4" = 1'-0"



15 RM 129 CRYSTAL GROWTH EAST
1/4" = 1'-0"



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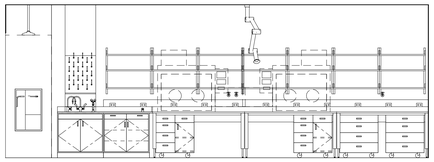

13 RM 125 PREP LAB EAST
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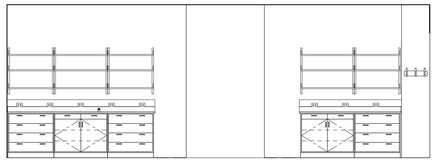

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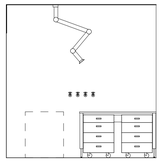

11 RM 128 AFM WEST
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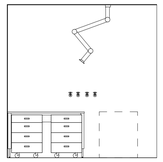

10 RM 127 AFM EAST
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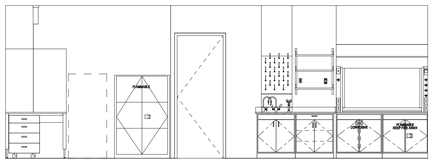

9 RM 126 CHEM LAB EAST.
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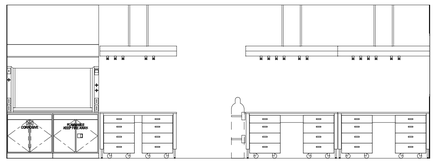

8 RM 126 CHEM LAB WEST.
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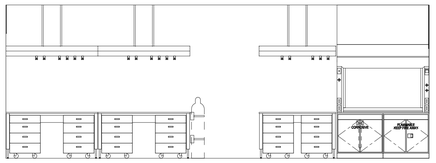

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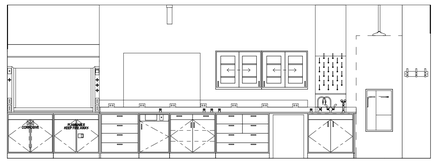

6 RM 126 CHEM LAB WEST
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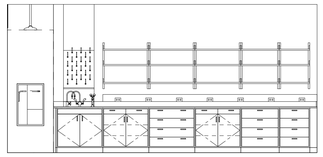
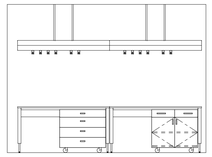


5 RM 121 SOLAR MAT PROCESS EAST
1/4" = 1'-0"



4 RM 121 SOLAR MAT PROCESS WEST
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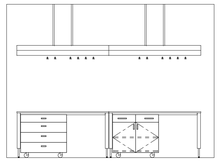
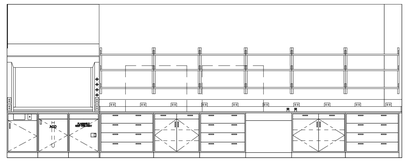
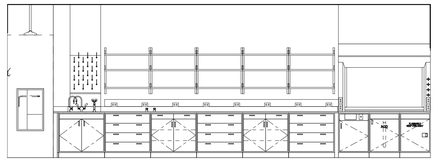


3 RM 121 SOLAR MAT PROCESS EAST.
1/4" = 1'-0"



2 RM 121 SOLAR MAT PROCESS WEST.
1/4" = 1'-0"



1 RM 120 DEVICE FABRICATION EAST.
1/4" = 1'-0"

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REGISTERED ARCHITECT AHMAD M. SUHED No. 029664-1 STATE OF NEW YORK
9 APR 2010

JOB NO.	SHEET	NO	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

BROOKHAVEN NATIONAL LABORATORY
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UPTON, NEW YORK 11973

JOB TITLE INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE LAB ELEVATIONS	
ILR,GPP,LNI, HEM	DATE 04/09/10	ACCT. NO.	SHEET OF
SCALE 1/4" = 1'-0"	DWN. BY Author / REVD BY Checker	JOB NO. 079872	DWG. NO. QL - 201
ESHO RISK LEVEL	APP'D. BY Approver	BLDG. NO.	
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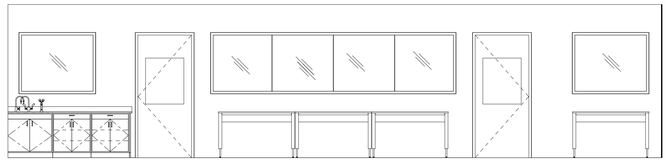
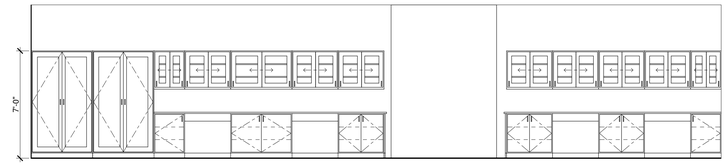
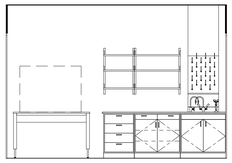
REGISTERED ARCHITECT AHMAD M. SUHED No. 029667-1 STATE OF NEW YORK
9 APR 2010



22 RM B10 MBE CONTROL ROOM
NTS



21 RM 167 MBE LAB NORTH
1/4" = 1'-0"



20 RM 165 SAMPLE PREP SOUTH
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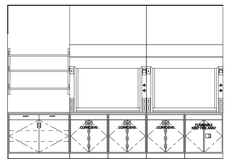
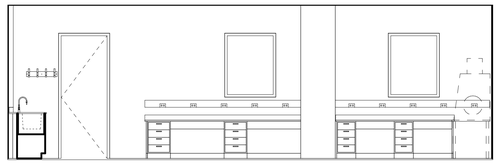


19 RM 165 SAMPLE PREP NORTH
1/4" = 1'-0"



18 RM 137 SYNTHESIS LAB SOUTH
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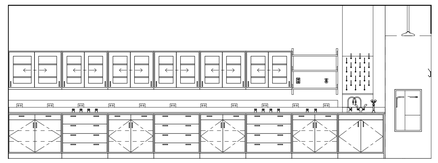
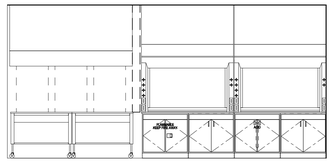
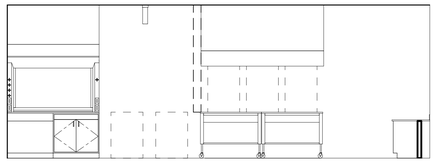


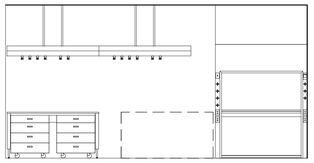
17 RM 137 SYNTHESIS LAB EAST
1/4" = 1'-0"



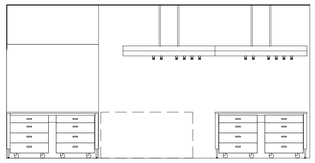
16 RM 137 SYNTHESIS LAB WEST
1/4" = 1'-0"



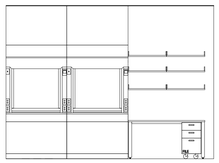
15 RM 137 SYNTHESIS LAB EAST.
1/4" = 1'-0"



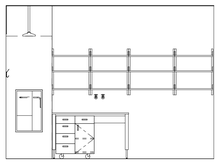
14 RM 137 SYNTHESIS LAB WEST.
1/4" = 1'-0"



13 RM 137 SYNTHESIS LAB EAST..
1/4" = 1'-0"



11 RM 136 STRUCTURAL CHARACTER. EAST
1/4" = 1'-0"



10 RM 136 STRUCTURAL CHARACTER. WEST
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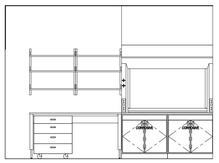
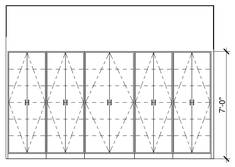
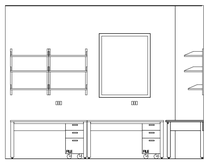


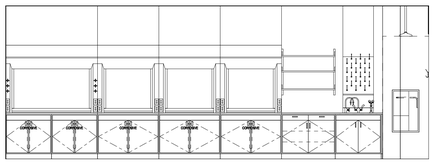
9 RM 135 FLEX LAB EAST
1/4" = 1'-0"



8 RM 135 FLEX LAB WEST
1/4" = 1'-0"



7 RM 133 SAMPLE MEASUREMENT SOUTH
1/4" = 1'-0"



6 RM 133 SAMPLE MEASUREMENT EAST
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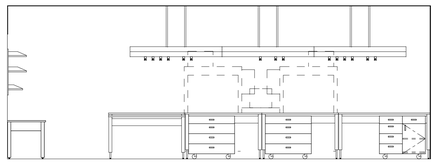

5 RM 133 SAMPLE MEASUREMENT WEST
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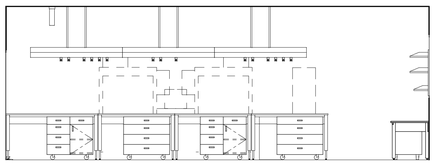
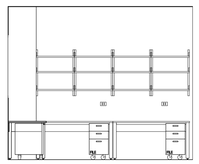


4 RM 133 SAMPLE MEASUREMENT EAST.
1/4" = 1'-0"



3 RM 133 SAMPLE MEASUREMENT WEST.
1/4" = 1'-0"

JOB NO.	SHEET	NO	REVISION	DATE	DWN	APP'D	QA
			ISSUE FOR BID	04/09/10			

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JOB TITLE INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE LAB ELEVATIONS	
IL/R,DPP,LNI, HEM	DATE 04/09/10	ACCT. NO.	SHEET OF
SCALE 1/4" = 1'-0"	DWN. BY Author / REVD BY Checker	JOB NO. 079872	DWG. NO. QL - 202
ESHQ RISK LEVEL	APP'D. BY Approver	BLDG. NO.	
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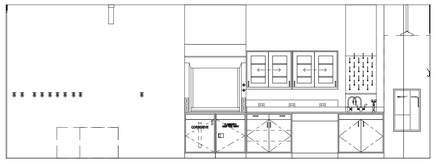
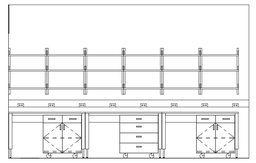
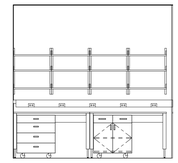


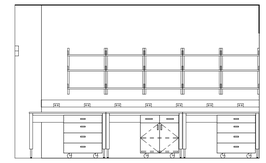
26 RM 226 CRYSTAL GROWTH EAST
1/4" = 1'-0"



25 RM 226 CRYSTAL GROWTH WEST
1/4" = 1'-0"



24 RM 227 CRYSTAL GROWTH SOUTH
1/4" = 1'-0"



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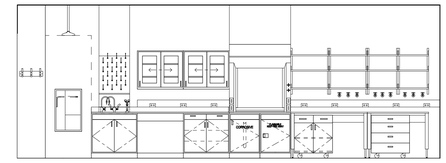

22 RM 227 CRYSTAL GROWTH WEST
1/4" = 1'-0"

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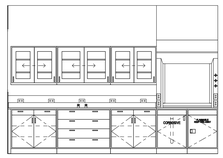
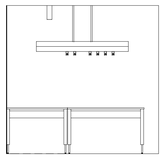
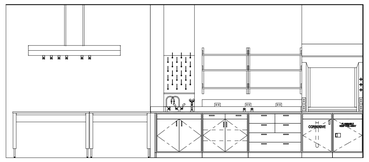
REGISTERED ARCHITECT AHMAD M. SUHED No. 029667 STATE OF NEW YORK
9 APR 2010



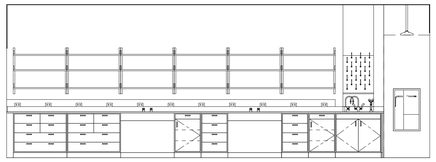
21 RM 232 BATTERY LAB EAST.
1/4" = 1'-0"



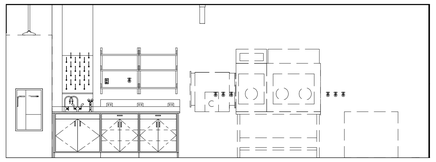
20 RM 232 BATTERY LAB WEST.
1/4" = 1'-0"



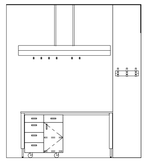
19 RM 232 BATTERY LAB EAST
1/4" = 1'-0"



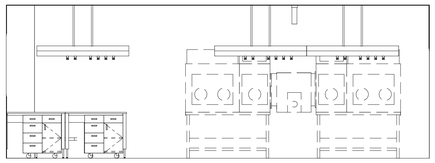
18 RM 232 BATTERY LAB WEST
1/4" = 1'-0"



17 RM 267 HYDRIDE SYNTHESIS EAST
1/4" = 1'-0"



16 RM 267 HYDRIDE SYNTHESIS WEST
1/4" = 1'-0"



15 RM 267 HYDRIDE SYNTHESIS EAST.
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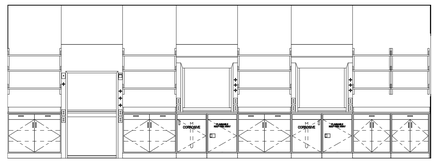

14 RM 267 HYDRIDE SYNTHESIS WEST.
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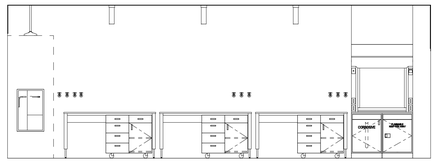

13 RM 268 HYDRIDE CHARACTERIZATION EAST
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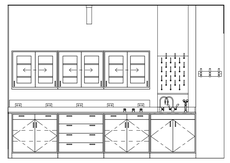

12 RM 268 HYDRIDE CHARACTERIZATION WEST
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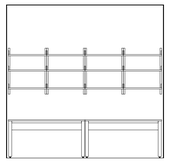
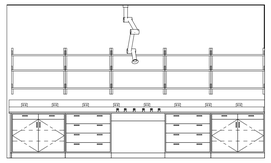
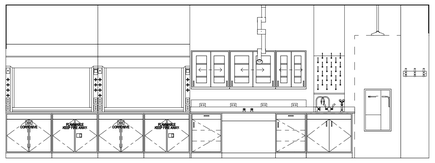


11 RM 264 DARK ROOM SOUTH
1/4" = 1'-0"

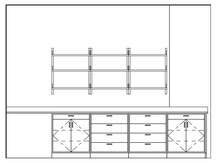
10 RM 264 DARK ROOM NORTH
1/4" = 1'-0"



9 RM 266 SAMPLE PREP LAB EAST
1/4" = 1'-0"



8 RM 266 SAMPLE PREP LAB WEST
1/4" = 1'-0"



7 RM 230 SAMPLE PREP SOUTH
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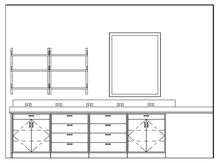

6 RM 230 SAMPLE PREP NORTH
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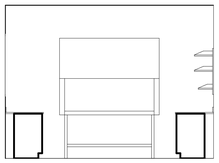

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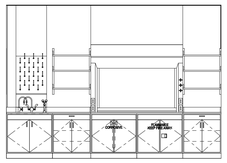
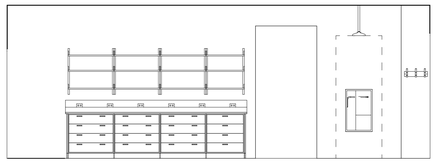
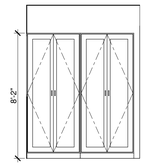


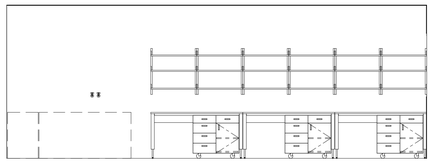
4 RM 230 SAMPLE PREP EAST.
1/4" = 1'-0"



3 RM 230 SAMPLE PREP WEST
1/4" = 1'-0"



2 RM 228 XRAY LAB EAST 01
1/4" = 1'-0"



1 RM 228 XRAY LAB WEST
1/4" = 1'-0"

JOB NO.	SHEET NO.	REVISION	DATE	DWN.	APP'D.	QA
		ISSUE FOR BID	04/09/10			

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UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: LAB ELEVATIONS	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/4" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.
ESHQ RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	QL - 203
FILENAME: 079872 QL - 203			

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HDR CUH2A
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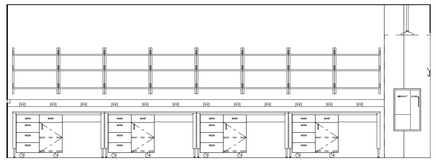
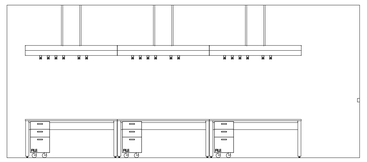
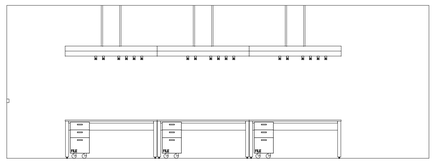
REGISTERED ARCHITECT AHMAD M. SUHED No. 029667-1 STATE OF NEW YORK
9 APR 2010



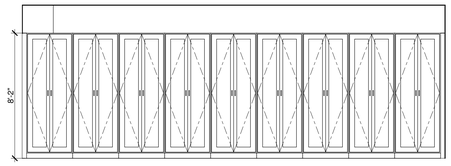
14 RM 229 GENERAL PURPOSE LAB EAST.
1/4" = 1'-0"



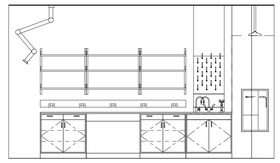
13 RM 229 GENERAL PURPOSE LAB WEST
1/4" = 1'-0"



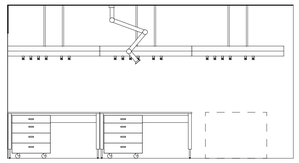
12 RM 229 GENERAL PURPOSE LAB EAST
1/4" = 1'-0"



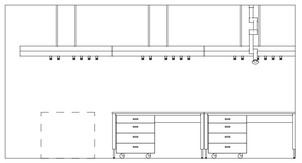
11 RM 229 GENERAL PURPOSE LAB WEST.
1/4" = 1'-0"



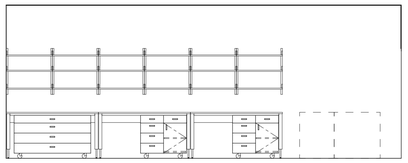
10 RM 265 CHARACTERIZATION EAST
1/4" = 1'-0"



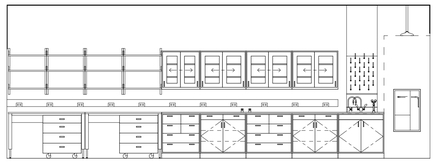
9 RM 265 CHARACTERIZATION WEST
1/4" = 1'-0"



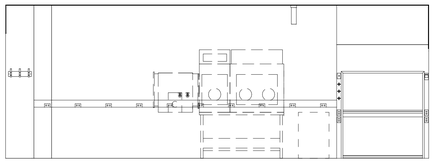
8 RM 265 CHARACTERIZATION EAST.
1/4" = 1'-0"



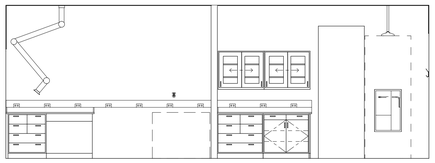
7 RM 265 CHARACTERIZATION WEST.
1/4" = 1'-0"



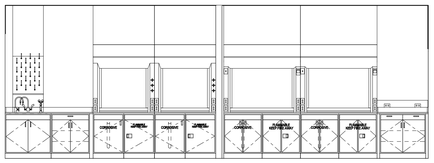
6 RM 223 TORCH LAB EAST.
1/4" = 1'-0"



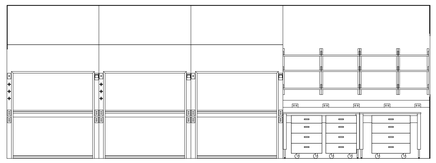
5 RM 223 TORCH LAB WEST.
1/4" = 1'-0"



4 RM 224 PROCESS LAB EAST.
1/4" = 1'-0"



3 RM 224 PROCESS LAB WEST.
1/4" = 1'-0"



2 RM 225 FURNACE LAB EAST.
1/4" = 1'-0"

1 RM 225 FURNACE LAB WEST.
1/4" = 1'-0"

JOB NO.	SHEET	NO.	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

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JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: LAB ELEVATIONS	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/4" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.
ESHQ RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	QL - 204
FILENAME: 079872 QL - 204			

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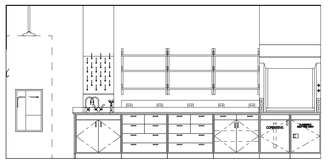
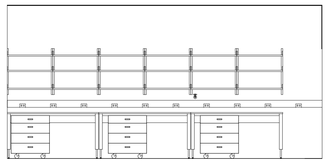
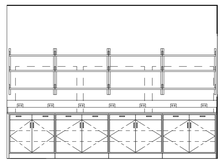


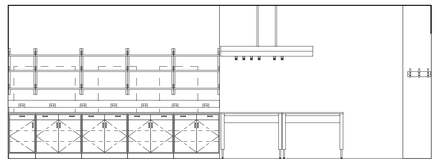
24 RM 236 ADV. ENERGY SYS. CONCEPTS LAB EAST
1/4" = 1'-0"



23 RM 236 ADV. ENERGY SYS. CONCEPTS LAB WEST
1/4" = 1'-0"



22 RM 238 BIOFUELS CHARACTERIZATION EAST
1/4" = 1'-0"

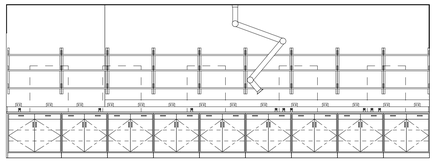


20 RM 238 BIOFUELS CHARACTERIZATION EAST.
1/4" = 1'-0"

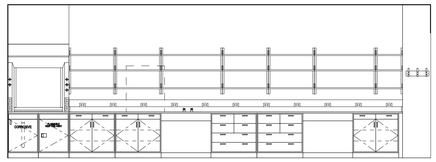
HDR CUH2A
1101 King Street | Suite 400 | Alexandria, Virginia 22314-2944 | 703.518.8500

IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THESE DOCUMENTS IN ANY WAY UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED ARCHITECT.

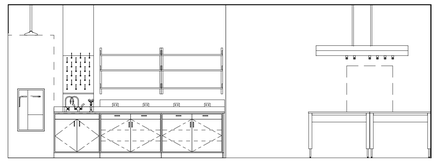
REGISTERED ARCHITECT AHMAD M. SHEIED No. 029667-1 STATE OF NEW YORK
9 APR 2010



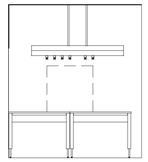
19 RM 238 BIOFUELS CHARACTERIZATION WEST
1/4" = 1'-0"



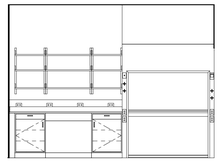
18 RM 237 BIOFUEL PROCESS SCIENCE EAST
1/4" = 1'-0"



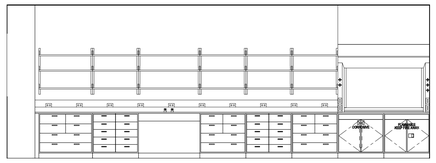
17 RM 237 BIOFUEL PROCESS SCIENCE WEST.
1/4" = 1'-0"



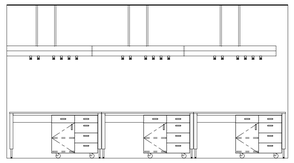
16 RM 237 BIOFUEL PROCESS SCIENCE EAST.
1/4" = 1'-0"



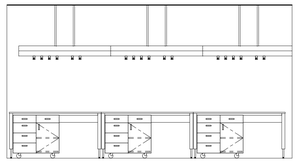
15 RM 237 BIOFUEL PROCESS SCIENCE WEST
1/4" = 1'-0"



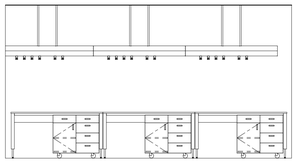
14 RM 234 LIQUID FUELS LAB EAST.
1/4" = 1'-0"



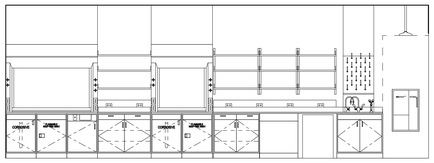
13 RM 234 LIQUID FUELS LAB WEST
1/4" = 1'-0"



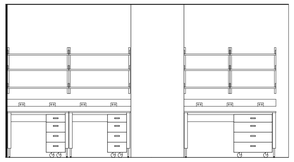
12 RM 234 LIQUID FUELS LAB EAST
1/4" = 1'-0"



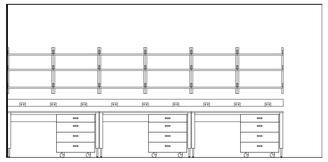
11 RM 234 LIQUID FUELS LAB WEST.
1/4" = 1'-0"



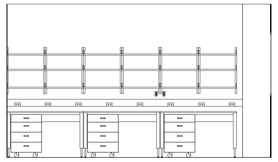
10 RM 234 LIQUID FUELS LAB WEST..
1/4" = 1'-0"



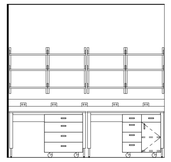
9 RM 184 LASER LAB SOUTH
1/4" = 1'-0"



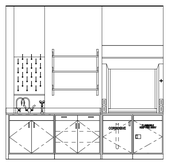
8 RM 184 LASER LAB NORTH
1/4" = 1'-0"



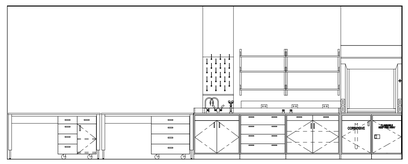
7 RM 198 FLEX LAB EAST
1/4" = 1'-0"



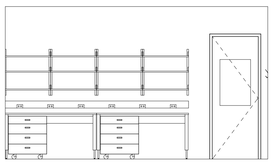
6 RM 183 PREP LAB SOUTH
1/4" = 1'-0"



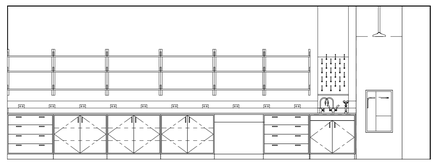
5 RM 183 PREP LAB NORTH
1/4" = 1'-0"



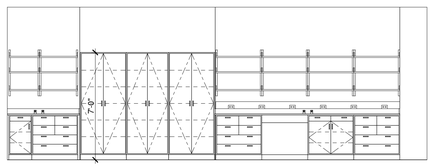
4 RM 181 PREP LAB EAST
1/4" = 1'-0"



3 RM 198 FLEX LAB WEST
NTS



2 RM 181 PREP LAB WEST
1/4" = 1'-0"



1 RM 182 OPTICAL SPECTROSCOPY WEST
NTS

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		ISSUE FOR BID	04/09/10			

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JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: LAB ELEVATIONS	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: 1/4" = 1'-0"	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.: QL - 205
ESHO RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	
FILENAME: 079872 QL - 205			

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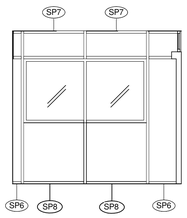
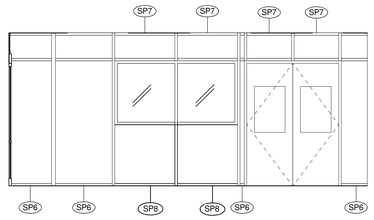
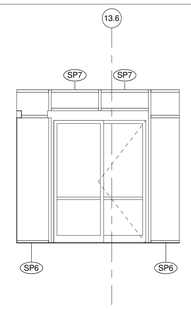


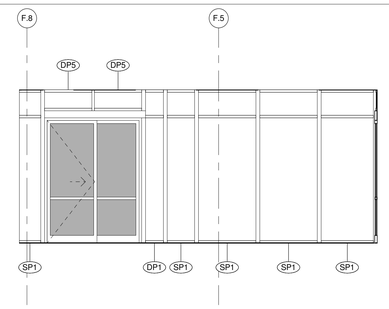
15 RM 139 GOWN ROOM NORTH
1/4" = 1'-0"



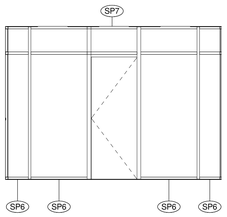
14 RM 139 GOWN ROOM WEST
1/4" = 1'-0"



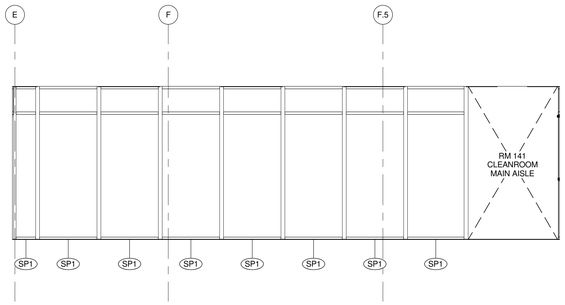
13 RM 139 GOWN ROOM SOUTH
1/4" = 1'-0"



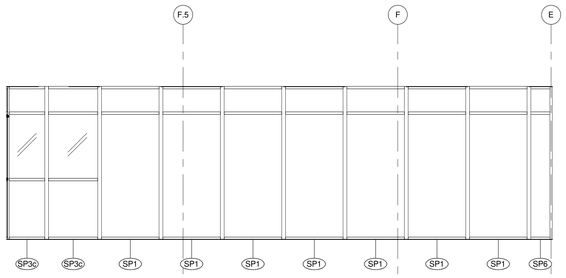
12 RM 139 GOWN ROOM EAST
NTS



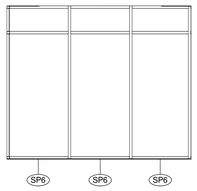
11 RM 147 CLEANROOM BAY 1 SOUTH
1/4" = 1'-0"



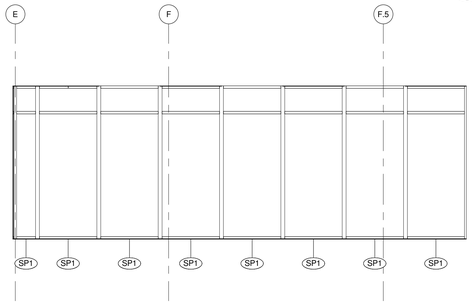
10 RM 147 CLEANROOM BAY 1 WEST
1/4" = 1'-0"



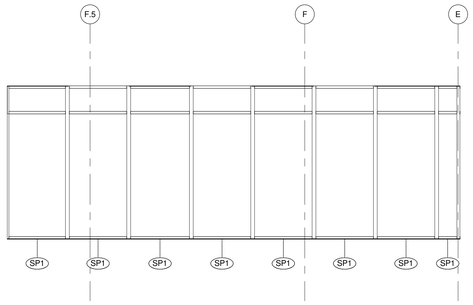
9 RM 147 CLEANROOM BAY 1 EAST
1/4" = 1'-0"



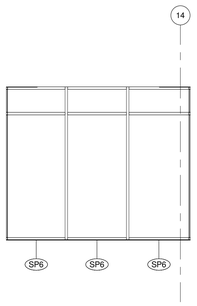
8 RM 145 CLEANROOM BAY 2 SOUTH
1/4" = 1'-0"



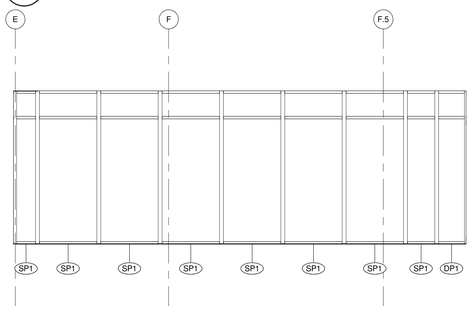
7 RM 145 CLEANROOM BAY 2 WEST
1/4" = 1'-0"



6 RM 145 CLEANROOM BAY 2 EAST
1/4" = 1'-0"



5 RM 143 LITHOGRAPHY BAY SOUTH
1/4" = 1'-0"



4 RM 143 LITHOGRAPHY BAY WEST
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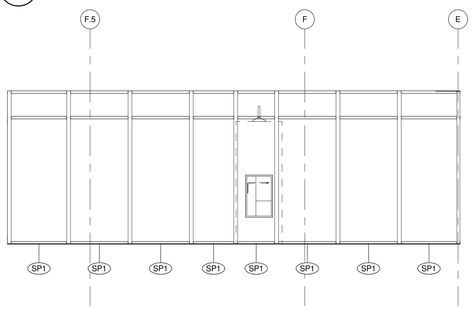

3 RM 143 LITHOGRAPHY BAY EAST
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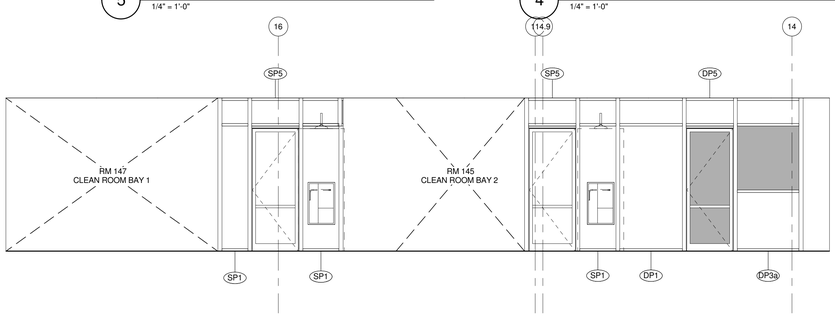
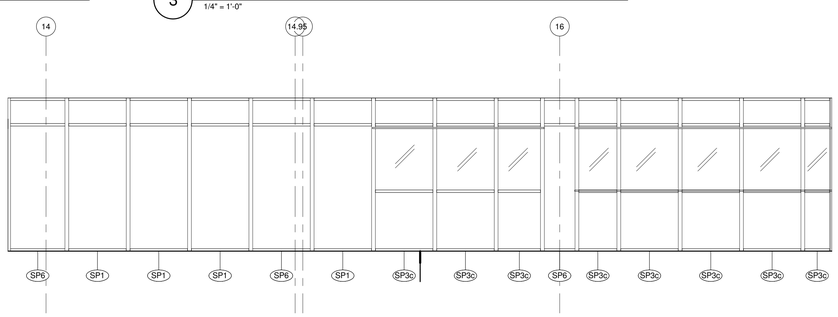
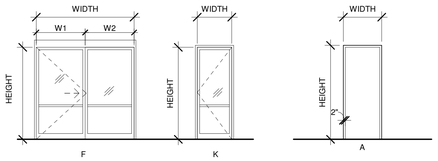


2 RM 141 MAIN CLEANROOM MAIN AISLE SOUTH
1/4" = 1'-0"



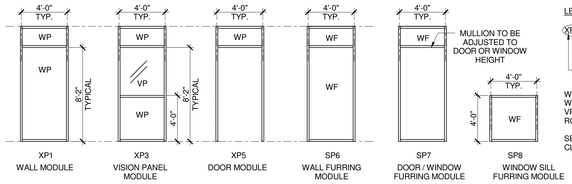
1 RM 141 MAIN CLEANROOM MAIN AISLE NORTH 01
1/4" = 1'-0"

CLEANROOM DOOR AND FRAME TYPES



DOOR TYPES FRAME TYPES

TYPICAL CLEANROOM WALL MODULES



LEGEND

XPSx
- x - AMBER (a) OR CLEAR (c) GLAZING PANEL
- PX - PANEL TYPE, SEE TYPICAL ELEVATIONS
- X - SINGLE (S) OR DOUBLE (D) SIDED CLEANROOM WALL PANEL SYSTEM

WP = WALL PANEL
WF = WALL FURRING
VP = VISION GLAZING PANEL
RC = RETURN AIR CHASE

SEE SPECIFICATION SECTION 13034 FOR CLEANROOM WALL SYSTEMS.

CLEANROOM DOOR AND FRAME SCHEDULE

IDENTIFICATION		DOOR								FRAME				
		WIDTH												
ROOM NAME	DOOR NO.	WIDTH	W1	W2	HEIGHT	TYPE	MATERIAL	FINISH	Glazing	TYPE	MATERIAL	FIRE RATING (MIN)	HARDWARE GROUP	NOTES
GOWN ROOM CLASS 1000	139B	6' - 0"	3' - 0"	3' - 0"	8' - 0"	F	ANOD	ALUM	TEMP (CLEAR)	A	ALUM		-	SEE SPEC # 084230
CLEANROOM MAIN AISLE	141	6' - 0"	3' - 0"	3' - 0"	8' - 0"	F	ANOD	ALUM	TEMP (AMBER)	A	ALUM		-	SEE SPEC # 084230
LITHOGRAPHY BAY CLASS 100	143	3' - 0"			8' - 0"	K	ANOD	ALUM	TEMP (AMBER)	A	ALUM		HW-CR01	SEE SPEC # 136116
CHASE B	144	3' - 0"			8' - 0"	K	ANOD	ALUM	TEMP (CLEAR)	A	ALUM		HW-CR01	SEE SPEC # 136116
CHASE C	146	3' - 0"			8' - 0"	K	ANOD	ALUM	TEMP (CLEAR)	A	ALUM		HW-CR01	SEE SPEC # 136116

HDR CUH2A
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REGISTERED ARCHITECT AHMAD M. SUHED No. 029969-1 STATE OF NEW YORK
9 APR 2010

JOB NO.	SHEET	NO.	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

BROOKHAVEN NATIONAL LABORATORY
UNDER CONTRACT WITH
UNITED STATES DEPARTMENT OF ENERGY
PLANT ENGINEERING DIVISION
UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING		DWG. TITLE: CLEAN ROOM ELEVATIONS	
ILR,GPP,LNI, HEM	DATE: 04/09/10	ACCT. NO.	SHEET OF
SCALE: As indicated	DWN. BY: Author / REV'D BY: Checker	JOB NO.: 079872	DWG. NO.
ESHQ RISK LEVEL	APP'D. BY: Approver	BLDG. NO.	QL - 210
FILENAME: 079872 QL - 210			

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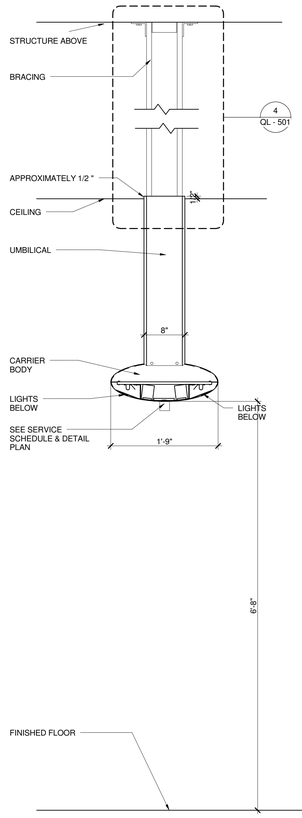
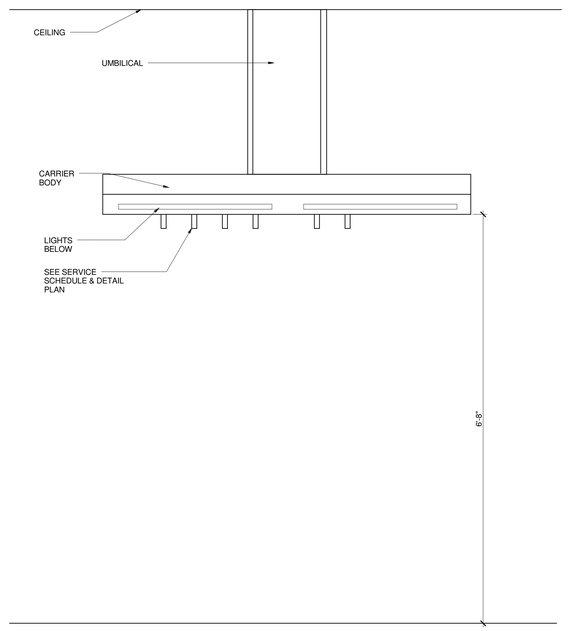


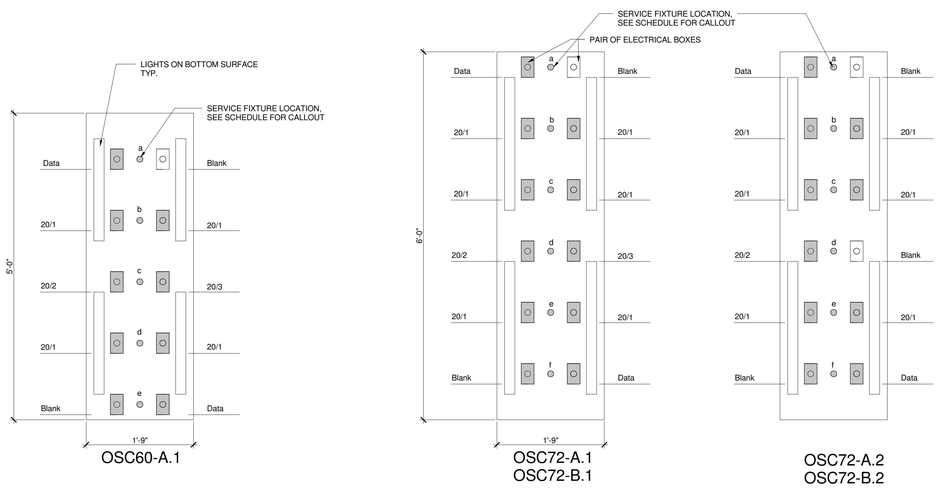
2 OVERHEAD SERVICE CARRIER SIDE ELEVATION
1" = 1'-0"



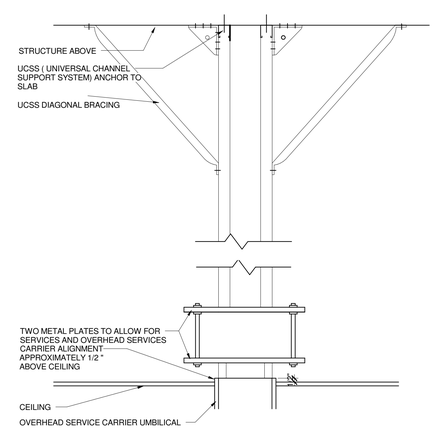
3 OVERHEAD SERVICE CARRIER FRONT ELEVATION
NTS

LABORATORY OVERHEAD SERVICE CARRIER SCHEDULE

ROOM NAME	RM #	OSC TYPE	PCW CONFIG	ELEC CONFIG	LENGTH	SERVICE FIXTURES a	b	c	d	e	f	ALTERNATE
FIRST												
SOLAR MAT. PROCESS	121	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
SOLAR MAT. PROCESS	121	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHEM. LAB	126	OSC72	A	2	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
CHEM. LAB	126	OSC72	A	1	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
CHEM. LAB	126	OSC60	A	1	5' - 0"	SG1-s	SG2-s	SG3-s	-	CDA-s	UN2-s	
MATERIAL/ CHARACTERIZATION	130	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
SAMPLE MEASUREMENT	133	OSC72	A	2	6' - 0"	SG1-s	Ar-s	VAC-s	FG1-s	UN2-s	CDA-s	
SAMPLE MEASUREMENT	133	OSC72	A	1	6' - 0"	SG1-h	Ar-h	VAC-h	FG1-s	UN2-s	CDA-s	
SAMPLE MEASUREMENT	133	OSC72	A	2	6' - 0"	SG1-s	Ar-s	VAC-s	FG1-s	UN2-s	CDA-s	
FURNACE ROOM	134	OSC72	A	2	6' - 0"	SG1-s	SG2-s	Ar-s	FG1-s	UN2-s	CDA-s	
FURNACE ROOM	134	OSC72	A	2	6' - 0"	SG1-s	SG2-s	FG1-s	FG2-s	UN2-s	CDA-s	
SYNTHESIS LAB	137	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
SYNTHESIS LAB	137	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTERIZATION LAB	138	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTERIZATION LAB	138	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTERIZATION LAB	138	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTERIZATION LAB	138	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTERIZATION LAB	138	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTERIZATION LAB	138	OSC72	B	1	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	
PREP. LAB	181	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
PREP. LAB	181	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
PREP. LAB	181	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
OPTICAL SPECTROSCOPY	182	OSC72	B	2	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	Alternate 3
OPTICAL SPECTROSCOPY	182	OSC72	B	1	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	Alternate 3
OPTICAL SPECTROSCOPY	182	OSC72	B	1	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	Alternate 3
OPTICAL SPECTROSCOPY	182	OSC72	B	2	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	Alternate 3
LASER LAB	184	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LASER LAB	184	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LASER LAB	184	OSC72	B	1	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	Alternate 3
LASER LAB	184	OSC72	B	2	6' - 0"	FG1-s	FG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	Alternate 3
SECOND												
CRYSTAL GROWTH	227	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	1	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	2	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	2	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	2	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	1	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	2	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	A	2	6' - 0"	SG1-s	SG2-s	SG3-s	SG4-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	B	2	6' - 0"	SG1-s	SG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	
GENERAL PURPOSE LAB	229	OSC72	B	1	6' - 0"	SG1-s	SG2-s	PCWS-s	PCWR-s	UN2-s	CDA-s	
BATTERY LAB	232	OSC72	A	2	6' - 0"	Ar-s	SG1-s	FG3-s	FG4-s	UN2-s	CDA-s	
BATTERY LAB	232	OSC72	A	1	6' - 0"	Ar-s	SG1-s	FG3-s	FG4-s	UN2-s	CDA-s	
BATTERY LAB	232	OSC72	A	2	6' - 0"	FG1-s	SG1-s	FG3-s	FG4-s	UN2-s	CDA-s	
BATTERY LAB	232	OSC72	B	1	6' - 0"	FG1-s	VAC-s	PCWS-s	PCWR-s	UN2-s	CDA-s	
LIQUID FUELS LAB	234	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LIQUID FUELS LAB	234	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LIQUID FUELS LAB	234	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LIQUID FUELS LAB	234	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LIQUID FUELS LAB	234	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LIQUID FUELS LAB	234	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
LASER RM	235	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
BIOFUEL PROCESS SCIENCE	237	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
BIOFUELS CHARACTERIZATION	238	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	Alternate 3
CHARACTER- IZATION	265	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTER- IZATION	265	OSC72	A	2	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
CHARACTER- IZATION	265	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
HYDRIDE SYNTHESIS	267	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	
HYDRIDE SYNTHESIS	267	OSC72	A	1	6' - 0"	Ar-s	VAC-s	FG1-s	FG4-s	UN2-s	CDA-s	
HYDRIDE SYNTHESIS	267	OSC72	A	2	6' - 0"	Ar-s	VAC-s	FG1-s	FG4-s	UN2-s	CDA-s	
HYDRIDE CHARACTERIZATION	268	OSC72	A	1	6' - 0"	FG1-s	FG2-s	FG3-s	FG4-s	UN2-s	CDA-s	



1 OVERHEAD SERVICE CARRIER - PLAN W/ SERVICE DETAILS
NTS



4 OVERHEAD SERVICE CARRIER - CEILING DETAIL
NTS

JOB NO.	SHEET NO.	REVISION	DATE	DWN.	APP'D.	QA
		ISSUE FOR BID	04/09/10			

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UPTON, NEW YORK 11973

JOB TITLE: INTERDISCIPLINARY SCIENCE BUILDING	DWG. TITLE: LAB EQUIPMENT DETAILS
ILR,GPP,LNI, HEM; DATE: 04/09/10; ACCT. NO.; SHEET OF	
SCALE: As indicated; DWN. BY: Author; REV'D BY: Checker; JOB NO.: 079872	DWG. NO. QL - 501
ESHQ RISK LEVEL; APP'D. BY: Approver; BLDG. NO.	
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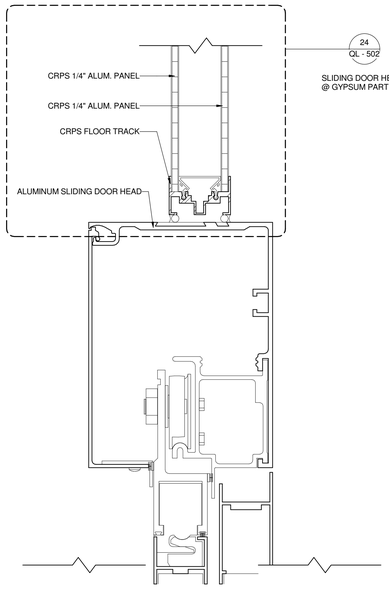
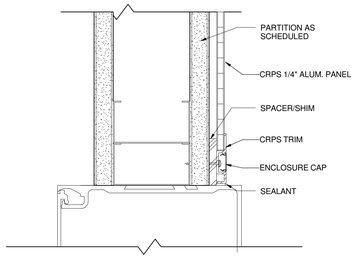
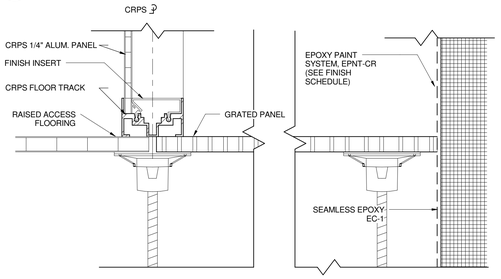


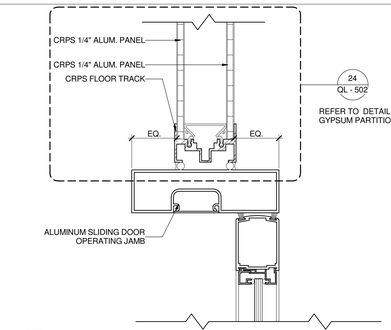
23 SLIDING DOORHEAD DETAIL @ PANEL
NTS



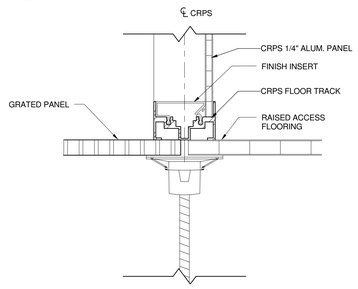
24 DOOR DETAIL @ GYPSUM PARTITION
6" = 1'-0"



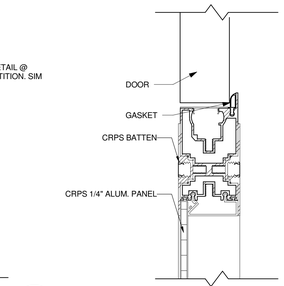
19 RETURN AIR CHASE @ FLOOR END CONDITION
6" = 1'-0"



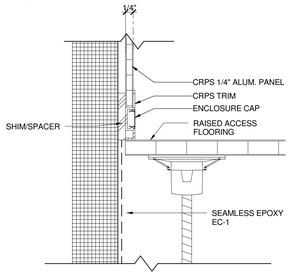
22 SLIDING DOOR JAMB DETAIL @ PANEL
6" = 1'-0"



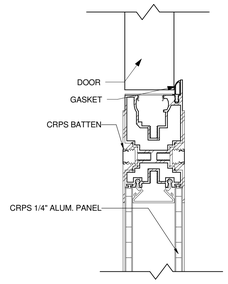
18 RETURN AIR CHASE @ FLOOR
6" = 1'-0"



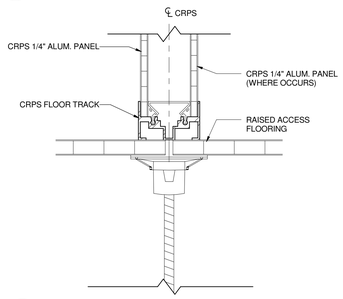
21 DOOR FRAME DETAIL-SINGLE PANEL
6" = 1'-0"



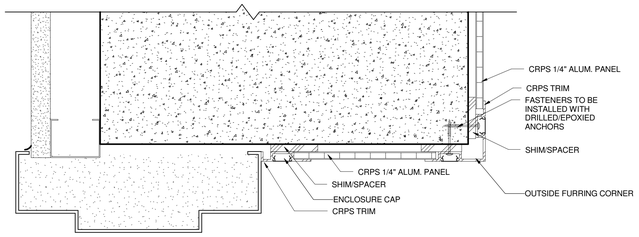
17 CRPS FURRING @ FLOOR
6" = 1'-0"



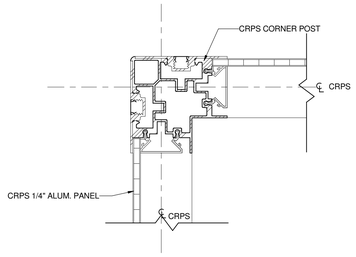
20 DOOR FRAME DETAIL-DOUBLE PANEL
6" = 1'-0"



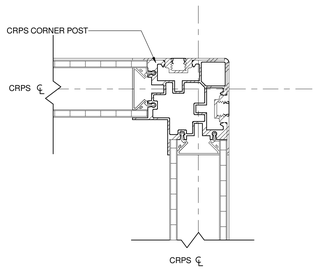
16 CRPS @ FLOOR
6" = 1'-0"



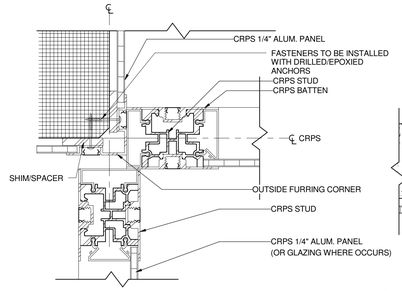
15 CRPS FURRING @ H.M. DOOR HEAD (JAMB SIM.)
6" = 1'-0"



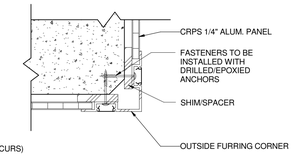
14 CRPS EXTERIOR CORNER
6" = 1'-0"



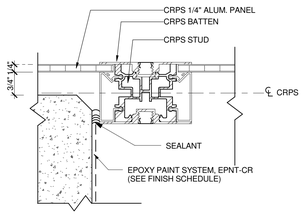
13 CRPS INTERIOR CORNER
6" = 1'-0"



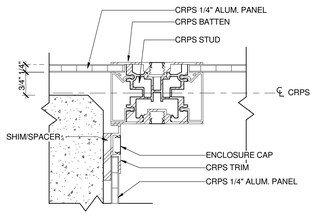
12 CRPS INT. CORNER TRANSITION
6" = 1'-0"



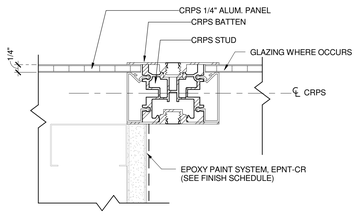
11 CRPS FURRING EXTERIOR CORNER
6" = 1'-0"



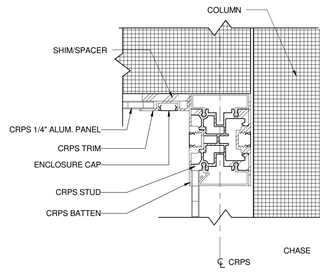
10A CRPS TRANSITION 03
6" = 1'-0"



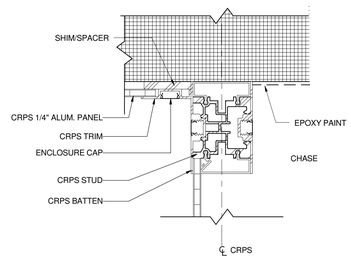
10 CRPS TRANSITION 02
6" = 1'-0"



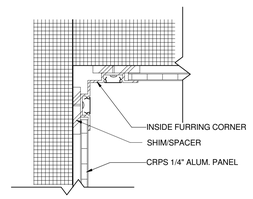
9 CRPS TRANSITION 01
6" = 1'-0"



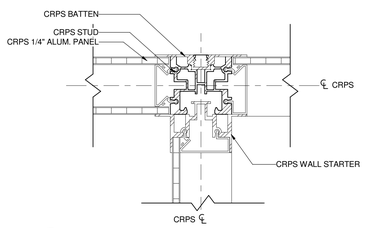
8A CRPS TRANSITION @ COLUMN
NTS



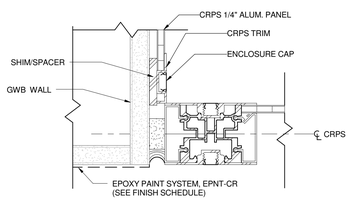
8 CRPS TRANSITION @ RAC
6" = 1'-0"



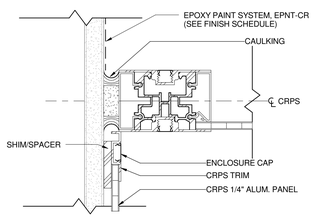
7 CRPS FURRING INTERIOR CORNER
NTS



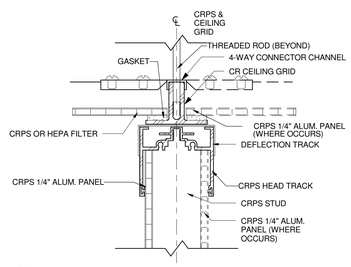
6 CRPS 3-WAY CONNECTION
6" = 1'-0"



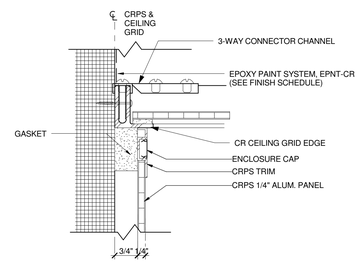
5 CRPS @ CORRIDOR WALL-02
6" = 1'-0"



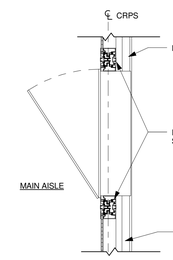
4 CRPS @ CORRIDOR WALL
6" = 1'-0"



3 CRCS CEILING @ CRPS
6" = 1'-0"



2 CRCS CEILING @ PERIMETER
6" = 1'-0"



1 EW PANEL SUPPORT
1 1/2" = 1'-0"

HDR CUH2A
1101 King Street | Suite 400 | Alexandria, Virginia 22314-2944 | 703.518.8500

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REGISTERED ARCHITECT AHMAD M. SUHEDI No. 029969-1 STATE OF NEW YORK
9 APR 2010

JOB NO.	SHEET	NO	REVISION	DATE	DWN.	APP'D.	QA
			ISSUE FOR BID	04/09/10			

BROOKHAVEN NATIONAL LABORATORY
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UNITED STATES DEPARTMENT OF ENERGY
PLANT ENGINEERING DIVISION
UPTON, NEW YORK 11973

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ILR,GPP,LNI, HEM	DATE: 04/09/10 · ACCT. NO. · SHEET OF
SCALE: As indicated	DWN. BY: Author · REV'D BY: Checker · JOB NO.: 079872 · DWG. NO.: QL - 502
ESHQ RISK LEVEL	APP'D. BY: Approver · BLDG. NO.
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