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A NASA SHEET SIZE: MSFC STD. SIZE 40" X 28"

LATEST CADD UPDATE:
BY:

Marshall Space Flight Center
Alabama , 35812

COMPOSITE LAB PLAN- OFOI-OPTION-2

NASA AE CONTRACT NO	NA 58-03062
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APPROVAL RECOMMENDED: ROBERT T. MATHIS	APPROVED:
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AD22 PROJECT A/E	VINCENT JAMES GUARIN	
APPROVAL RECOMMENDED:	AR22 GROUP LEAD	DATE:

ROBERT T. MATHIS AD22 SUPPORT A/E	DRAWING NO.
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APPROVAL RECOMMENDED:
ROBERT T. MATHIS

FAC - A - 4602 -

AD22 TEAM LEAD	
SPEC. NO. FAC	M5030

SHEET- 172

SIGNATURES ON INDEX SHEET INDICATE
ACCEPTANCE OF THIS SHEET

REF. NO. **Q150.3**
90 OF

MSFC-FORM 232 REV. 8-21-89-RCL

ONE LINE SYMBOLS	
	POWER FEEDER
	FUTURE FEEDER
	CIRCUIT BREAKER
	CIRCUIT BREAKER - INSULATED CASE
	CIRCUIT BREAKER - DRAW OUT TYPE
	CIRCUIT BREAKER - VACUUM TYPE
	NON-FUSED DISCONNECT SWITCH
	FUSE
	COMBINATION FUSED DISCONNECT SWITCH STARTER WITH NEMA SIZE SHOWN
	AUTO-TRANSFER SWITCH
	TRANSFORMER
	TRANSFORMER - SHIELDED, ISOLATION
	MOTOR - (5 HORSEPOWER)
	DELTA-WYE CONNECTION
	DELTA-DELTA CONNECTION
	METER AS NOTED
	GENERATOR
	CONTACTOR COIL
	MANUAL KEY INTERLOCK
	TRANSFORMER THERMAL RELAY
	TRANSFORMER LIQUID PRESSURE RELAY
	TIME OVERCURRENT RELAY WITH INSTANTANEOUS ATTACHMENT
	INSTANTANEOUS OVERCURRENT RELAY: LETTER DENOTES THE LOCATION OF THE MAIN DEVICE IN THE CIRCUIT, OR THE TYPE OF CIRCUIT IN WHICH THE DEVICE IS USED, OR THE TYPE OF CIRCUIT OR APPARATUS WITH WHICH IT IS ASSOCIATED. G = GROUND N = NEUTRAL
	TIME OVERCURRENT RELAY: LETTER DENOTES THE LOCATION OF THE MAIN DEVICE IN THE CIRCUIT, OR THE TYPE OF CIRCUIT IN WHICH THE DEVICE IS USED, OR THE TYPE OF CIRCUIT OR APPARATUS WITH WHICH IT IS ASSOCIATED. G = GROUND N = NEUTRAL
	POTHEAD
	LIGHTNING ARRESTOR
	TRANSIENT VOLTAGE SURGE SUPPRESSOR

PLAN SYMBOLS	
	TELECOMMUNICATION TERMINAL BOARD (TTB)
	COMBINATION TELEPHONE/DATA JUNCTION BOX (W/BUSHED HOLE COVER)
TELEPHONE & DATA SUBSCRIPTS: W = WALL SINGLE GANG OUTLET BOX MTD. 54" AFF TO CENTER OF OUTLET + = OUTLET BOX MTD. 6" ABOVE COUNTER UON	
	COMBINATION TELEPHONE/DATA OUTLET - FLOOR MOUNTED
	(W/BUSHED HOLE COVER) CEILING CLOCK - WITH CLOCK AS SPECIFIED
	WALL CLOCK - WITH CLOCK AS SPECIFIED
	CLOCK HANGER OUTLET - WALL OUTLET
	TIME CLOCK
	MICROPHONE OUTLET - WALL MOUNTED (W/BUSHED HOLE COVER)
	INTERCOM OUTLET - WALL MOUNTED (W/BUSHED HOLE COVER)
	TELEVISION OUTLET - WALL MOUNTED (W/BUSHED HOLE COVER)
	SPEAKER VOLUME CONTROL
	HORN
	BUZZER
	CARD READER ROUGH-IN
	CAMERA ROUGH-IN

	HORN
	BUZZER
	CARD READER ROUGH-IN
	CAMERA ROUGH-IN

PLAN SYMBOLS	
	FIRE ALARM MANUAL STATION
	FIRE ALARM HORN WITH VISUAL * = SUBSCRIPT DENOTES CANDELA RATING OTHER THAN 15cd C = SUBSCRIPT DENOTES CEILING MOUNTED DEVICE
	VISUAL STROBE LIGHT (FIRE) * = SUBSCRIPT DENOTES CANDELA RATING OTHER THAN 15cd C = SUBSCRIPT DENOTES CEILING MOUNTED DEVICE
	FIRE ALARM SPEAKER WITH VISUAL UNIT WALL MOUNTED
	FIRE ALARM SPEAKER WITH VISUAL UNIT CEILING MOUNTED
	FIREMAN'S PHONE
	JACK HEAT DETECTOR
	SMOKE DETECTOR SUBSCRIPT DENOTES LOCATION: D = DUCT(SUPPLY/RETURN) F = UNDERFLOOR (BLANK) = CEILING OR STRUCTURE MAGNETIC DOOR RELEASE
	INTERFACE MODULE SUBSCRIPT DENOTES: G = CONTROL INTERFACE MODULE (SHUTDOWN) M = MONITOR INTERFACE MODULE (STATUS)
	PHOTO-BEAM DETECTOR SUBSCRIPT DENOTES: T = TRANSMITTER R = RECEIVER
	INFRARED ULTRASONIC MOTION SENSOR
	ULTRASONIC OCCUPANCY SENSOR
	PRESSURE SWITCH (BY DIVISION 15)
	FLOW SWITCH (BY DIVISION 15)
	TAMP SWITCH (BY DIVISION 15)
	EMERGENCY POWER OFF (EPO)
	EMERGENCY DOOR RELEASE PUSHBUTTON
	START/STOP PUSHBUTTON
	CARD READER
	PUSHBUTTON
	SECURITY SYSTEM DOOR LOCK (BY DIVISION 15)
	SINGLE DOOR ALARM DEVICE
	DOUBLE DOOR ALARM DEVICE
	CONTACT ELECTRIC DOOR
	STRIKE CCTV CAMERA
	GROUND ROD WITHOUT ENCLOSURE
	GROUND ROD WITH ENCLOSURE
	EXOTHERMIC WELDED CONNECTION
	SECTION MARKER - APEX OF TRIANGLE SHOWS VIEWING DIRECTION
	KEYNOTE IDENTIFICATION, NUMBER IDENTIFIES NOTE REFERENCED

WA	WALL TYPE OCCUPANCY SENSOR (WATTSTOPPER #WA-200 PASSIVE INFRARED (PIR) SENSOR WALL MOUNTED SWITCH OR APPROVED EQUAL)
TS	DIGITAL TIME SWITCH OCCUPANCY SENSOR (WATTSTOPPER #TS-400 DIGITAL TIME SWITCH DR APPROVED EQUAL WALL MOUNTED)
	WALL TYPE OCCUPANCY SENSOR (WATTSTOPPER #WPIR WALL MOUNTED PASSIVE INFRARED SENSOR OR APPROVED EQUAL)
	WALL TYPE OCCUPANCY SENSOR (WATTSTOPPER #CX-100 WALL MOUNTED PASSIVE INFRARED SENSOR OR APPROVED EQUAL)
	WALL TYPE OCCUPANCY SENSOR (WATTSTOPPER #DT-200 WALL MOUNTED DUAL TECHNOLOGY PASSIVE INFRARED AND ULTRASONIC SENSOR OR APPROVED EQUAL)
	CEILING TYPE OCCUPANCY SENSOR (WATTSTOPPER #WT-600 CEILING MOUNTED ULTRASONIC SENSOR OR APPROVED EQUAL)
	CEILING TYPE OCCUPANCY SENSOR (WATTSTOPPER #WT-1100 CEILING MOUNTED ULTRASONIC SENSOR OR APPROVED EQUAL)
	CEILING TYPE OCCUPANCY SENSOR (WATTSTOPPER #WT-2200 CEILING MOUNTED ULTRASONIC SENSOR OR APPROVED EQUAL)
	CEILING TYPE OCCUPANCY SENSOR (WATTSTOPPER #WT-2250 CEILING MOUNTED ULTRASONIC SENSOR OR APPROVED EQUAL)
PS	INDOOR PHOTOELECTRIC SWITCH (WATTSTOPPER #LS-190C CEILING MOUNTED PASSIVE INFRARED SENSOR OR APPROVED EQUAL)

	TYPICAL FIXTURE LABELING: A DENOTES FIXTURE TYPE Q DENOTES LIGHT SWITCH CONTROL
	LIGHT FIXTURE WITH EMERGENCY BATTERY PACK - NOT TO BE SWITCHED
	HID OR FLUORESCENT DOWNLIGHT FIXTURE CEILING OR PENDANT MOUNTED
	HID OR FLUORESCENT DOWNLIGHT FIXTURE WALL MOUNTED
	FLUORESCENT FIXTURE CEILING, PENDANT OR ARCHITECTURAL COVE MOUNTED
	FLUORESCENT FIXTURE WALL MOUNTED
	EMERGENCY LIGHTING UNIT
	TRACK LIGHT WITH OUTLET BOX AND TRACK MOUNTED LIGHT FIXTURES AS NOTED ON PLANS
	EXIT LIGHT - ARROWS INDICATE DIRECTION OF EXIT WHERE NOTED ON PLANS (WALL AND CEILING MOUNTED)

	SPST TOGGLE SWITCH COMPLETE WITH DEVICE PLATE	
	SWITCH SWITCH DENOTES:	
	"L"= LIGHTING CONTROL	
	"2"= DPST (2-POLE)	
	"3"= SPDT (3-WAY)	
	"4"= DPDT (4-WAY)	
	"D"= DIMMER SWITCH (1500W LOH)	
	"P"= SWITCH WITH PILOT LIGHT	
	"M"= MANUAL MOTOR STARTER WITH THERMAL OVERLOADS	
	"ME"= MANUAL MOTOR STARTER WITH THERMAL OVERLOADS PROVIDED WITH EQUIPMENT	
	"L"= SWITCH WITH KEY LOCKING COVER	
	"LV"=LOW VOLTAGE SWITCH	
<hr/>		
	DUPLEX RECEPTACLE-125V 2P/3W(GROUND)	NEMA#5-20R
	DUPLEX RECEPTACLE-125V 2P/3W WITH ISOLATED GROUND	
	QUAD RECEPTACLE-125V 2P/3W(GROUND)	NEMA#5-20R
	SINGLE RECEPTACLE-125V 2P/3W(GROUND)	NEMA#5-20R
	COMBINATION SINGLE RECEPTACLE AND SWITCH WITH PILOT LIGHT	NEMA#5-20R
	SINGLE RECEPTACLE-125/250V 3P/4W(GROUND)	NEMA#14-20R
	SINGLE RECEPTACLE-600V 3P/4W(GROUND) RE: DRAWINGS FOR NEMA DESIGNATION	
	SINGLE RECEPTACLE-SPECIAL PURPOSE RE: DRAWINGS FOR NEMA DESIGNATION	
	FLOOR RECEPTACLE-DUPLEX,125V 2P/3W	NEMA#5-20R
	FLOOR RECEPTACLE-DUPLEX,125V 2P/3W WITH ISOLATED GROUND	
	FLOOR RECEPTACLE-SINGLE, 125V 2P/3W	NEMA#5-20R
	FLOOR RECEPTACLE QUAD-125V 2P/3W	NEMA#5-20R
	FLOOR RECEPTACLE-SINGLE SPECIAL RE: DRAWINGS FOR NEMA DESIGNATION	
RECEPTACLE & JUNCTION BOX SUBSTITIONS:		
	+ = OUTLET MTD. 6" ABOVE COUNTER UNO.	
	* = OUTLET MTD. 6" ABOVE COUNTER UNO.	
	C = OUTLET MTD. FLUSH IN CEILING	
	I = OUTLET PIEDestal MTD.	
	S = SURGE SUPPRESSION RECEPTACLE	
	TL = TWISTLOCK RECEPTACLE	
	JUNCTION BOX WITH COVER	
	JUNCTION BOX CAST IN FLOOR WITH COVER	
	POKE THRU SLAB DEVICE	
	MODULAR WIRING MAIN DISTRIBUTION BOX	
	MODULAR WIRING SECONDARY DISTRIBUTION BOX	
	MODULAR WIRING ACCESS FLOOR MODULE	

\\Hq-08a\Hq-08a\Projects\06 16009.00 NASA 4602\1-Const\Construct Replacement Building 4602\Sheets\Electrical\6 Enlarged Plans\E611 ENLARGED PLANS.dwg 6/6/2008 2:48:31 PM RYLEY.POBLETE

EM40 RM1132 IONICS LAB 3.1.69 EQUIPMENT SCHEDULE							
ELECTRICAL DESIGNATION	LAB DESIGNATION	EQUIPMENT DESCRIPTION	PANEL CIRCUIT No.	WIRING & CONDUIT	CONNECTION TYPE	MOUNTING HEIGHT	REMARKS
E01	EM40 3.1.69-1	FUME HOOD (2)					NOTE 1
E02	EM40 3.1.69-2	EXPLOSION PROOF REFRIGERATOR					NOTE 1
E03	EM40 3.1.69-3	COOLING BATH					NOTE 1
E04	EM40 3.1.69-4	WATER STILL					NOTE 1
E05		ROTARY EVAPORATOR					NOTE 1
E06		VACUUM OVEN					NOTE 1
E07		FORCED AIR DRYING OVEN					NOTE 1
E08		ROTARY EVAPORATOR					NOTE 1
E09		UNDERCOUNTER GLASS WASHER					NOTE 1
E10		UV CURING SYSTEM					NOTE 1
E11		AV-VIB SPECTROMETER					NOTE 1

NOTE 1: BRANCH CIRCUITS FROM PANELBOARDS TO LAB EQUIPMENT SHOWN ON THIS SCHEDULE ARE NOT IN CONTRACT (TO BE PROVIDED BY OTHERS).

EM30 RM1130 SEM/TEM PREP ROOM 3.1.32 EQUIPMENT SCHEDULE							
ELECTRICAL DESIGNATION	LAB DESIGNATION	EQUIPMENT DESCRIPTION	PANEL CIRCUIT No.	WIRING & CONDUIT	CONNECTION TYPE	MOUNTING HEIGHT	REMARKS
E12	EM30 3.1.32-1	DIMPLER					NOTE 1
E13	EM30 3.1.32-2	ION MILL					NOTE 1
E14	EM30 3.1.32-3	OSMIUM PLASMA COATER					NOTE 1
E15	EM30 3.1.32-4	FUME HOOD					NOTE 1
E16	EM30 3.1.32-5	VACUUM DESSICATOR					NOTE 1
E17	EM30 3.1.32-6	VAC SPUTTER COATERS					NOTE 1
E18	EM30 3.1.32-7	ULTRASONIC CLEANER					NOTE 1

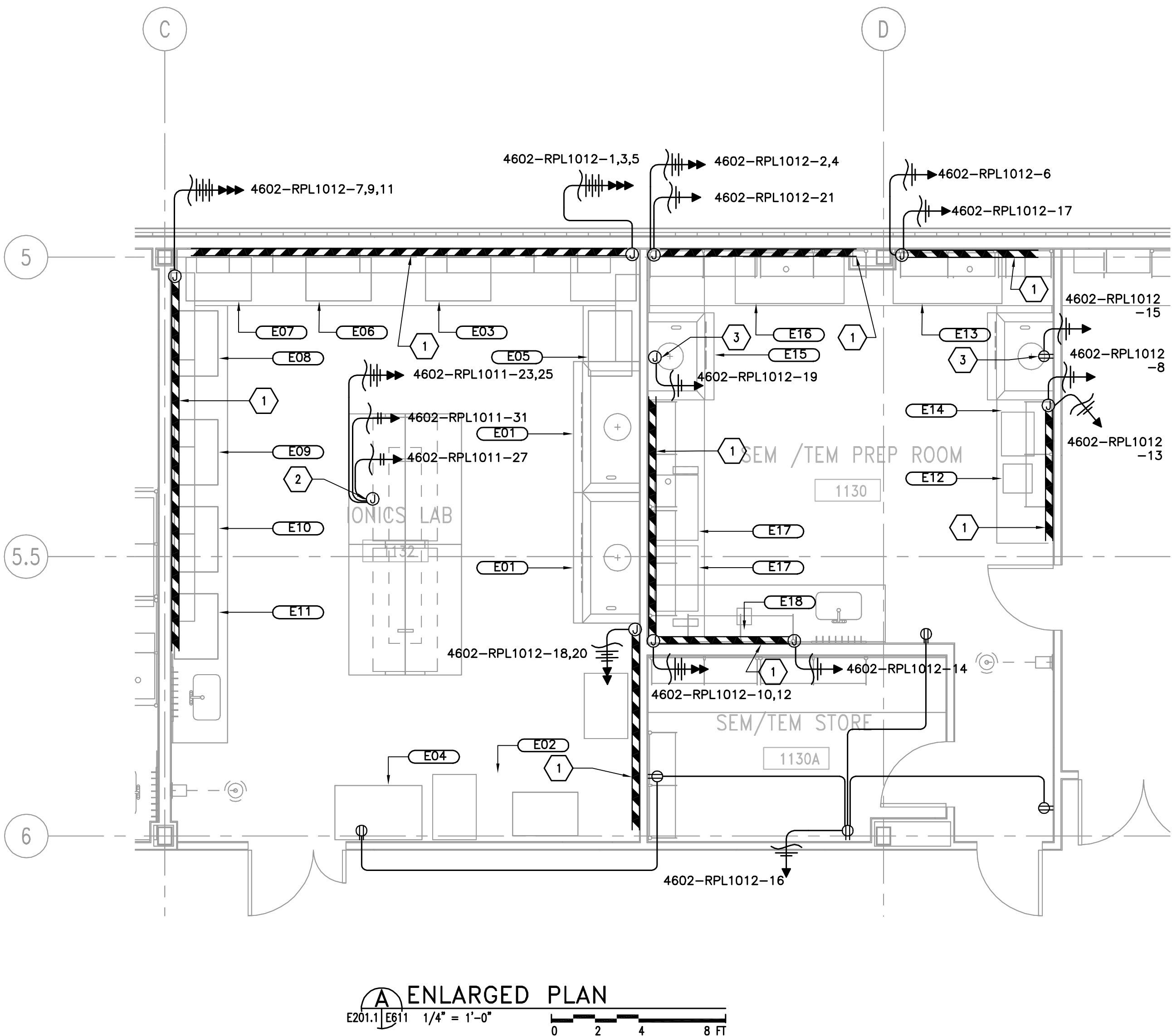
NOTE 1: BRANCH CIRCUITS FROM PANELBOARDS TO LAB EQUIPMENT SHOWN ON THIS SCHEDULE ARE NOT IN CONTRACT (TO BE PROVIDED BY OTHERS).

GENERAL NOTES:

1. REFER TO E001 FOR ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.

KEY NOTES:

- 1 WIREMOLD G4000 OR EQUAL DUAL CHANNEL RACEWAY SERVING BOTH POWER AND TELECOM. PROVIDE A DUPLEX RECEPTACLE 2'-0" ON CENTER UNLESS OTHERWISE NOTED PROVIDE GFI TYPE RECEPTACLE WHEN LOCATED WITHIN 6'-0" OF A SINK.
- 2 JUNCTION BOX LOCATED ABOVE CEILING FOR SERVICE CARRIER. REFER TO ARCHITECTURAL LAB EQUIPMENT DRAWINGS FOR EXACT LOCATION OF SERVICE CARRIERS.
- 3 COORDINATE MOUNTING REQUIREMENTS WITH FUMEHOOD SUPPLIER.



ENLARGED PLAN
E201.1 E611 1/4" = 1'-0" 0 2 4 8 FT

WARNING

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BY: _____

06/11/08

REV.	BY	DATE	REVISION	C.I. NO.	APPROVED
06-11-08 FOR CONSTRUCTION					
CONSTRUCT REPLACEMENT BUILDING 4602 ENLARGED PLANS					
AE FIRM: HELLMUTH, OBATA, + KASSABAUM, Inc.				NASA AE CONTRACT NO. NAS8-03083	
SUBMITTED: SAADEDINE DIMACHKIEH		APPROVAL RECOMMENDED: ROBERT L. MATHIS AE22 PROJECT M/E		APPROVED: VINCENT JAMES GUARIN	
AE: DATE: 06-11-08		APPROVAL RECOMMENDED: DENNIS FOSTER AE22 SUPPORT M/E		AE22 GROUP LEAD DATE:	
DESIGNED: A. ALMANZA		APPROVAL RECOMMENDED: MARK HENDERSON AE22 TEAM LEAD		DRAWING NO. FAC-A-4602-E611	
DRAWN: R. POBLETE		SPECS. NO.: FAC M5030		SHEET 342 OF 445	
CHECKED: S. DIMACHKIEH					

SIGNATURES ON INDEX SHEET INDICATE
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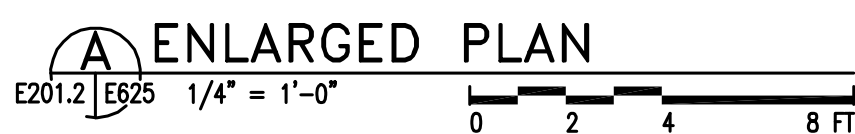
REF. NO.
E611 40 OF 81

SCALE: 1/4"=1'-0"

NOTE 1: BRANCH CIRCUITS FROM PANELBOARDS TO LAB EQUIPMENT SHOWN ON THIS SCHEDULE ARE NOT IN CONTRACT (TO BE PROVIDED BY OTHERS).

1. REFER TO E001 FOR ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. PROVIDE DUPLEX ON RACEWAY EVERY 12" ON CENTER.
3. PROVIDE GFI OUTLET IN RACEWAY WHEN WITHIN 72" OF SINK.

- 1 WIREMOLD G4000 OR EQUAL DUAL CHANNEL RACEWAY SERVING BOTH POWER AND TELECOM. PROVIDE A DUPLEX RECEPTACLE 2'-0" ON CENTER UNLESS OTHERWISE NOTED PROVIDE GFI TYPE RECEPTACLE WHEN LOCATED WITHIN 6'-0" OF A SINK.
- 2 REFER TO ARCHITECTURAL LAB PLANS FOR EXACT LOCATION.



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BY: _____



06/11/08



Marshall Space Flight Center

Alabama, 35812

06-11-08
FOR CONSTRUCTION

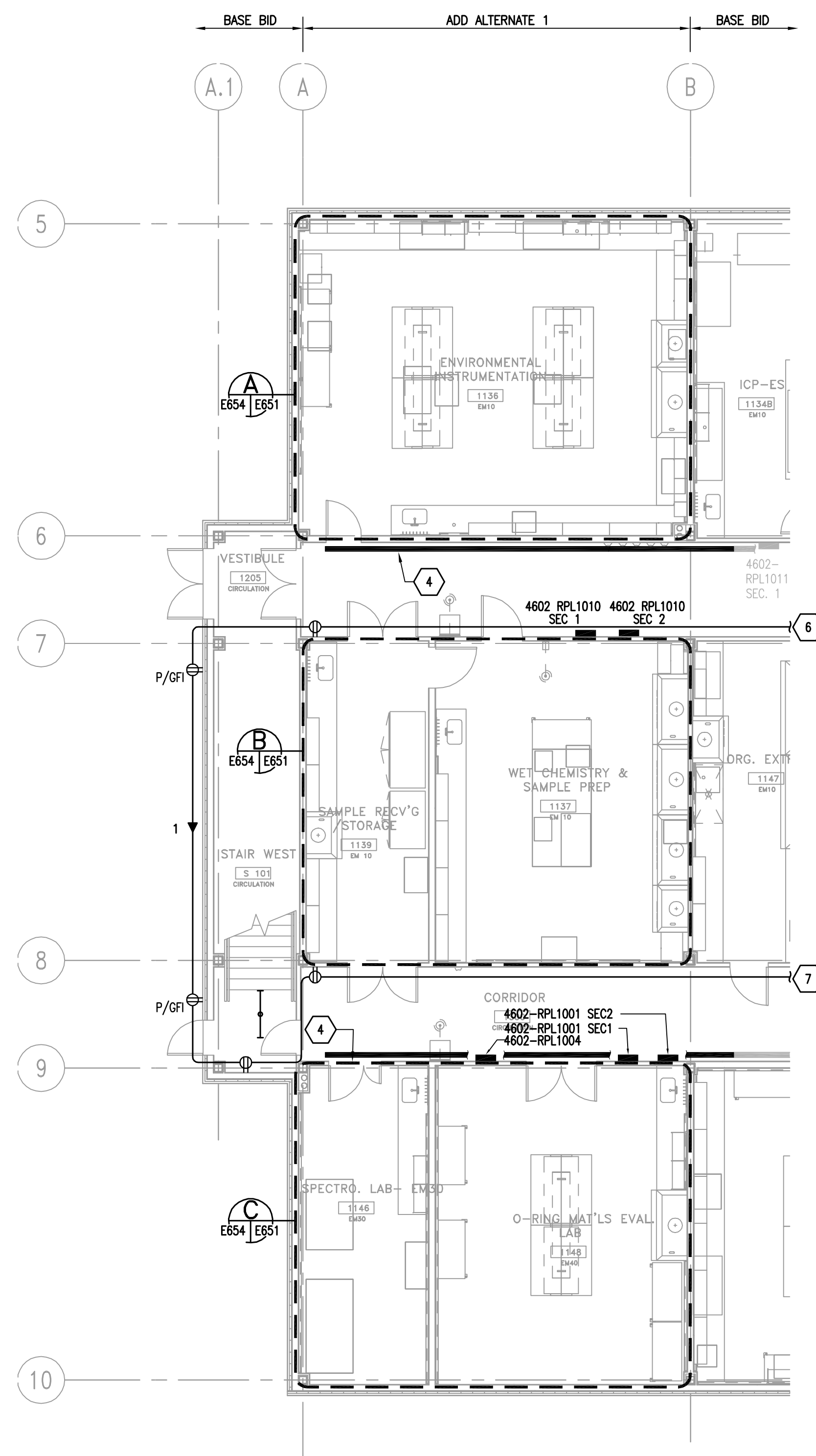
CONSTRUCT REPLACEMENT

BUILDING 4602

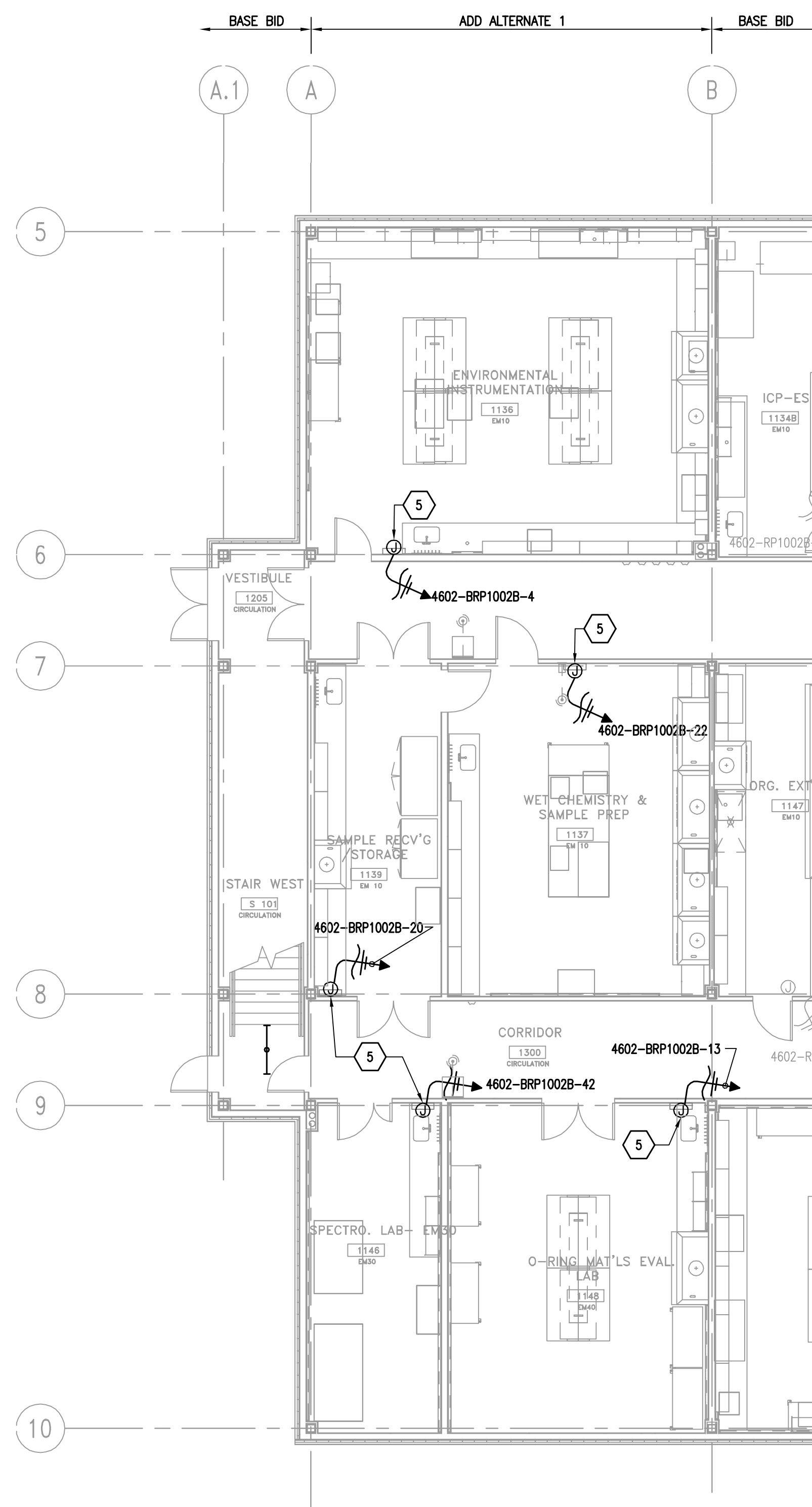
ENLARGED PLANS

<p style="font-weight: bold; margin: 0;">AE FIRM: HELLMUTH, OBATA, + KASSABAUM, Inc.</p>	<p style="font-size: 0.8em; margin: 0;">NASA AE CONTRACT NO. NASH-0-3083</p>
<p style="font-size: 0.8em; margin: 0;">SUBMITTED: SADEDDINE DIMACHKIEH</p> <p style="font-size: 0.8em; margin: 0;">AE: DATE: 06-11-08</p> <p style="font-size: 0.8em; margin: 0;">DESIGNED A. ALMANZA</p> <p style="font-size: 0.8em; margin: 0;">DRAWN R. POBLETE</p> <p style="font-size: 0.8em; margin: 0;">CHECKED S. DIMACHKIEH</p> <p style="font-size: 0.8em; margin: 0;">SCALE: 1/4"=1'-0"</p>	<p style="font-size: 0.8em; margin: 0;">APPROVAL RECOMMENDED: ROBERT T. MATTHEWS AD22 PROJECT A/E</p> <p style="font-size: 0.8em; margin: 0;">APPROVAL RECOMMENDED: DENNIS FOSTER AD22 SUPPORT A/E</p> <p style="font-size: 0.8em; margin: 0;">APPROVAL RECOMMENDED: MARK HENDERSON AD22 TEAM LEAD</p> <p style="font-size: 0.8em; margin: 0;">SPEC. NO. FAC M5030</p>
<p style="font-size: 0.8em; margin: 0;">APPROVED: VINCENT JAMES GUARIN</p> <p style="font-size: 0.8em; margin: 0;">AB22 GROUP LEAD DATE: _____</p> <p style="font-size: 1.2em; margin: 0;">DRAWING NO.</p> <p style="font-size: 1.2em; margin: 0;">FAC-A-4602-E625</p>	

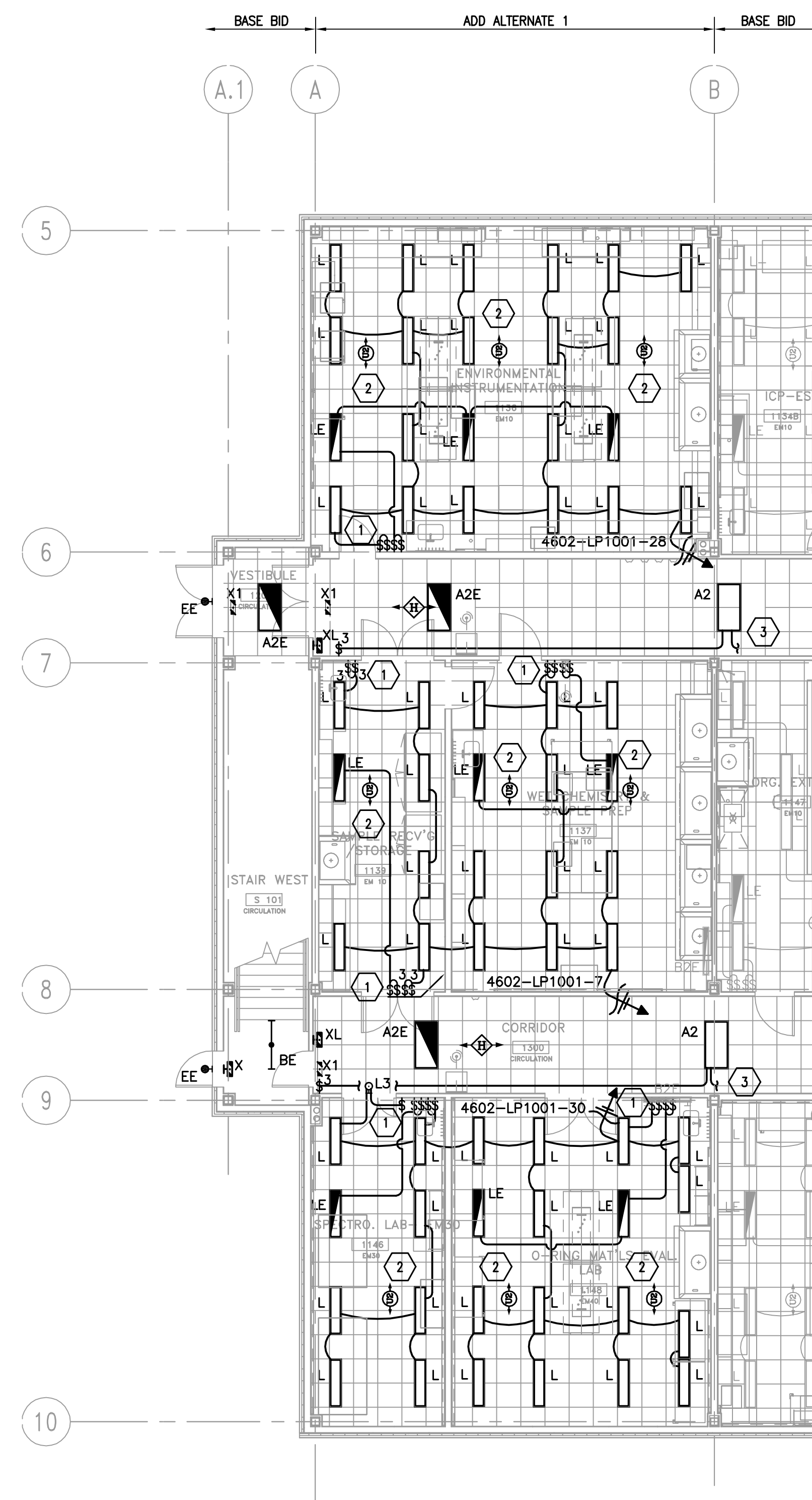
445
445



(A) POWER PLAN - LEVEL 1 - OPTION 1



(B) HVAC POWER PLAN – LEVEL 1 – OPTION 1



C LIGHTING PLAN - LEVEL 1 - OPTION 1



GENERAL NOTES:

1. REFER TO E001 FOR ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. REFER TO E801 AND E802 FOR LIGHTING FIXTURE SCHEDULE.
3. ALL SHADED LIGHT FIXTURES IN CORRIDORS, LEVEL 1 STAIRS, REST ROOMS, ELECTRICAL ROOMS AND TELECOM ROOMS TO BE CIRCUITED TO '4602-ELP1001-2'
4. ALL SHADED FIXTURES TYPE 'LE' AND 'BE' IN LABS FROM COLUMN LINES A/5 TO BB/6 TO BE CIRCUITED TO '4602-ELP1001-4'.
5. ALL SHADED FIXTURES TYPE 'LE' IN LABS FROM COLUMN LINES AA/7 TO G/8 TO BE CIRCUITED TO '4602-ELP1001-6'.
6. ALL SHADED FIXTURES TYPE 'LE' IN LABS FROM AA/9 TO G/10 TO BE CIRCUITED TO '4602-ELP1001-3'.
7. ALL EXTERIOR LIGHT FIXTURES TYPE 'EE' TO BE CIRCUITED TO '4602-ELP1001-9'.
8. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EQUIPMENT LOCATIONS.

KEY NOTES:

1. NORMAL AND EMERGENCY SWITCHES TO BE MOUNTED IN SEPARATE SINGLE GANG BOXES EACH WITH THEIR OWN FACE PLATE. ALIGN TOP AND BOTTOM OF SWITCHES.
2. OCCUPANCY SENSOR TO BE PROVIDED WITH A FORM C RELAY FOR CONNECTION TO LCS.
3. EXTEND WIRING TO NEXT CORRIDOR FIXTURE A2.
4. 80A BUSSWAY RE:12/E901 FOR BUSSWAY MOUNTING DETAIL.
5. LCS PANEL. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT.
6. CONTINUE CIRCUIT 4602-RP1002-1.
7. CONTINUE CIRCUIT 4602-RP1002-3.

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BY:

06/11/08

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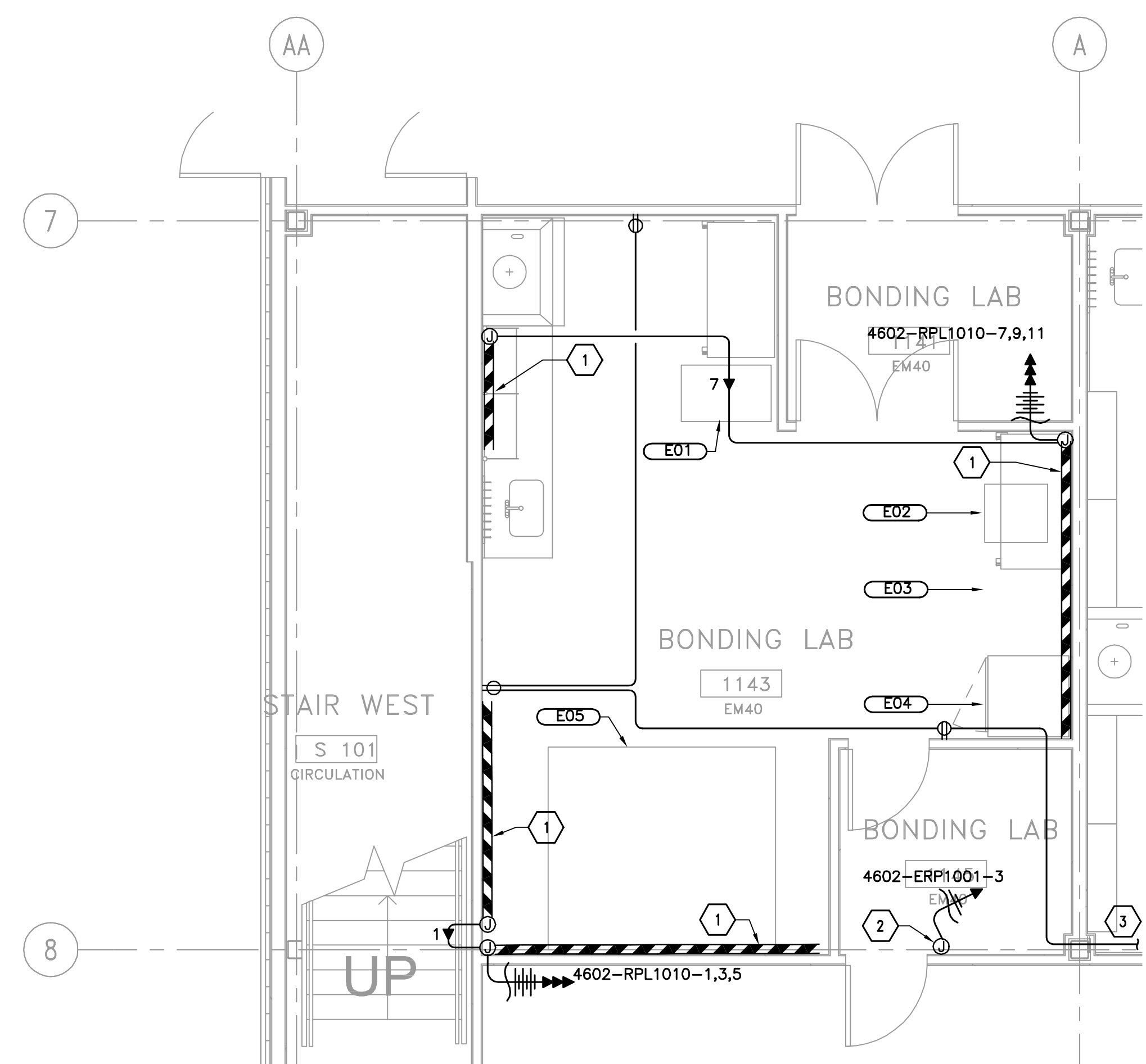
SIGNATURES ON INDEX SHEET INDICATE
ACCEPTANCE OF THIS SHEET

REF. NO. 56

E651

55 OF 81

SCALE: $1/8" = 1' - 0"$



A ENLARGED PLAN - OPTION 2

EM40 RM1143 BONDING LAB 3.1.71 EQUIPMENT SCHEDULE							
ELECTRICAL DESIGNATION	LAB DESIGNATION	EQUIPMENT DESCRIPTION	PANEL CIRCUIT No.	WIRING & CONDUIT	CONNECTION TYPE	MOUNTING HEIGHT	REMARKS
E01	EM40 3.1.71-X	VACUUM SYSTEM					NOTE 1
E02	EM40 3.1.71-X	VACUUM MIXER					NOTE 1
E03	EM40 3.1.71-X	REFRIGERATOR					NOTE 1
E04	EM40 3.1.71-X	FREEZER					NOTE 1
E05	EM40 3.1.71-X	OVEN					NOTE 1

GENERAL NOTES:

1. REFER TO E001 FOR ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.

KEY NOTES:

- 1 WIREMOLD G4000 OR EQUAL DUAL CHANNEL RACEWAY SERVING BOTH POWER AND TELECOM. PROVIDE A DUPLEX RECEPTACLE 1'-0" ON CENTER UNLESS OTHERWISE NOTED PROVIDE GFI TYPE RECEPTACLE WHEN LOCATED WITHIN 6'-0" OF A SINK.
- 2 PROVIDE JUNCTION BOX FOR OXYGEN SENSOR.
- 3 WIRE RECEPTACLES TO 4602-RPL1010-19.

		<h2 style="margin: 0;">WARNING</h2> <hr/> <p style="font-size: 1.2em; margin: 5px 0;">DO NOT SCALE THIS DRAWING</p> <hr/> <p style="font-size: 0.8em; margin: 5px 0;">THIS DRAWING WAS DESIGNED TO BE PRINTED AT A NASA SHEET SIZE: MSFC STD. SIZE 40" X 28"</p>																						
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		06/11/08																						
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REV.	BY	DATE	REVISION	C.I. NO.	APPROVED																			
 <h1 style="margin: 0;">Marshall Space Flight Center Alabama, 35812</h1>																								
06-11-08 FOR CONSTRUCTION																								
<h2 style="margin: 0;">CONSTRUCT REPLACEMENT BUILDING 4602</h2> <h3 style="margin: 0;">ENLARGED PLANS – OPTION 2</h3>																								
AE FIRM: HELLMUTH, OBATA, + KASSABAUM, Inc. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">SUBMITTED:</th> <th style="width: 50%;">APPROVAL RECOMMENDED:</th> <th style="width: 40%;">APPROVED:</th> </tr> </thead> <tbody> <tr> <td>SAADEDINE DIMACHKIEH</td> <td>ROBERT T. MATHIS AD22 PROJECT A/E</td> <td>VINCENT JAMES GUARIN</td> </tr> <tr> <td>AE: DATE: 06-11-08</td> <td>DENNIS FOSTER AD22 SUPPORT A/E</td> <td>AB22 GROUP LEAD: DATE:</td> </tr> <tr> <td>DESIGNED A. ALMANZA</td> <td>APPROVAL RECOMMENDED:</td> <td rowspan="3" style="text-align: center; vertical-align: middle;"> <h2 style="margin: 0;">DRAWING NO.</h2> <h3 style="margin: 0;">FAC - E-4602-E665</h3> </td> </tr> <tr> <td>DRAWN J. KLAIBER</td> <td>MARK HENDERSON AD22 TEAM LEAD</td> </tr> <tr> <td>CHECKED S. DIMACHKIEH</td> <td></td> </tr> <tr> <td>SCALE: 1/4"=1'-0"</td> <td>SPEC. NO. FAC M5030</td> <td style="text-align: right; font-weight: bold;">SHEET 367 OF 44</td> </tr> </tbody> </table>				SUBMITTED:	APPROVAL RECOMMENDED:	APPROVED:	SAADEDINE DIMACHKIEH	ROBERT T. MATHIS AD22 PROJECT A/E	VINCENT JAMES GUARIN	AE: DATE: 06-11-08	DENNIS FOSTER AD22 SUPPORT A/E	AB22 GROUP LEAD: DATE:	DESIGNED A. ALMANZA	APPROVAL RECOMMENDED:	<h2 style="margin: 0;">DRAWING NO.</h2> <h3 style="margin: 0;">FAC - E-4602-E665</h3>	DRAWN J. KLAIBER	MARK HENDERSON AD22 TEAM LEAD	CHECKED S. DIMACHKIEH		SCALE: 1/4"=1'-0"	SPEC. NO. FAC M5030	SHEET 367 OF 44		
SUBMITTED:	APPROVAL RECOMMENDED:	APPROVED:																						
SAADEDINE DIMACHKIEH	ROBERT T. MATHIS AD22 PROJECT A/E	VINCENT JAMES GUARIN																						
AE: DATE: 06-11-08	DENNIS FOSTER AD22 SUPPORT A/E	AB22 GROUP LEAD: DATE:																						
DESIGNED A. ALMANZA	APPROVAL RECOMMENDED:	<h2 style="margin: 0;">DRAWING NO.</h2> <h3 style="margin: 0;">FAC - E-4602-E665</h3>																						
DRAWN J. KLAIBER	MARK HENDERSON AD22 TEAM LEAD																							
CHECKED S. DIMACHKIEH																								
SCALE: 1/4"=1'-0"	SPEC. NO. FAC M5030	SHEET 367 OF 44																						



- 1 3/4" COLD WATER DOWN TO BELOW SLAB TO SERVE P-13C.
- 2 1/2" COLD WATER FROM TPV DOWN TO BELOW SLAB TO SERVE FLOOR DRAIN(S).
- 3 1/2" COLD AND HOT WATER DOWN TO SERVE SINK(S); 2" WASTE DOWN TO BELOW SLAB AND 2" VENT UP.
- 4 2" TEMPERED WATER DOWN; PROVIDE 1/2" CONNECTION TO EYEWASH AT SINK AND 1/4" TO EMERGENCY SHOWER/EYEWASH; CONTINUE 2" TEMPERED WATER UP AND OFFSET ABOVE CEILING.
- 5 2" TEMPERED WATER DOWN; PROVIDE 1/2" CONNECTION TO EYEWASH AT SINK; CONTINUE 2" TEMPERED WATER UP AND OFFSET ABOVE CEILING.
- 6 2" TEMPERED WATER DOWN; PROVIDE 1-1/4" CONNECTION TO EMERGENCY SHOWER/EYEWASH; CONTINUE 2" TEMPERED WATER UP AND OFFSET ABOVE CEILING.
- 7 1/2" COLD WATER DOWN TO OWNER FURNISHED EQUIPMENT.
- 8 1/2" COLD WATER FROM TPV-1 DOWN TO BELOW SLAB TO SERVE P-9E.
- 9 2" COLD WATER AND 3/4" HOT WATER DOWN TO SERVE FIXTURES.
- 10 3/4" COLD WATER AND 1/2" HOT WATER DOWN TO SERVE FIXTURES.
- 11 1/2" COLD WATER DOWN TO SERVE FIXTURE.
- 12 1" COLD WATER DOWN TO RP2 BELOW AND UP TO OFFSET ABOVE CEILING.
- 13 3" WASTE AND VENT WITH 2" P-TRAP FOR HOOD WASHDOWN DRAIN.
- 14 1/2" COLD WATER DOWN TO OUTLET AT CUP SINK IN HOOD.
- 15 6" STORM AND OVERFLOW DRAIN FROM ABOVE.
- 16 6" OVERFLOW DRAIN DOWN, TERMINATE OVERFLOW DRAIN THRU WALL WITH DOWNSPOUT NOZZLE AT 12" ABOVE FINISHED FLOOR.
- 17 6" STORM DRAIN DOWN TO BELOW SLAB.
- 18 2" WASTE AND VENT.
- 19 2" VENT FROM BELOW.
- 20 3/4" COLD WATER UP TO PENTHOUSE.
- 21 OCCURS OPTION 1 ONLY.

06/11/0

AE FIRM: HELLMUTH, OBATA, + KASSABAUM, Inc.		NASA AE CONTRACT NO. N85A-03063	
SUBMITTED: GARY MARSH	APPROVAL RECOMMENDED: ROBERT J. MATTHEWS A222 PROJECT A/E	APPROVED: VINCENT JAMES GUARIN	
AE DATE: 08-11-08	APPROVAL RECOMMENDED: DENNIS FOSTER A222 SUPPORT A/E	APPROVAL RECOMMENDED: PHILLIP HENDRIX A222 TEAM LEAD	
DESIGNED G. MARSH DRAWN J. SAVINO CHECKED G. MARSH	SPEC. NO. FAC M5030	DRAWING NO. FAC-A-4602-P403	
SCALE: NTS	SHEET 413 OF 445		

REF. NO. **P403** 22 OF 39