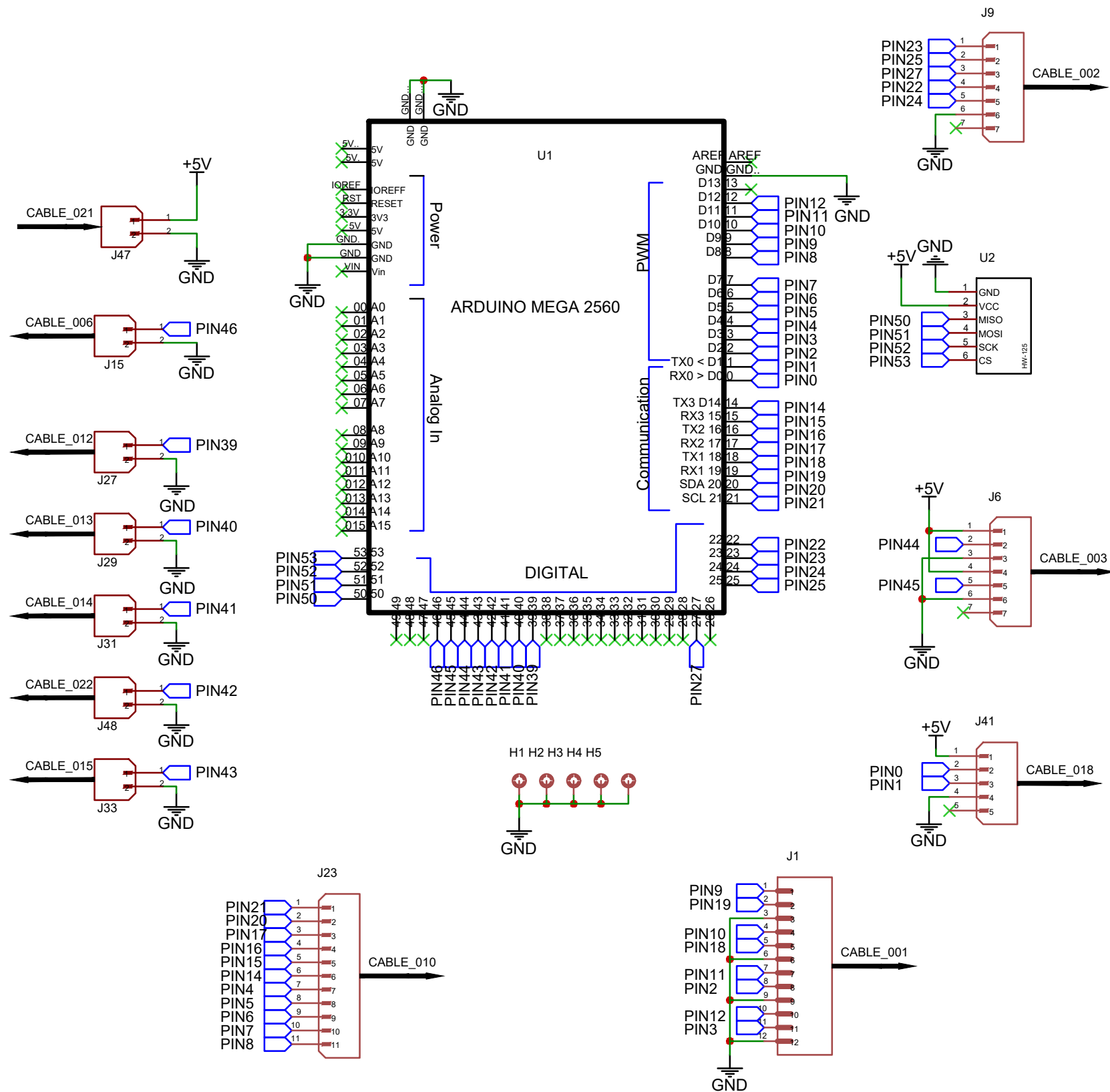
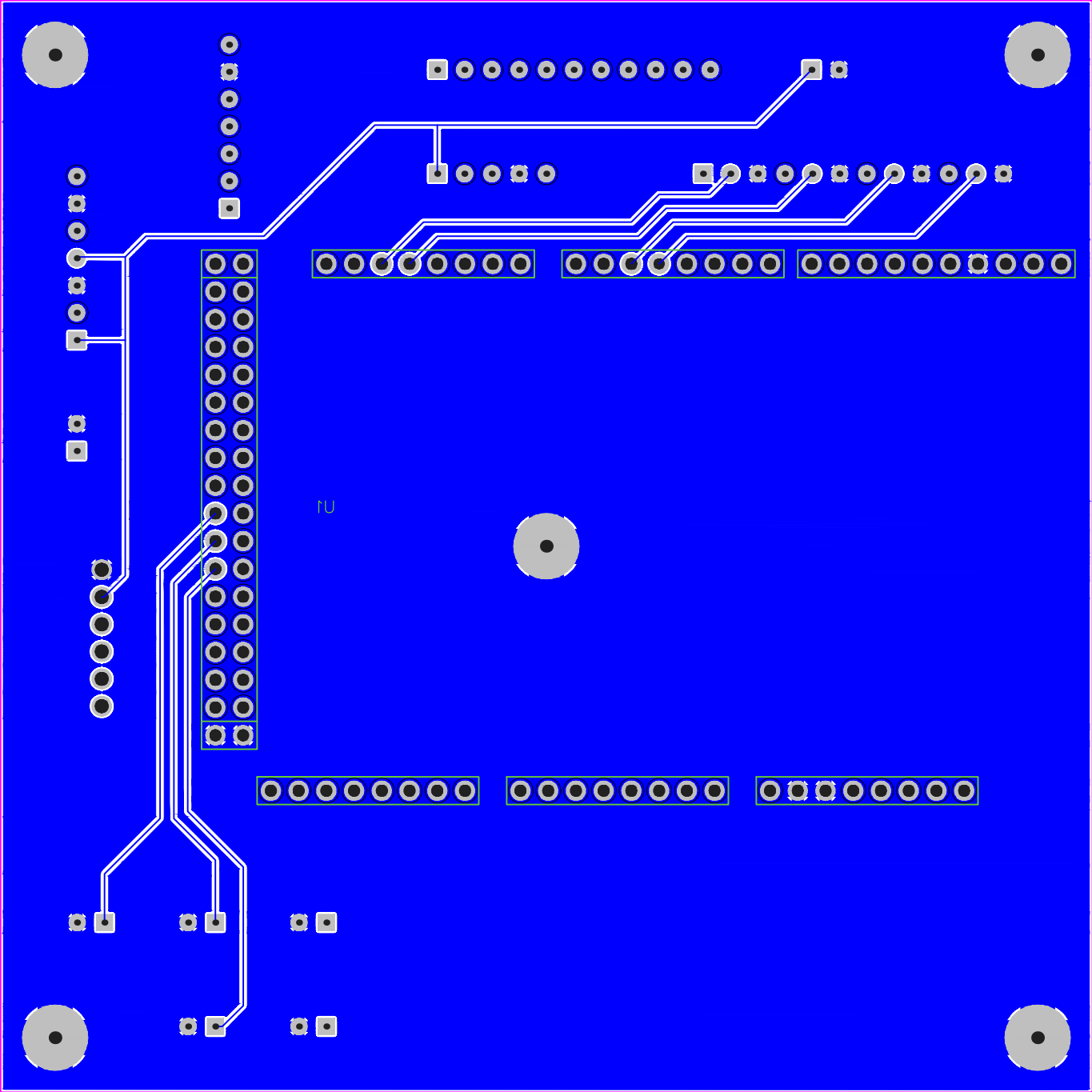
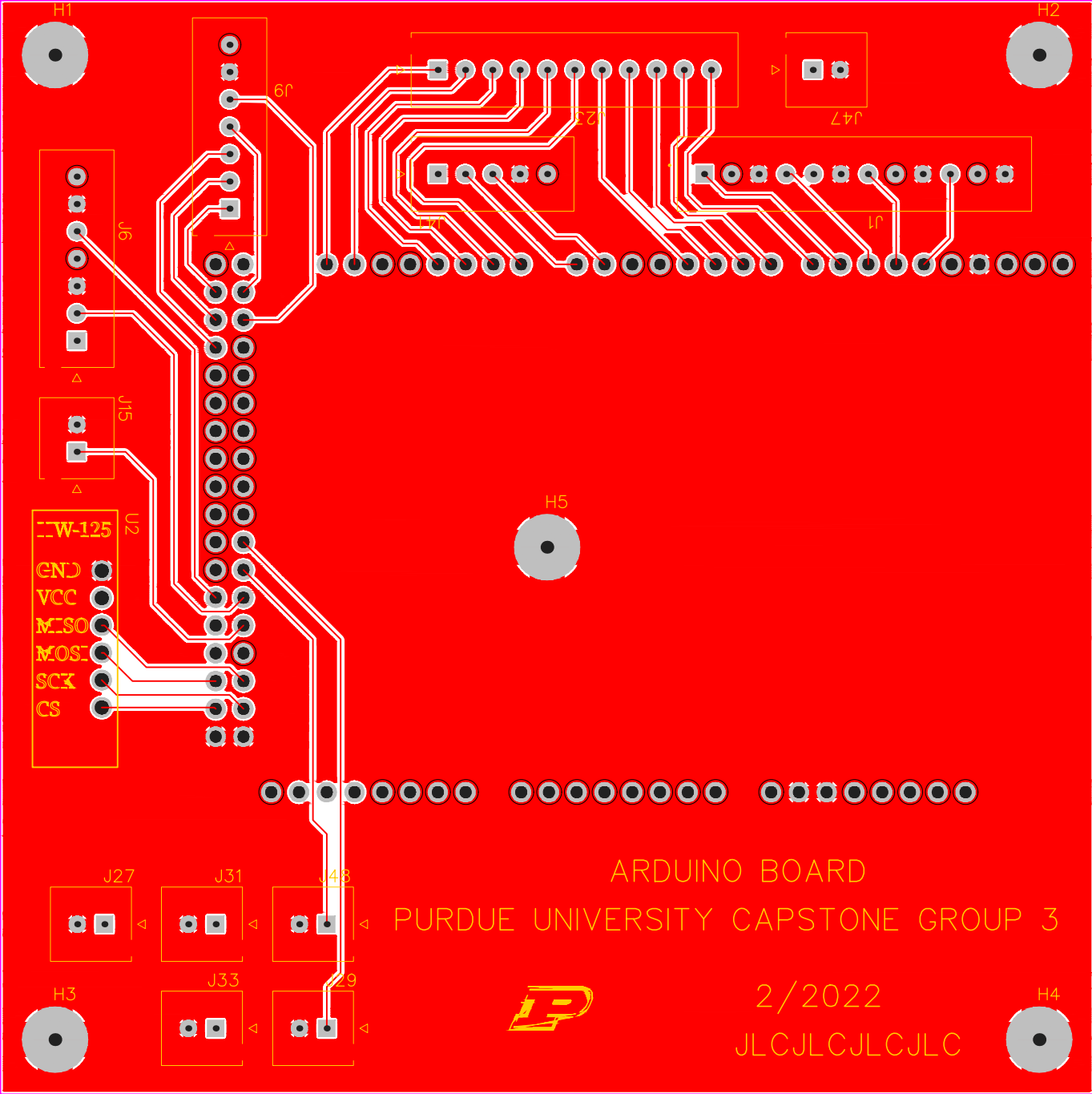


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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	2/8/22	SM
01	GATE 5 PCB UPDATE	3/04/22	SM



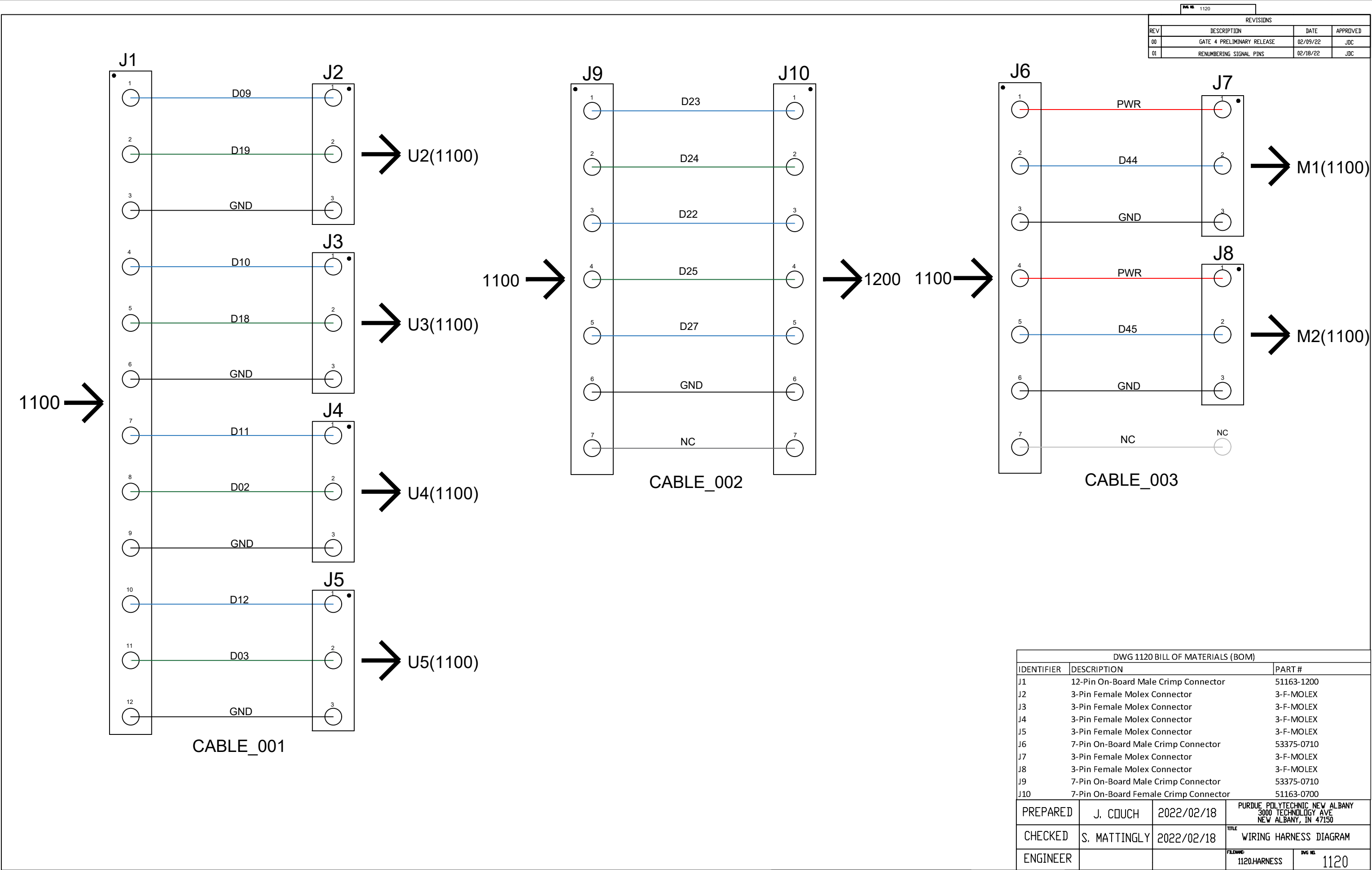
DWG 1100 BILL OF MATERIALS (BOM)			
IDENTIFIER	DESCRIPTION	PART #	
U1	ARDUINO MEGA2560 ATMEGA2560	A000067	
U2	MICROSD CARD MODULE FOR ARDUINO	DFR0229	
J1	CONN HEADER VERT 12POS 2.5MM	533751210	
J23	CONN HEADER VERT 11POS 2.5MM	533751110	
J6	CONN HEADER VERT 7POS 2.5MM	533750710	
J9	CONN HEADER VERT 7POS 2.5MM	533750710	
J41	CONN HEADER VERT 5POS 2.5MM	533750510	
J15	CONN HEADER VERT 2POS 2.5MM	533750210	
J47	CONN HEADER VERT 2POS 2.5MM	533750210	
J27	CONN HEADER VERT 2POS 2.5MM	533750210	
J29	CONN HEADER VERT 2POS 2.5MM	533750210	
J31	CONN HEADER VERT 2POS 2.5MM	533750210	
J48	CONN HEADER VERT 2POS 2.5MM	533750210	
J33	CONN HEADER VERT 2POS 2.5MM	533750210	
H1	Hex Standoff Threaded M2.5	971050154	
H2	Hex Standoff Threaded M2.5	971050154	
H3	Hex Standoff Threaded M2.5	971050154	
H4	Hex Standoff Threaded M2.5	971050154	
U3	CUSTOM JLC PCB	JLC01	
CABLE_001	REFERENCE DRAWING 1120		
CABLE_002	REFERENCE DRAWING 1120		
CABLE_003	REFERENCE DRAWING 1120		
CABLE_006	REFERENCE DRAWING 1121		
CABLE_010	REFERENCE DRAWING 1121		
CABLE_012	REFERENCE DRAWING 1121		
CABLE_013	REFERENCE DRAWING 1122		
CABLE_014	REFERENCE DRAWING 1122		
CABLE_015	REFERENCE DRAWING 1122		
CABLE_018	REFERENCE DRAWING 1122		
CABLE_021	REFERENCE DRAWING 1123		
CABLE_022	REFERENCE DRAWING 1123		
PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150
CHECKED	S. MATTINGLY	2021/02/25	TITLE ARDUINO SHIELD ON-BOARD SCHEMATIC
ENGINEER			FILENAME: 1100.DWG DWG NO. 1100

REV. 1101			
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	2/8/22	SM
01	GATE 5 PCB UPDATE	3/04/22	SM



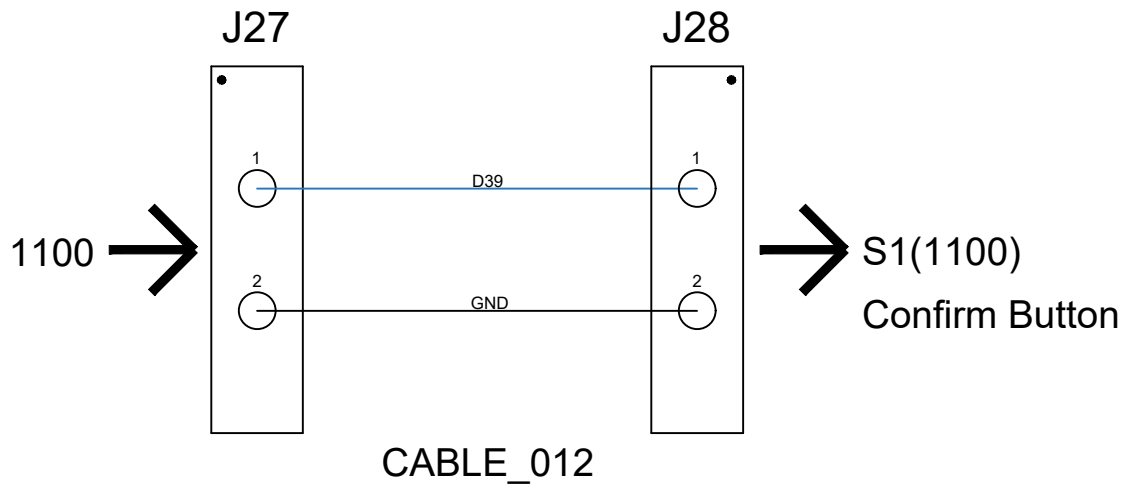
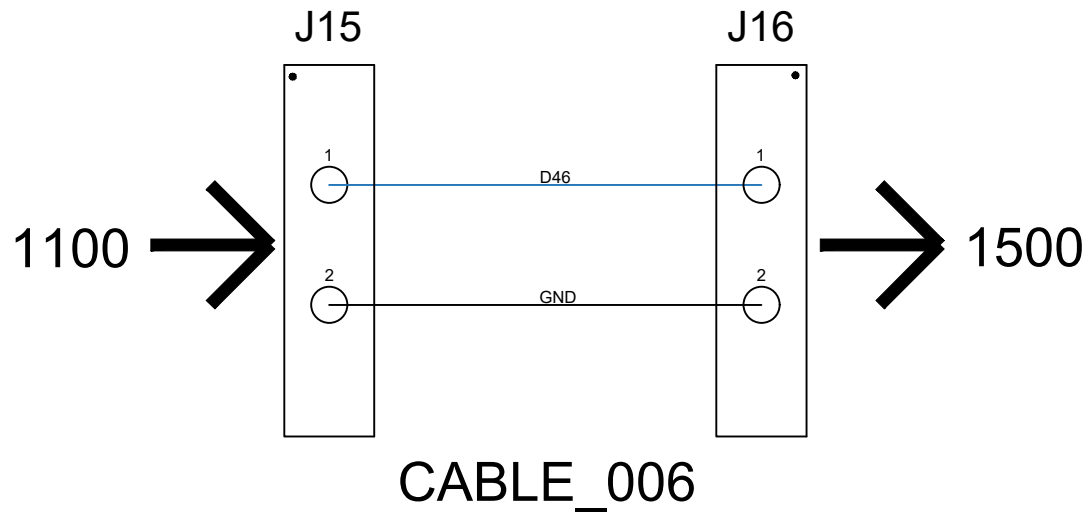
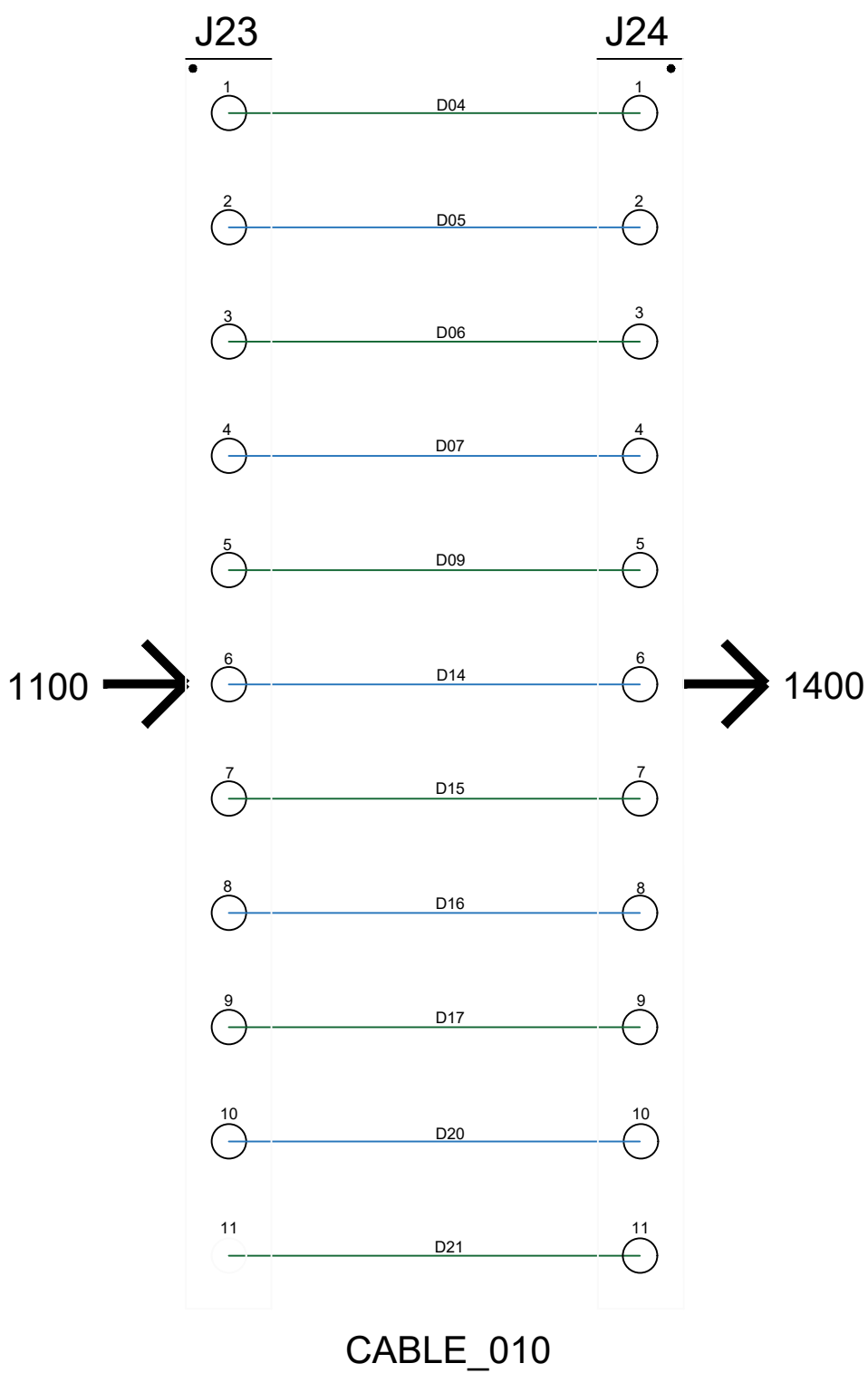
BOTH SIDES OF PCB ARE SOLID  
COPPER LAYER NET TIED TO GND

PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE ARDUINO MEGA 2560 PCB LAYOUT	
ENGINEER			FILENAME: 1101.ARDUINO	DWG NO. 1101



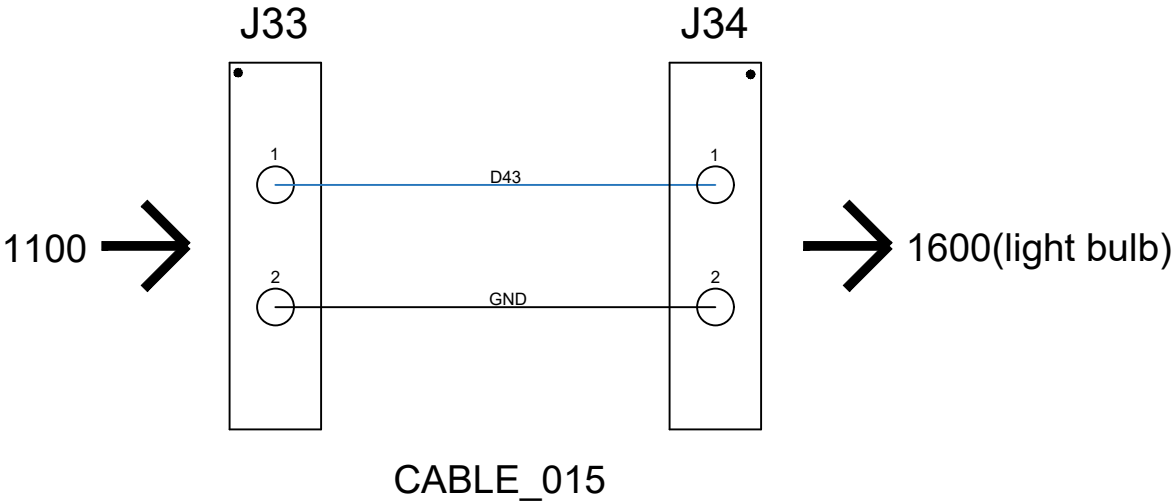
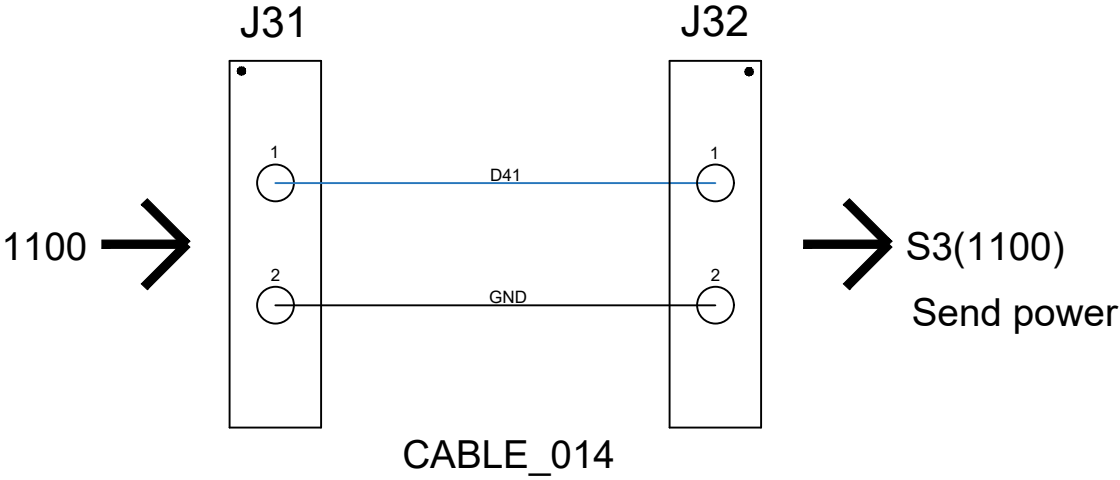
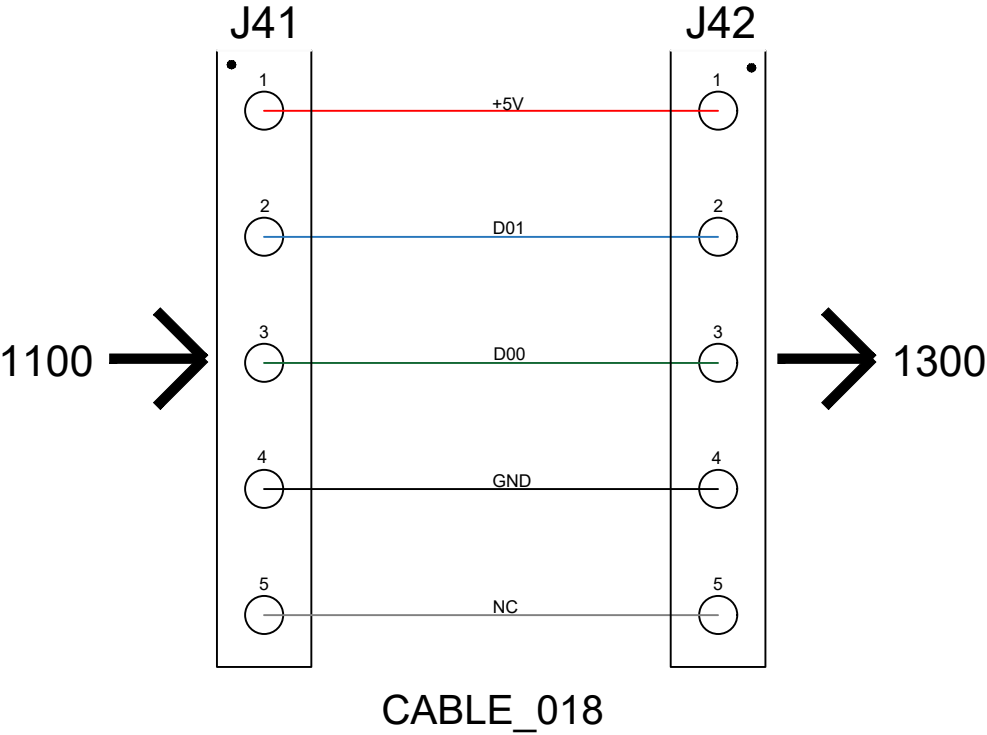
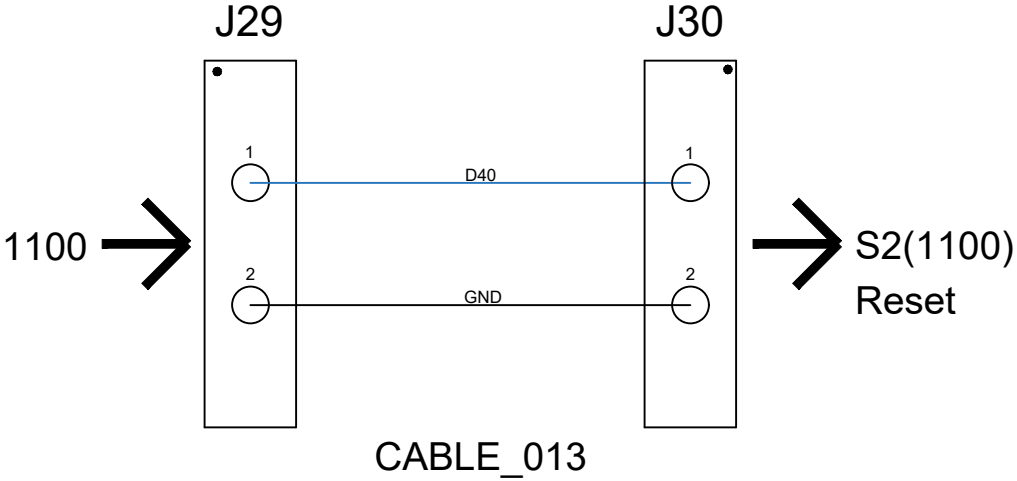
DWG 1120 BILL OF MATERIALS (BOM)			
IDENTIFIER	DESCRIPTION	PART #	
J1	12-Pin On-Board Male Crimp Connector	51163-1200	
J2	3-Pin Female Molex Connector	3-F-MOLEX	
J3	3-Pin Female Molex Connector	3-F-MOLEX	
J4	3-Pin Female Molex Connector	3-F-MOLEX	
J5	3-Pin Female Molex Connector	3-F-MOLEX	
J6	7-Pin On-Board Male Crimp Connector	53375-0710	
J7	3-Pin Female Molex Connector	3-F-MOLEX	
J8	3-Pin Female Molex Connector	3-F-MOLEX	
J9	7-Pin On-Board Male Crimp Connector	53375-0710	
J10	7-Pin On-Board Female Crimp Connector	51163-0700	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150
CHECKED	S. MATTINGLY	2022/02/18	TITLE WIRING HARNESS DIAGRAM
ENGINEER			FILENAME 1120.HARNESS
			DWG NO. 1120

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	02/8/22	JDC
01	RENUMBERING SIGNAL PINS	02/18/22	JDC



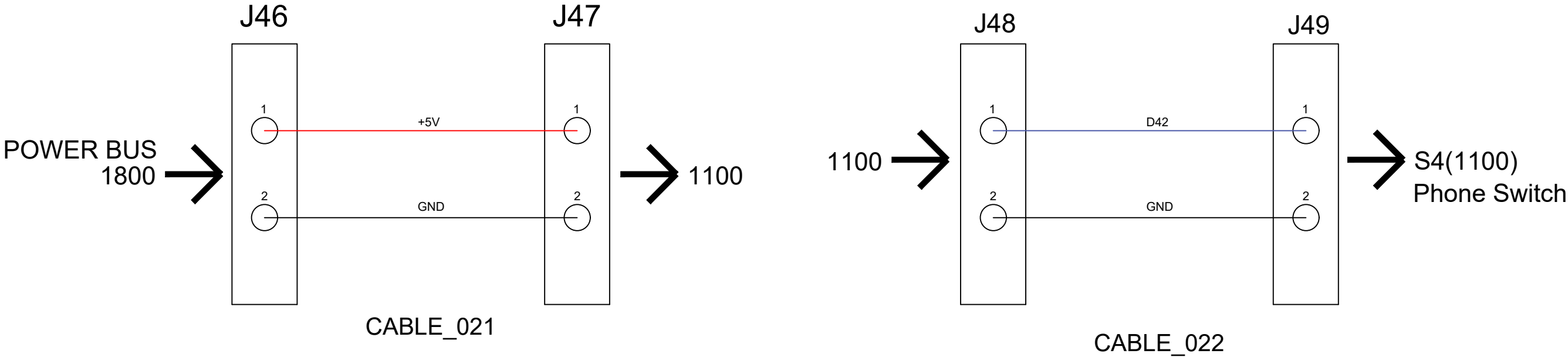
DWG 1121 BILL OF MATERIALS (BOM)				
IDENTIFIER	DESCRIPTION		PART #	
J15	2-Pin On-Board Male Crimp Connector		53375-0210	
J16	2-Pin Female Molex Connector		2-F-MOLEX	
J23	11-Pin On-Board Male Crimp Connector		53375-1210	
J24	11-Pin Female Molex Connector		11-F-MOLEX	
J27	2-Pin On-Board Male Crimp Connector		53375-0210	
J28	2-Pin Female Molex Connector		2-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM	
ENGINEER			FILENAME: 1100.ARDUINO	DWG NO. 1121

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	02/8/22	JDC
01	RENUMBERING SIGNAL PINS	02/18/22	JDC



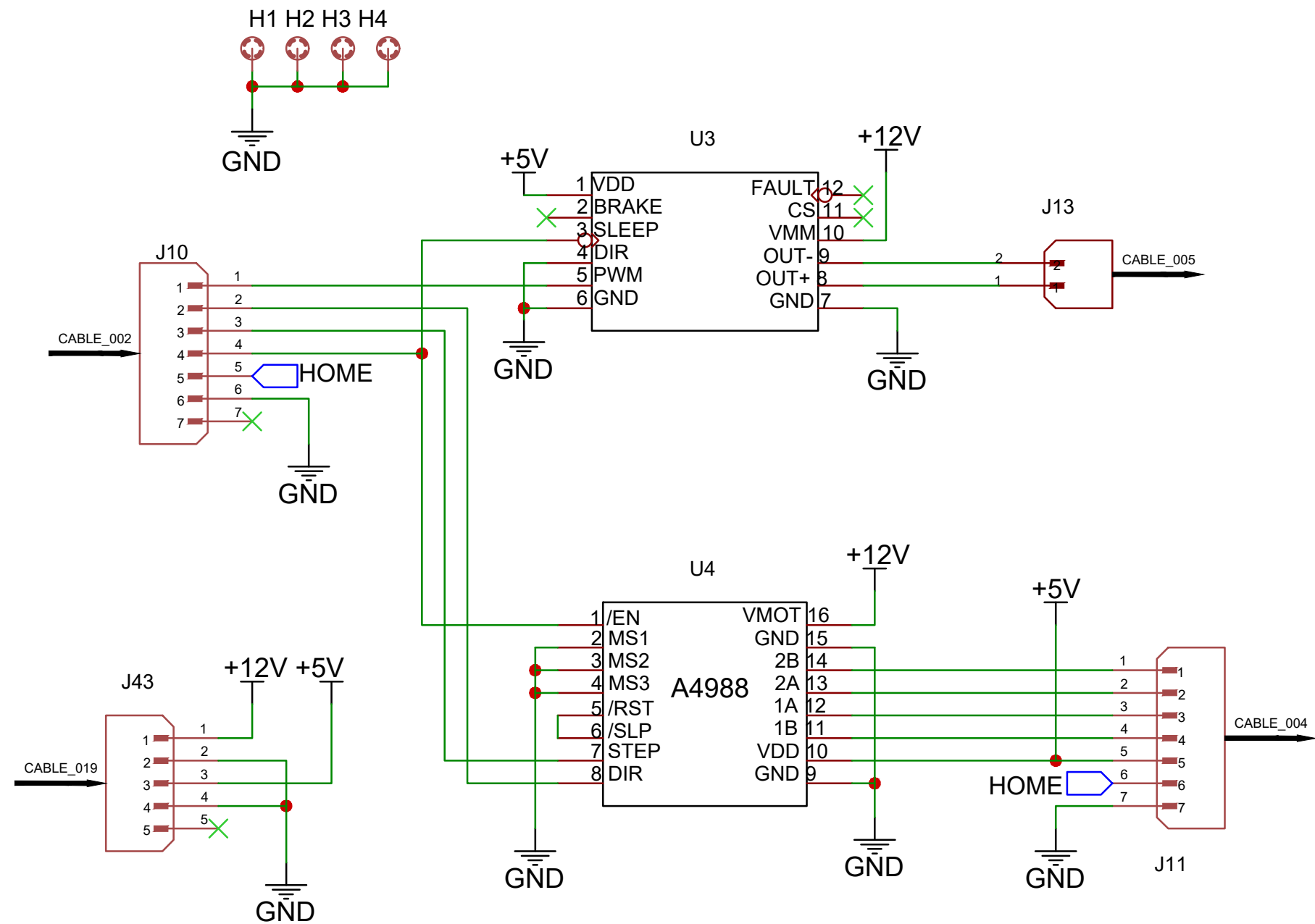
DWG 1122 BILL OF MATERIALS (BOM)				
IDENTIFIER	DESCRIPTION		PART #	
J29	2-Pin On-Board Male Crimp Connector		53375-0210	
J30	2-Pin Female Molex Connector		2-F-MOLEX	
J31	2-Pin On-Board Male Crimp Connector		53375-0210	
J32	2-Pin Female Molex Connector		2-F-MOLEX	
J33	2-Pin On-Board Male Crimp Connector		53375-0210	
J34	2-Pin Female Molex Connector		2-F-MOLEX	
J41	5-Pin On-Board Male Crimp Connector		53375-0510	
J42	5-Pin Female Molex Connector		5-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM	
ENGINEER			FILENAME: 1122.HARNESS	DWG NO. 1122

1123			
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	02/8/22	JDC
01	RENUMBERING SIGNAL PINS	02/18/22	JDC



DWG 1123 BILL OF MATERIALS (BOM)				
IDENTIFIER	DESCRIPTION		PART #	
J46	2-Pin On-Board Male Crimp Connector		53375-0210	
J47	2-Pin Female Molex Connector		2-F-MOLEX	
J48	2-Pin On-Board Male Crimp Connector		53375-0210	
J49	2-Pin Female Molex Connector		2-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM	
ENGINEER			FILENAME: 1123.HARNESS	DWG NO. 1123

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	2/8/22	SM
01	GATE 5 PCB UPDATE	3/04/22	SM

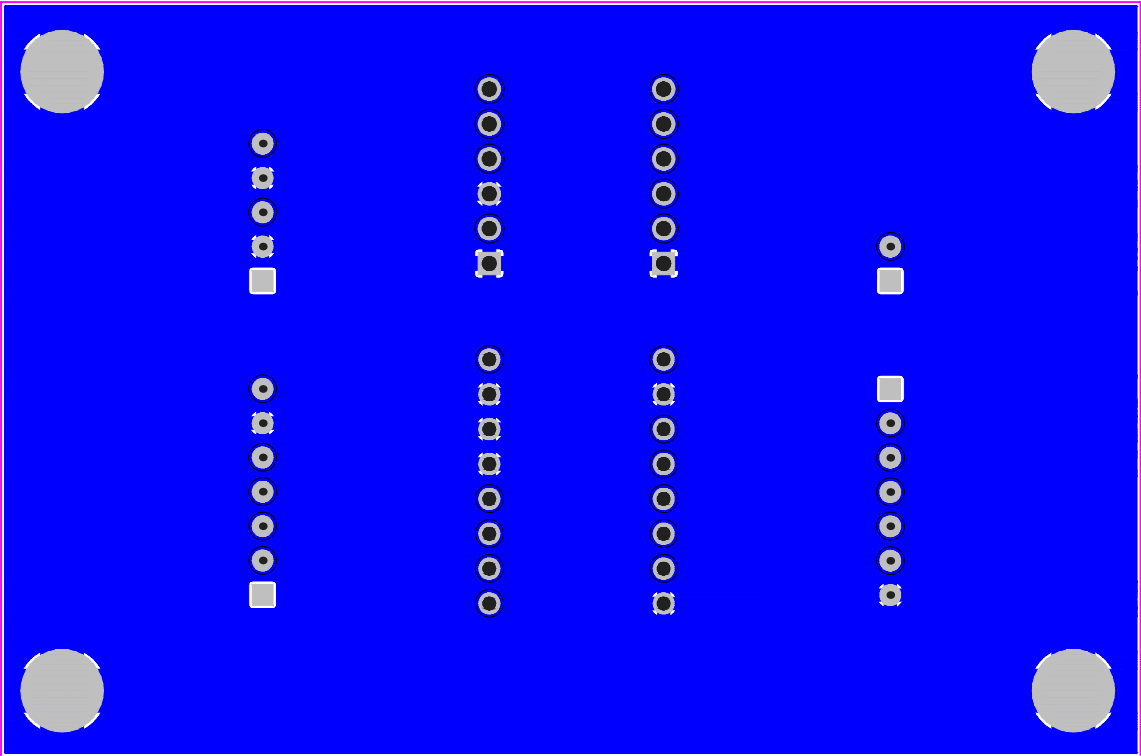
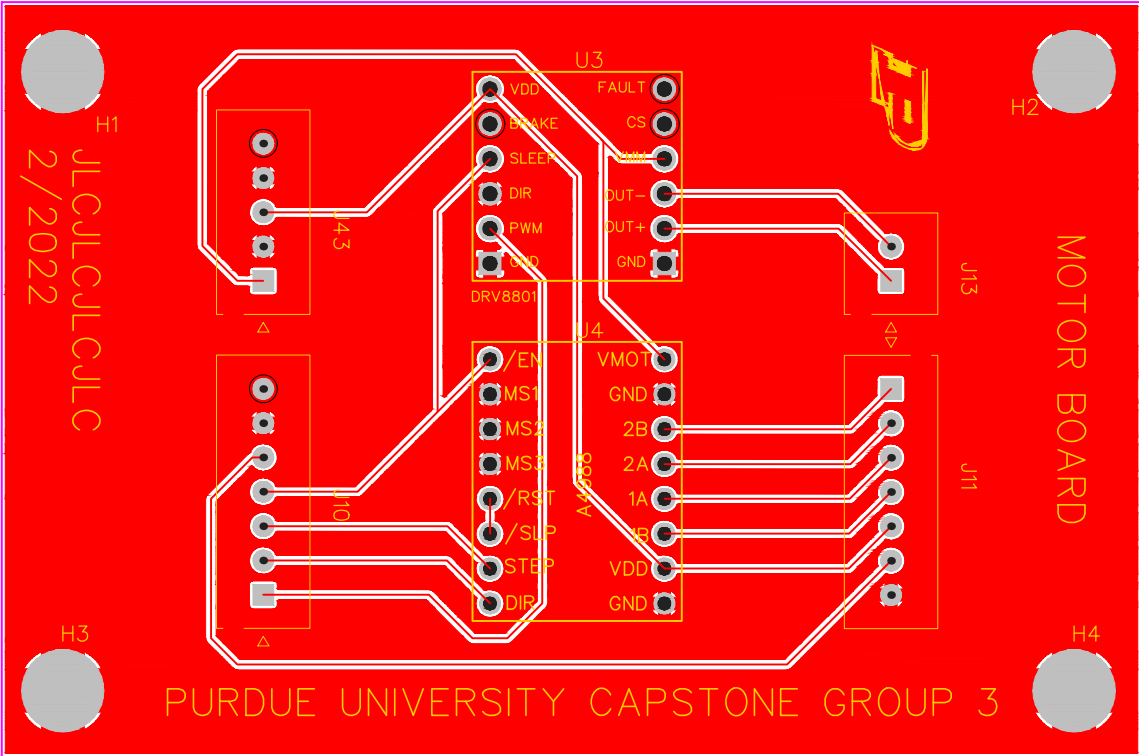


J6	7-Pin On-Board Male Crimp Connector	53375-0710
J7	3-Pin Female Molex Connector	3-F-MOLEX
J8	3-Pin Female Molex Connector	3-F-MOLEX
J9	7-Pin On-Board Male Crimp Connector	53375-0710
J10	7-Pin On-Board Female Crimp Connector	51163-0700

DWG 1121 BILL OF MATERIALS (BOM)		
IDENTIFIER	DESCRIPTION	PART #
J15	2-Pin On-Board Male Crimp Connector	53375-0210
J16	2-Pin Female Molex Connector	2-F-MOLEX
J23	11-Pin On-Board Male Crimp Connector	53375-1210
J24	11-Pin Female Molex Connector	11-F-MOLEX
J27	2-Pin On-Board Male Crimp Connector	53375-0210
J28	2-Pin Female Molex Connector	2-F-MOLEX

DWG 1122 BILL OF MATERIALS (BOM)				
IDENTIFIER	DESCRIPTION	PART #		
PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE MOTOR BOARD SCHEMATIC	
ENGINEER			FILENAME: 1200.DWG	DWG NO. 1200

REV. 1201			
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	2/8/22	SM
01	GATE 5 PCB UPDATE	3/04/22	SM

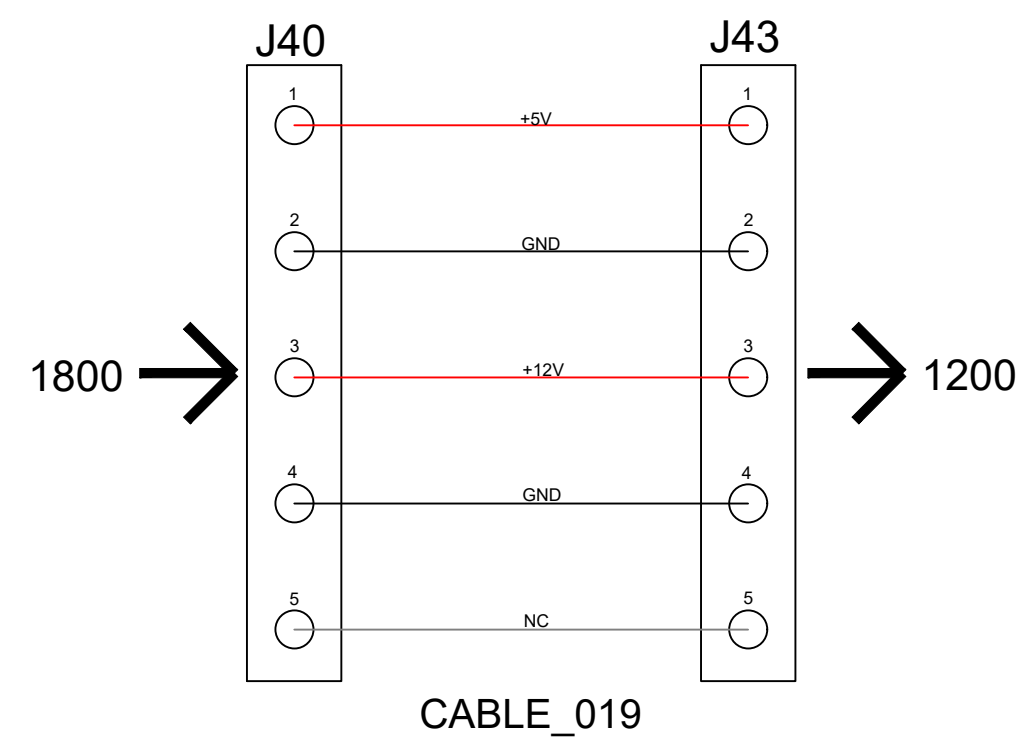
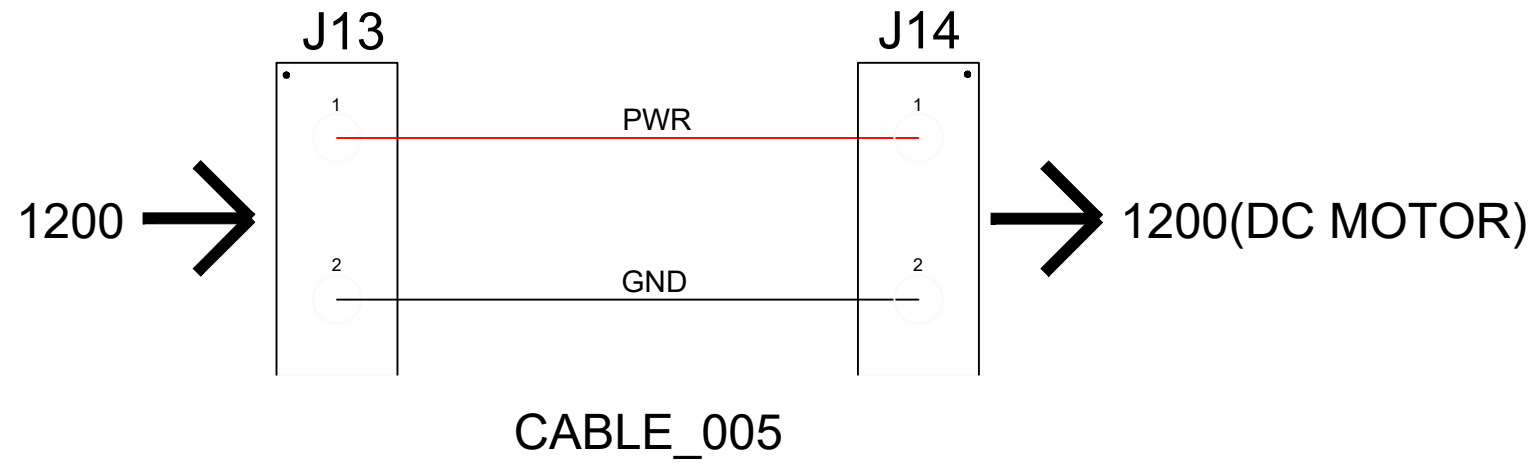
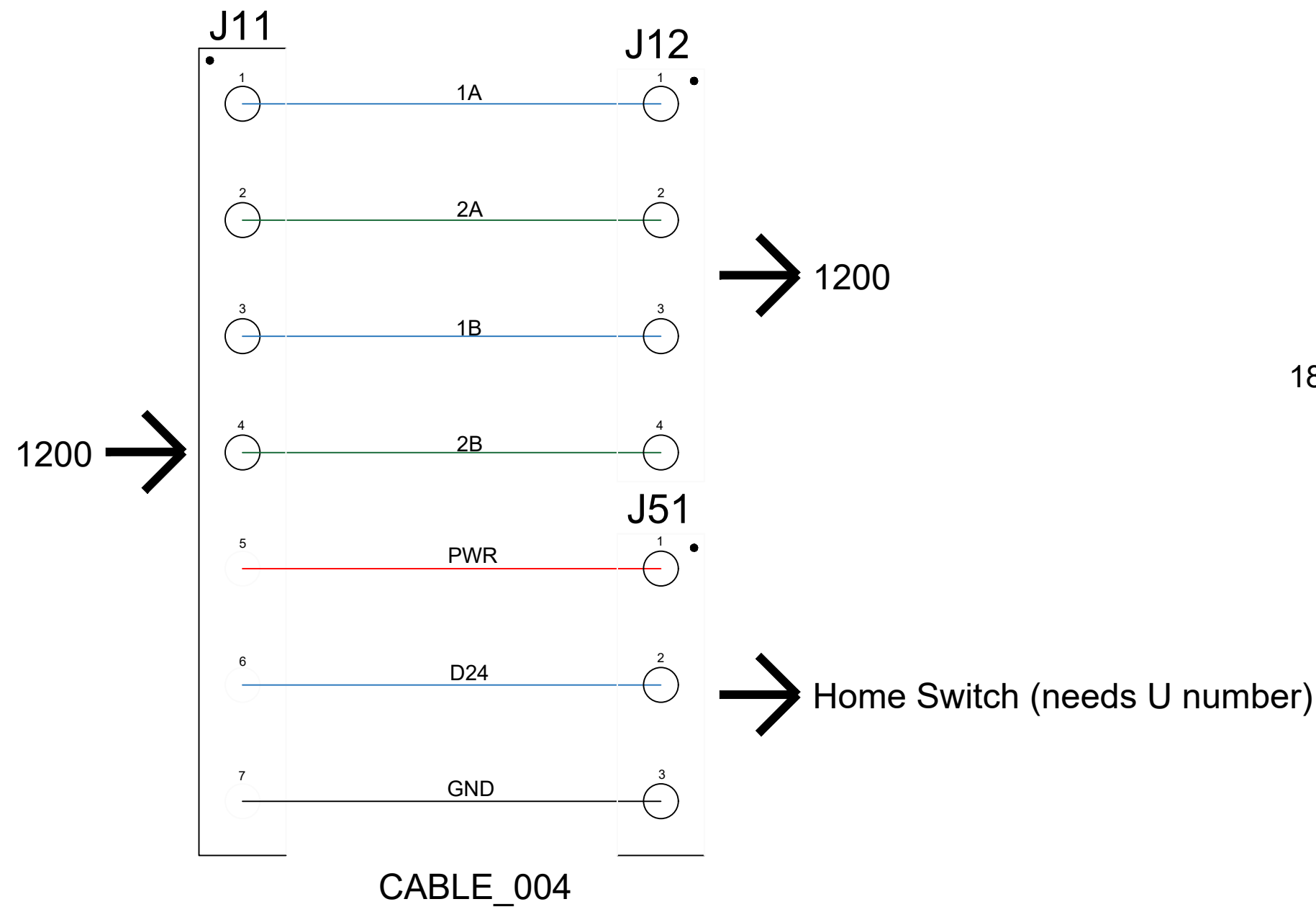


BOTH SIDES OF PCB ARE SOLID  
COPPER LAYER NET TIED TO GND

PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE MOTOR PCB LAYOUT	
ENGINEER			FILENAME: 1201.MOTOR	DWG NO. 1201



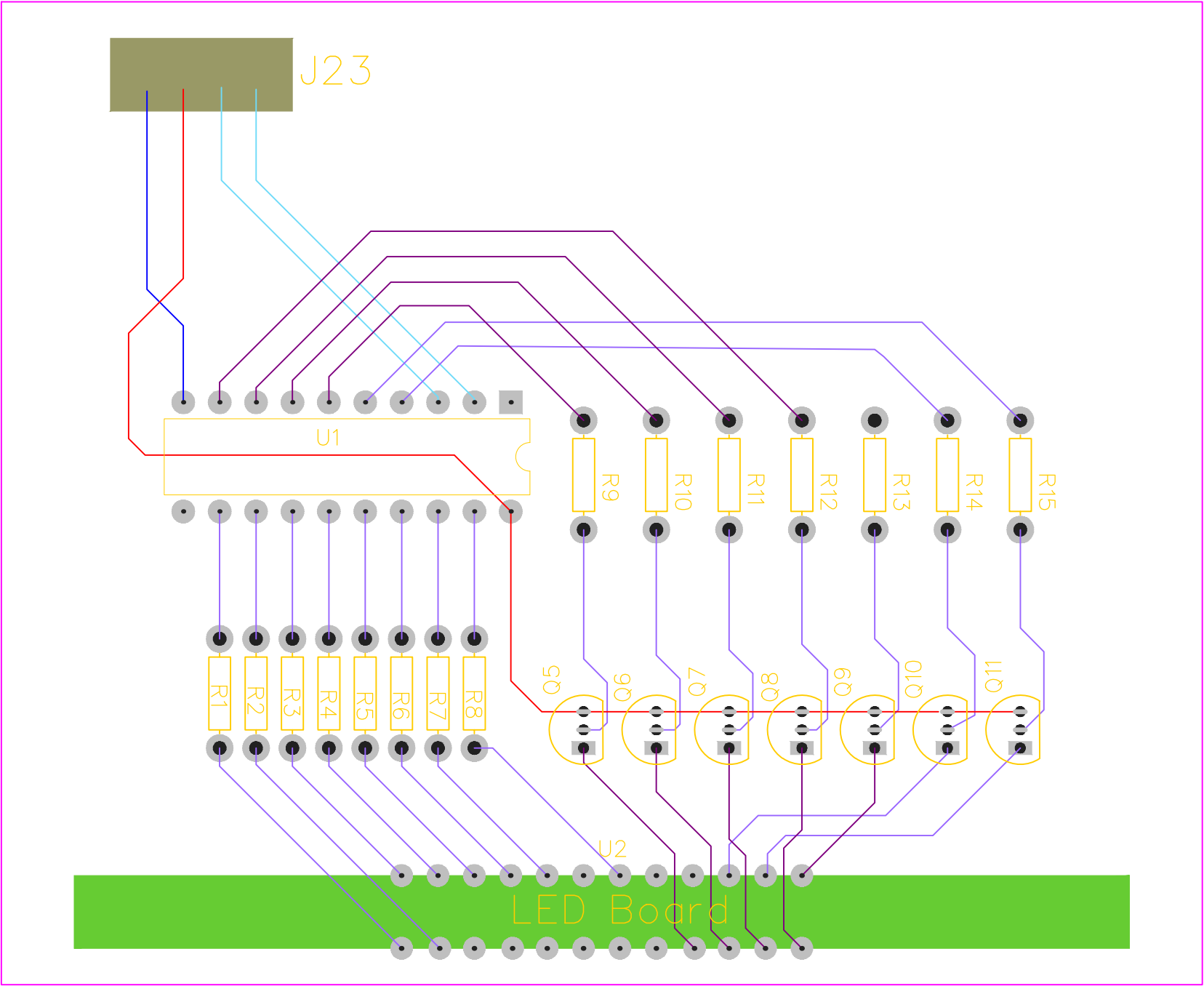
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	02/8/22	JDC
01	RENUMBERING SIGNAL PINS	02/18/22	JDC



DWG 1220 BILL OF MATERIALS (BOM)			
IDENTIFIER	DESCRIPTION	PART #	
J11	7-Pin On-Board Male Crimp Connector	53375-0710	
J12	4-Pin Female Molex Connector	4-F-MOLEX	
J51	3-Pin Female Molex Connector	3-F-MOLEX	
J13	2-Pin On-Board Male Crimp Connector	53375-0210	
J14	4-Pin Female Molex Connector	4-F-MOLEX	
J40	5-Pin On-Board Male Crimp Connector	53375-0510	
J43	5-Pin Female Molex Connector	5-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM
ENGINEER			FILENAME: 1220.HARNESS      DWG NO. 1220



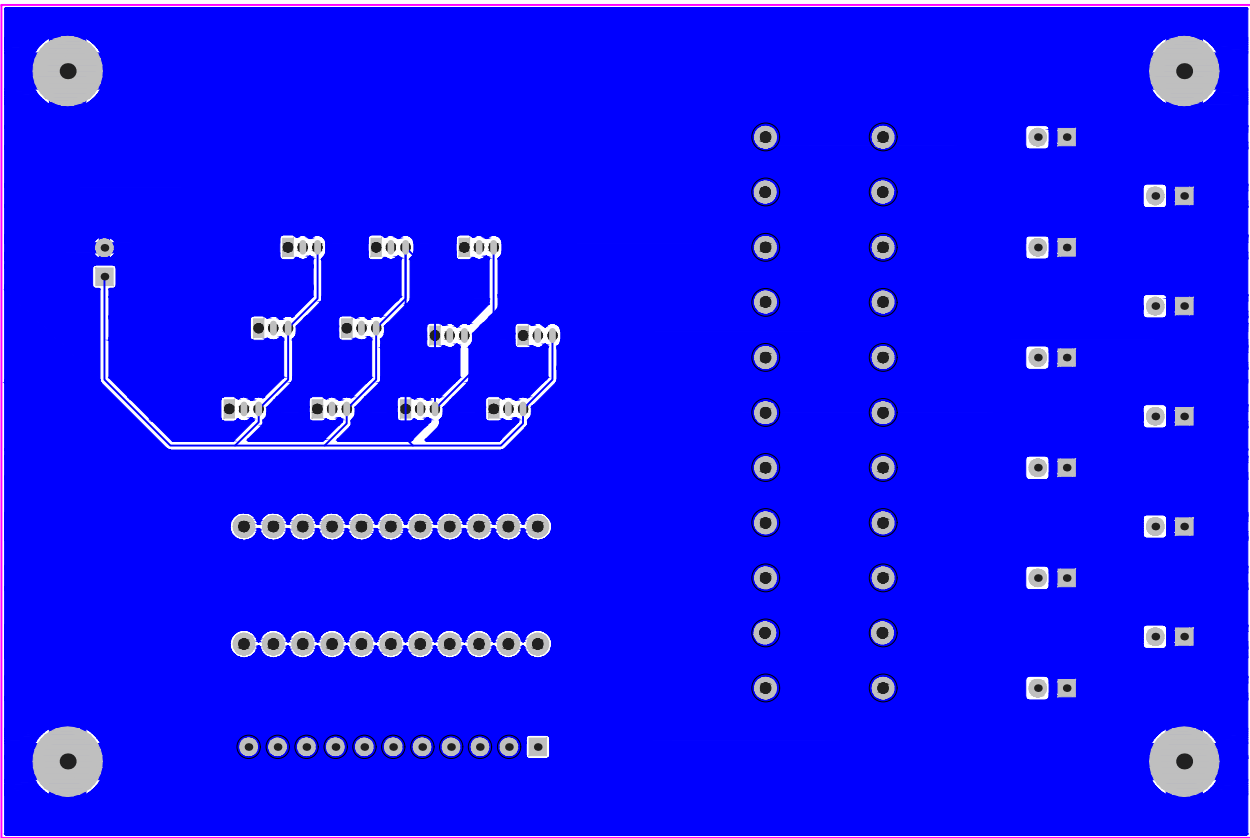
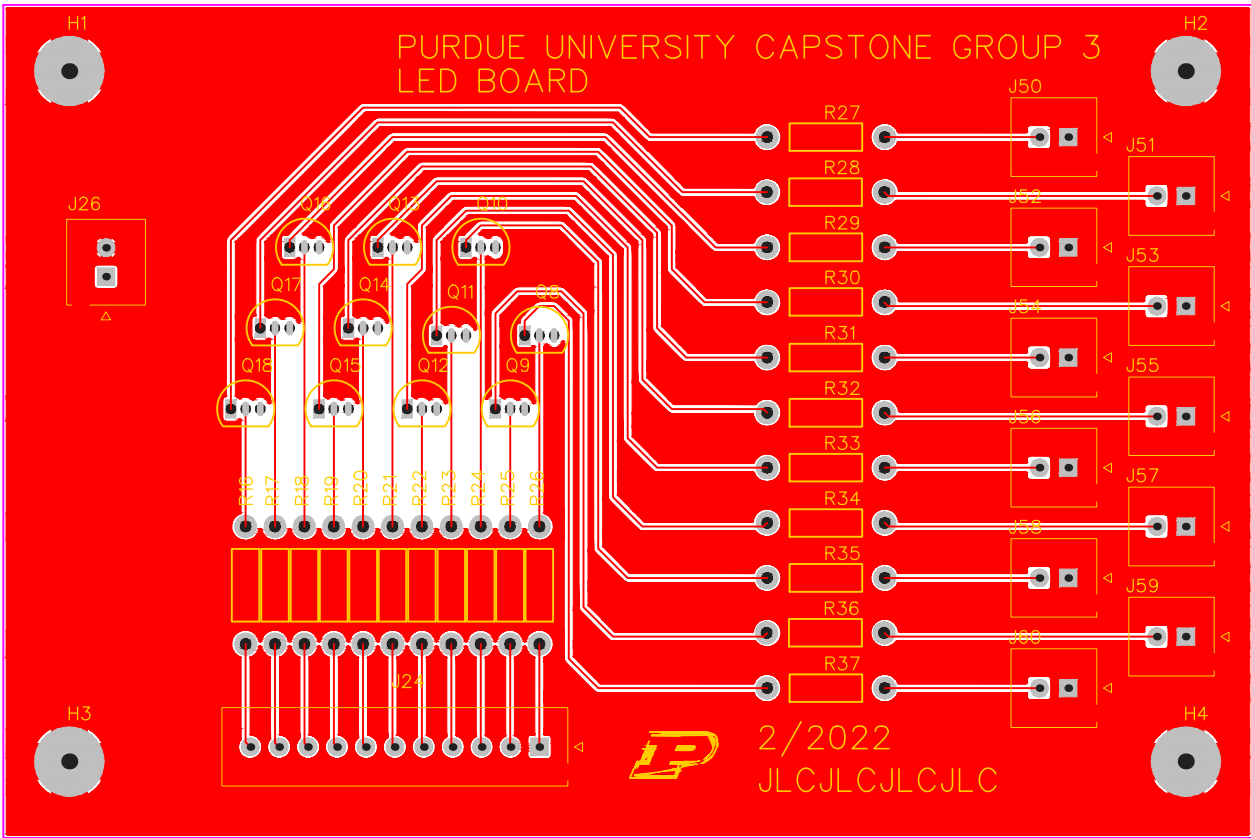
DWG NO. 1301		REVISIONS	
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	2/8/22	SM
01	GATE 5 PCB UPDATE	3/04/22	SM



PREPARED	E. EICKHOLTZ	2022/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE CUSTOM SEVEN SEGMENT DISPLAY LAYOUT	
ENGINEER			FILENAME: 1301.SEGMENT	DWG NO. 1301

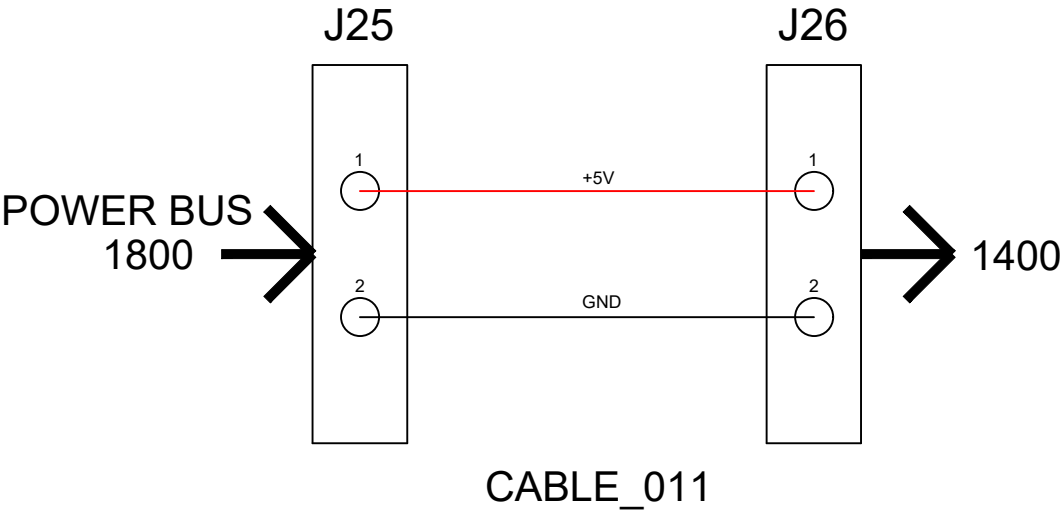


1401			
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
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01	GATE 5 PCB UPDATE	3/04/22	SM



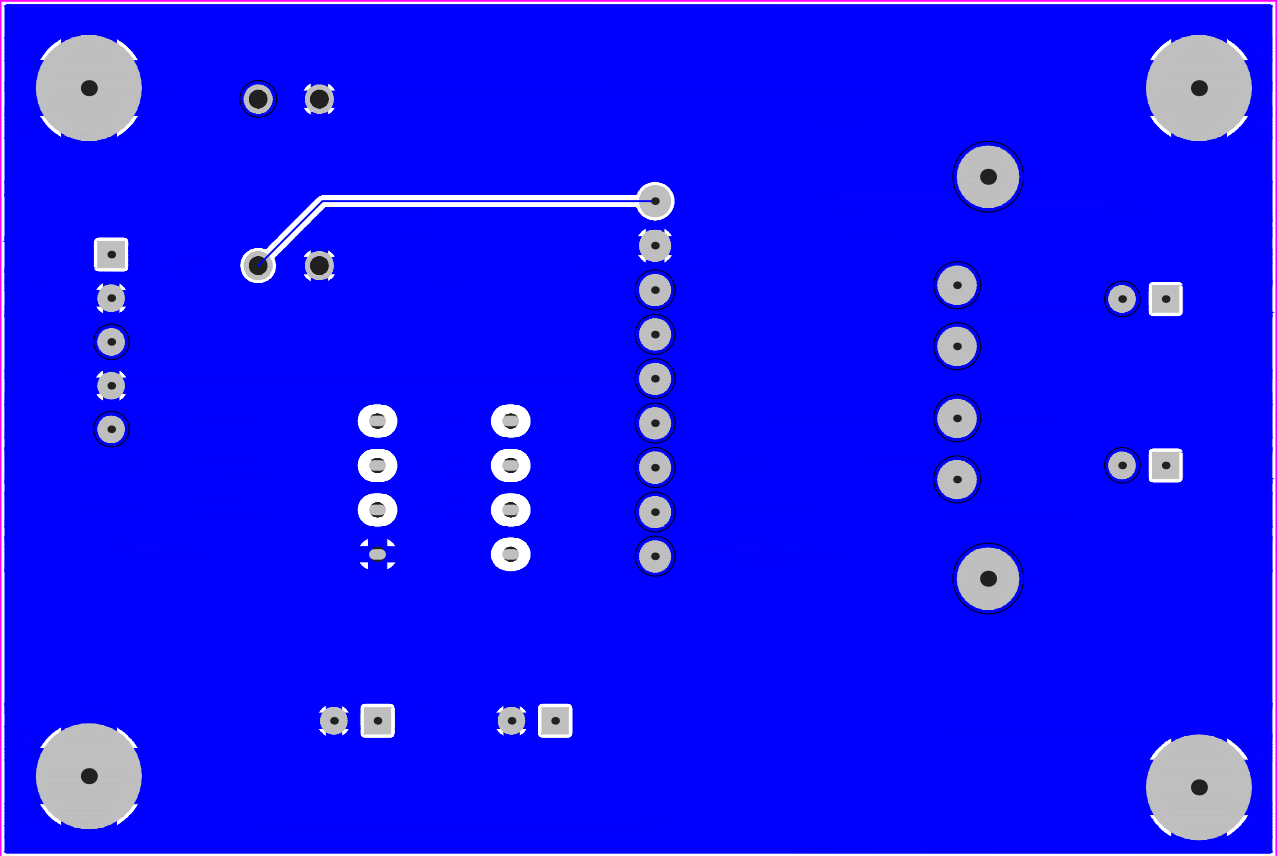
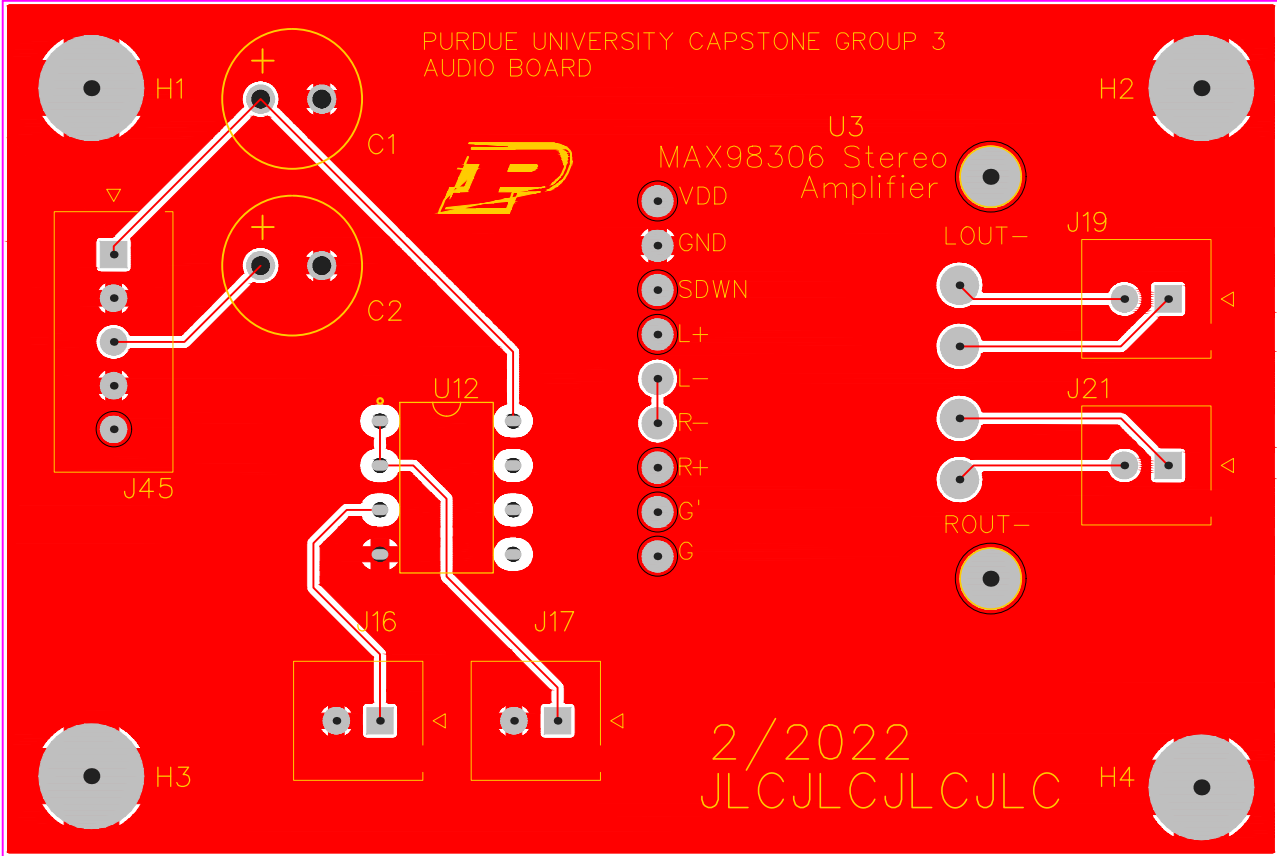
PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE LED BOARD PCB LAYOUT	
ENGINEER			FILENAME: 1401.LED	DWG NO. 1401

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	02/8/22	JDC
01	RENUMBERING SIGNAL PINS	02/18/22	JDC



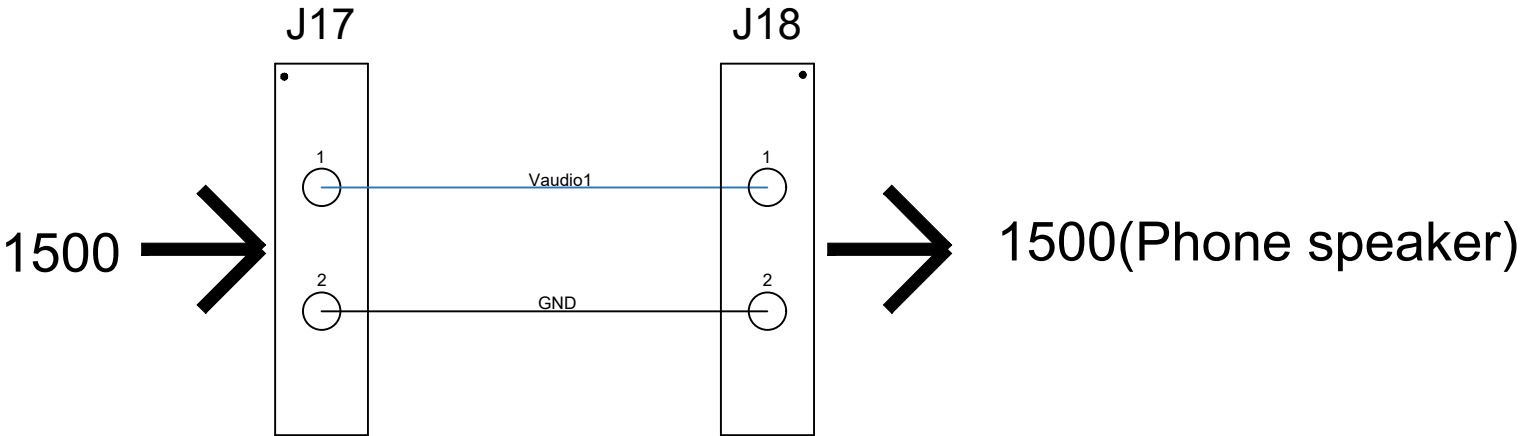
DWG 1420 BILL OF MATERIALS (BOM)				
IDENTIFIER	DESCRIPTION		PART #	
J25	2-Pin On-Board Male Crimp Connector		53375-0210	
J26	2-Pin Female Molex Connector		2-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM	
ENGINEER			FILENAME: 1520.HARNESS	DWG NO. 1520

1501			
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
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01	GATE 5 PCB UPDATE	3/04/22	SM

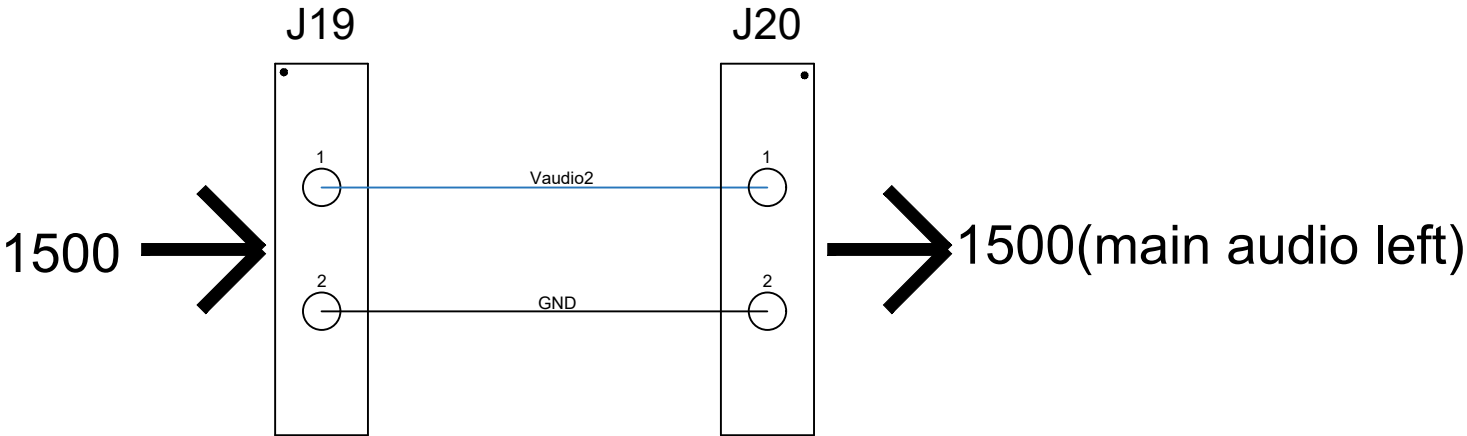


PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE AUDIO BOARD PCB LAYOUT	
ENGINEER			FILENAME: 1501.AUDIO	DWG NO. 1501

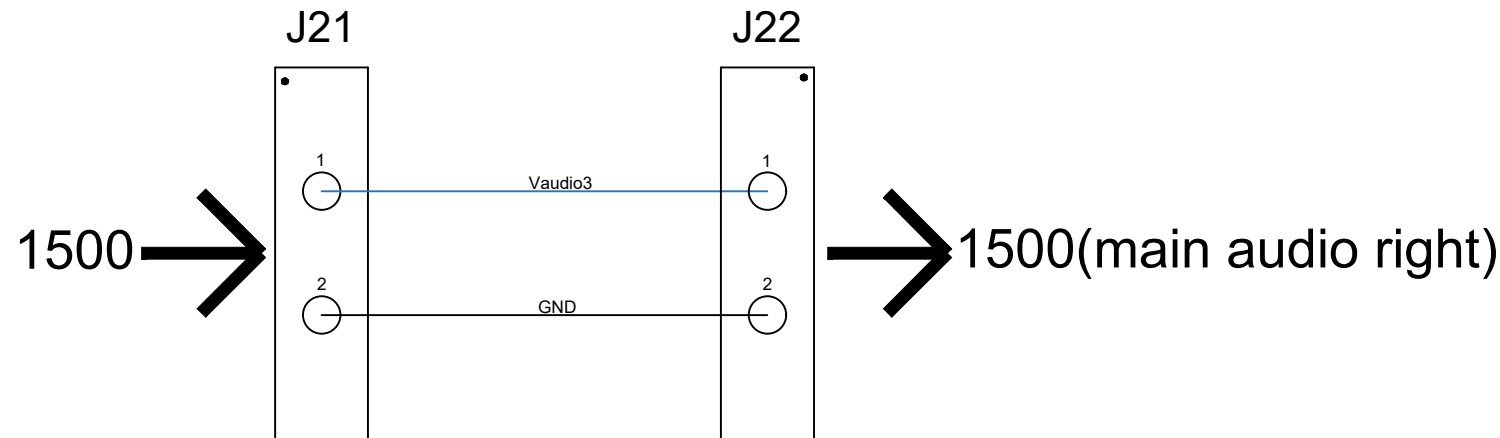
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
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01	RENUMBERING SIGNAL PINS	02/18/22	JDC



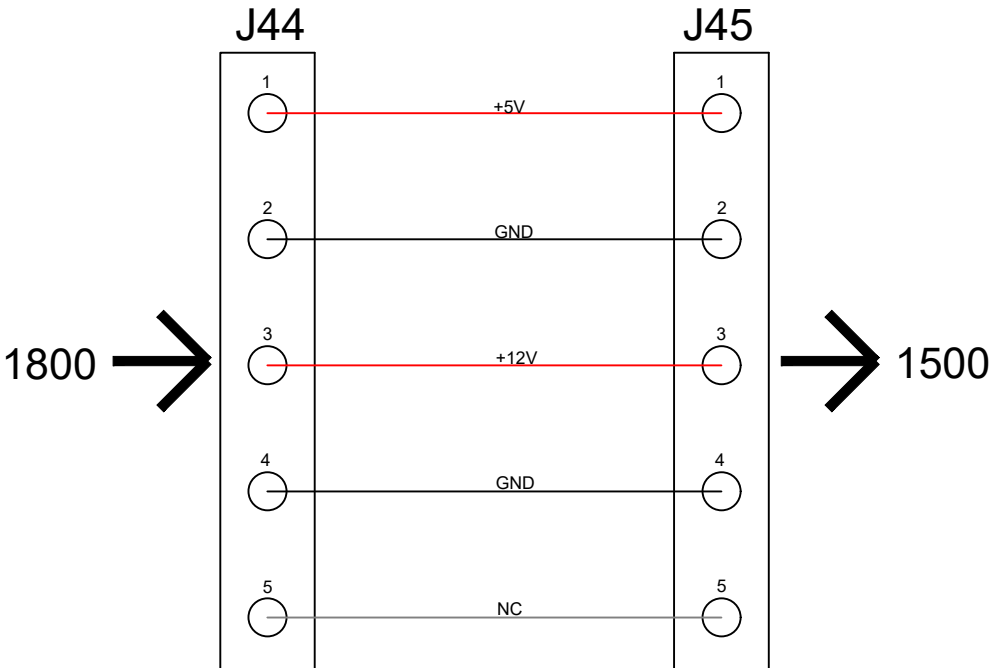
CABLE\_007



CABLE\_008



CABLE\_009

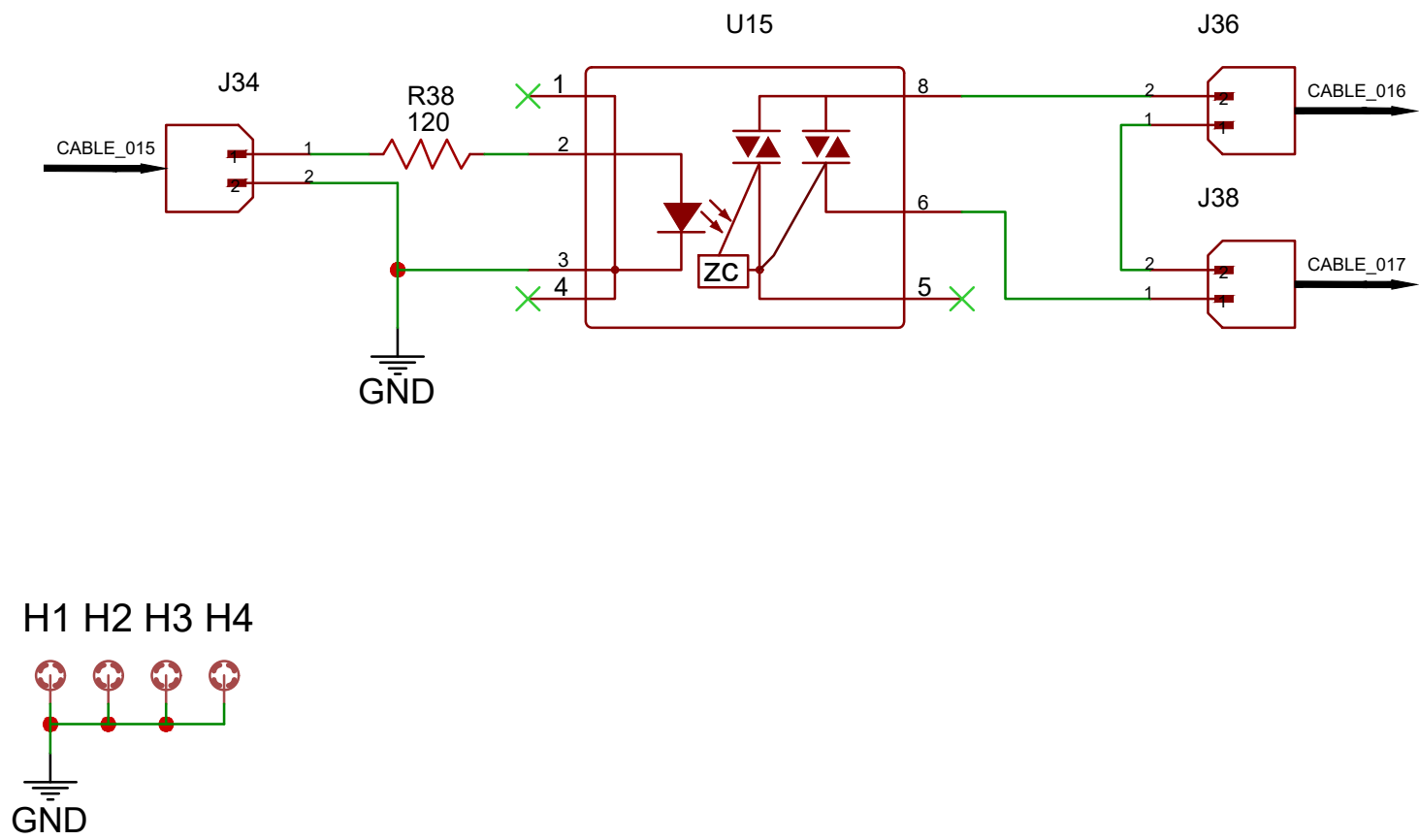


CABLE\_020

DWG 1520 BILL OF MATERIALS (BOM)			
IDENTIFIER	DESCRIPTION	PART #	
J17	2-Pin On-Board Male Crimp Connector	53375-0210	
J18	2-Pin Female Molex Connector	2-F-MOLEX	
J19	2-Pin On-Board Male Crimp Connector	53375-0210	
J20	2-Pin Female Molex Connector	2-F-MOLEX	
J21	2-Pin On-Board Male Crimp Connector	53375-0210	
J22	2-Pin Female Molex Connector	2-F-MOLEX	
J44	5-Pin On-Board Male Crimp Connector	53375-0510	
J45	5-Pin Female Molex Connector	5-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM
ENGINEER			FILENAME: 1520.HARNESS      DWG NO. 1520



1600			
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	2/8/22	SM
01	GATE 5 PCB UPDATE	3/04/22	SM



U8	Unique Gallagher Station 7-Segment Passive Diplay	GS-7-SEG
U9	CUSTOM PROTO BOARD LAYOUT	2670
J42	Connector Header Through Hole 5 position	533750510
R1 -> R15	150 Ohms ±1% 0.6W Through Hole Resistor	LR1F150R
Q1 -> Q7	Bipolar (BJT) Transistor NPN 40 V 600 mA	2N2222A
CABLE_018	REFERENCE DRAWING 1122	

DWG 1320 BILL OF MATERIALS (BOM)		
IDENTIFIER	DESCRIPTION	PART #

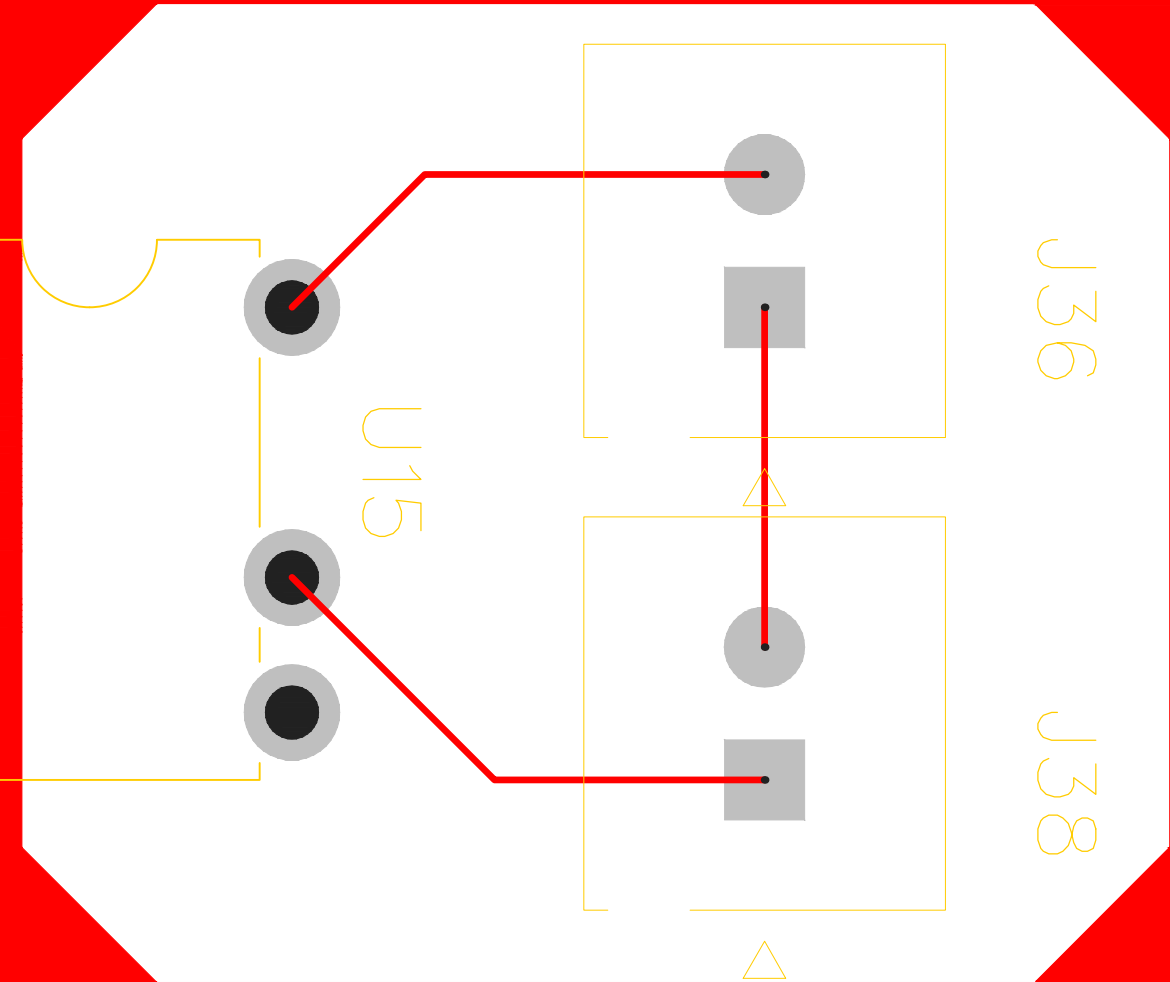
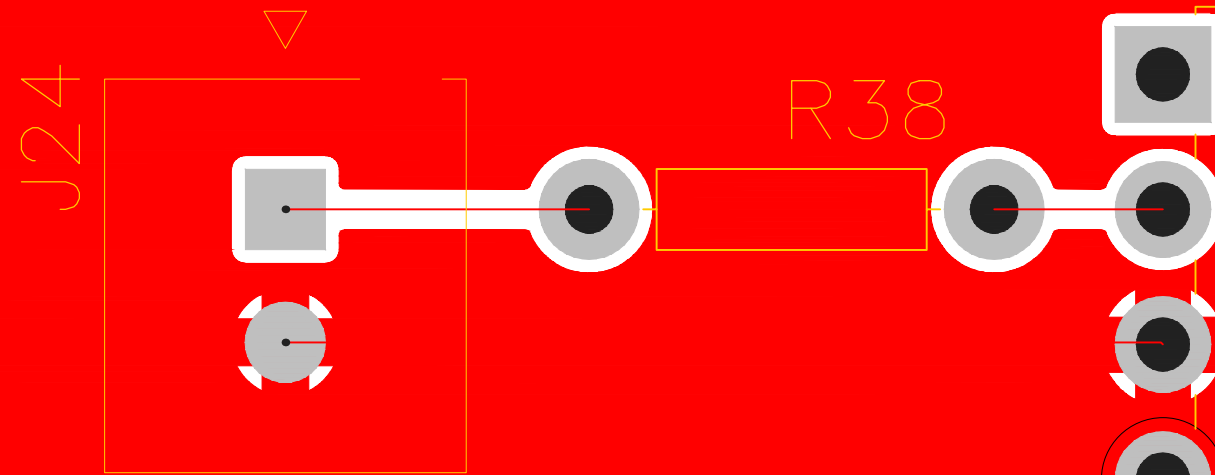
PREPARED	E. EICKHOLTZ	2021/02/24	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/04	TITLE SSR BOARD SCHEMATIC	
ENGINEER			FILENAME: 1600.DWG	DWG NO. 1600

FORDOL UNIVERSITY CAPSTONE GROUP 3  
SSR BOARD



H1

H2

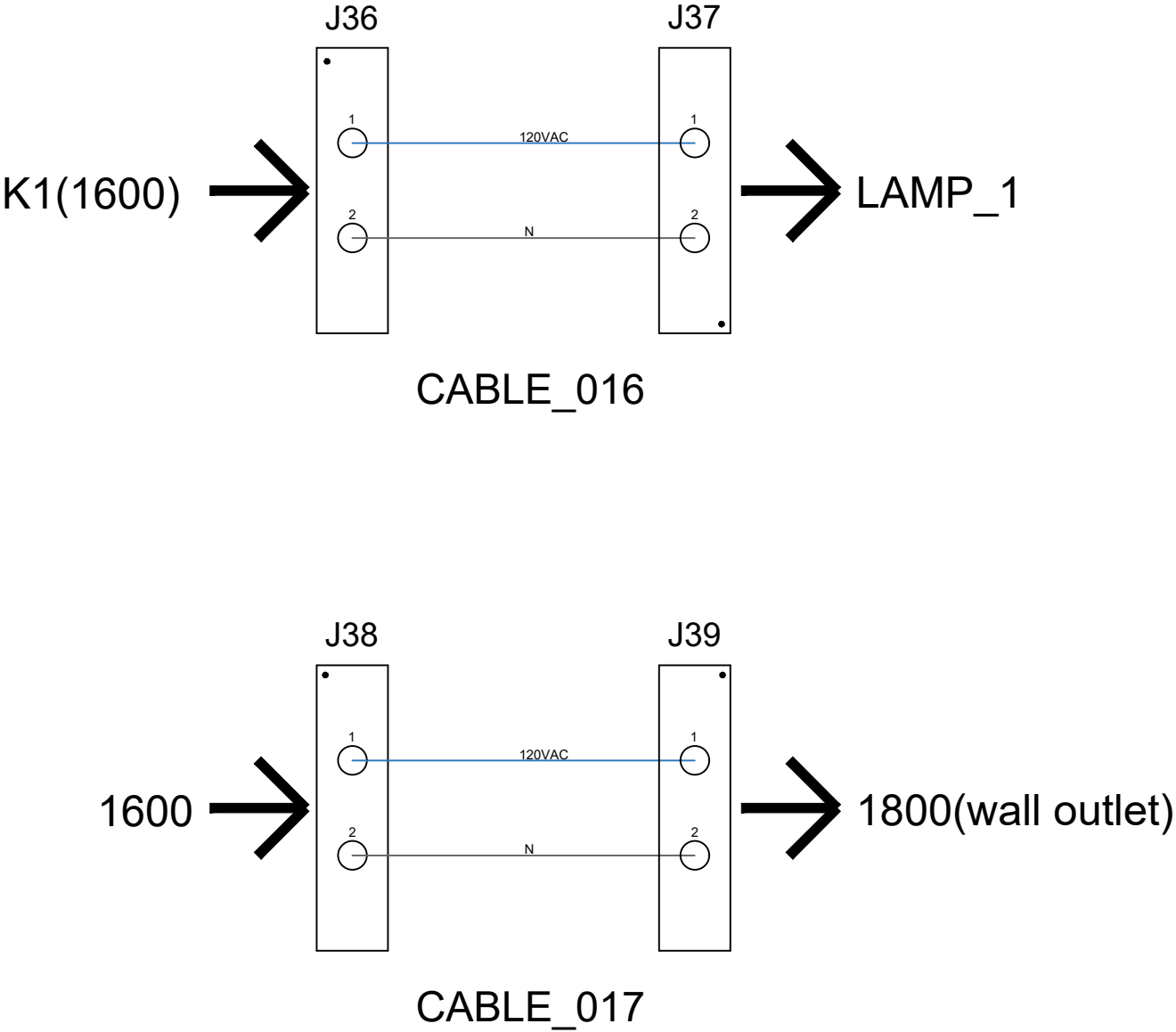


H3

H4

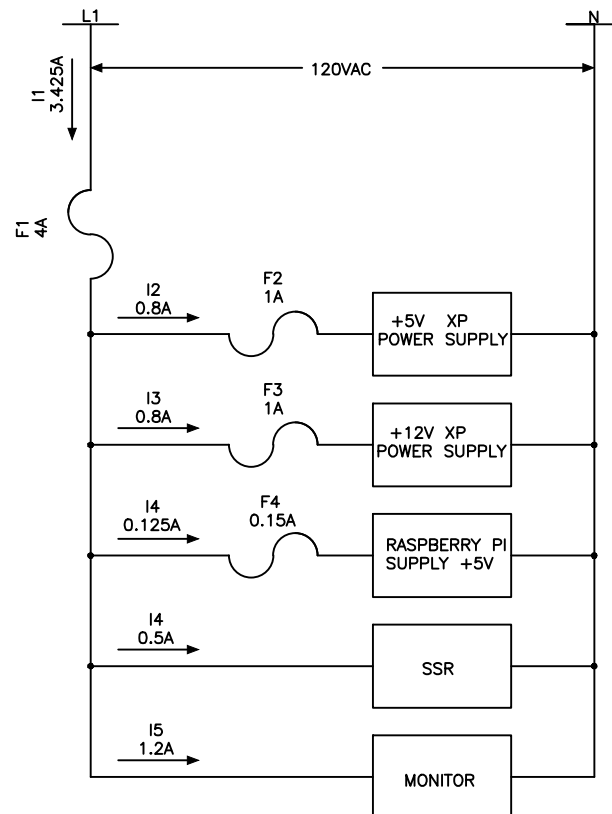
JLCLCLCLCLC  
2/2022

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	GATE 4 PRELIMINARY RELEASE	02/8/22	JDC
01	RENUMBERING SIGNAL PINS	02/18/22	JDC



DWG 1620 BILL OF MATERIALS (BOM)				
IDENTIFIER	DESCRIPTION		PART #	
J36	2-Pin On-Board Male Crimp Connector		53375-0210	
J37	2-Pin Female Molex Connector		2-F-MOLEX	
J38	2-Pin On-Board Male Crimp Connector		53375-0210	
J39	2-Pin Female Molex Connector		2-F-MOLEX	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150	
CHECKED	S. MATTINGLY	2022/03/07	TITLE WIRE HARNESS DIAGRAM	
ENGINEER			FILENAME: 1620.HARNESS	DWG NO. 1620

REV		DESCRIPTION	DATE	APPROVED
01		GATE 4 PRELIMINARY RELEASE	02/19/02	J.C.
02		RENUMBERING SIGNAL PINS	05/18/02	J.C.



DWG 1800 BILL OF MATERIALS (BOM)			
IDENTIFIER	DESCRIPTION	PART #	
SSR	Solid State Relay For Light Bulb	AQH3213	
Monitor	HP Desktop Monitor	L1702	
+5V XP Power Supply	+5V Power Supply	1470-LCW35US05-ND	
+12V XP Power Supply	+12V Power Supply	1470-LCW35US12-ND	
F1	4A Fuse Rated	507-1298-ND	
F2	1A Fuse Rated	0232001.MX125P-ND	
F3	1A Fuse Rated	0232001.MX125P-ND	
F4	0.15A Fuse	0239.150MXP-ND	
PREPARED	J. COUCH	2022/02/18	PURDUE POLYTECHNIC NEW ALBANY 3000 TECHNOLOGY AVE NEW ALBANY, IN 47150
CHECKED	S. MATTINGLY	2022/02/18	TITLE 120V SOURCE SCHEMATIC
ENGINEER			FILED 1800.DWG DWG NO. 1800