

Scope of Work

The contractor shall execute all electrical work as per the drawings provided and client requirements. This includes the installation of an electrical connection of electrical equipment, cables, distribution panels, conduits, and components as detailed in the design drawings. The contractor shall conduct testing of all installed systems to ensure functionality and compliance with the required local standards and provide test reports. Upon completion, the contractor must submit as-built drawings and documentation reflecting any changes made during execution.

Contractor Requirements

- Ensure adequate manpower equipped with proper skills to complete the scope of work.
- Supply PPE for all personnel and enforce its usage throughout the project.
- Provide all necessary tools required to complete the scope of work.

Electrical Installation

- Install electrical equipment, cables, conduits, and components as specified in the design drawings.
- Group Marking for Equipment: Clearly mark the groups assigned to each installed electrical equipment (receptacles, junction boxes, etc.) as per design.
- Breaker Group Marking: Clearly label the groups on breakers within the distribution panels in accordance with the design

Testing

Contractor shall conduct the following tests to ensure functionality, safety, and compliance with Guyana's local standards:

- **Cable Insulation Testing:** Test all installed cables to ensure they meet the required insulation resistance levels.
- **Conductivity Testing:** Verify proper current flow and the integrity of all electrical connections, terminations, and conductors.
- **Grounding System Testing:** Measure ground resistance levels to confirm compliance with the required standards

Deliverables

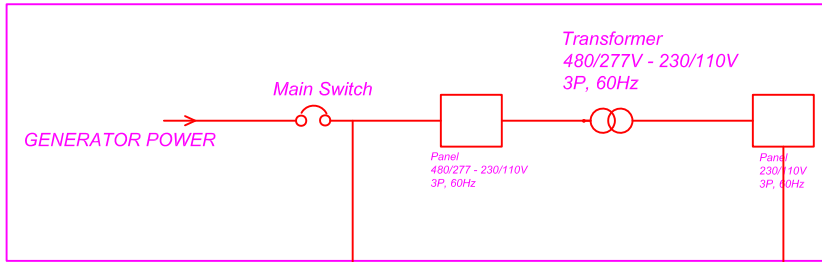
The following deliverables must be provided:

- Simplified schedule outlining the timeline for execution.
- Detailed as-built drawings and documentation reflecting all changes made during the project in PDF and CAD formats.
- Test reports, including insulation resistance, conductivity, and grounding results.
- Calibration certificates for testing equipment
- Cable log documenting the type, length, and installation details of all cables used in the project.

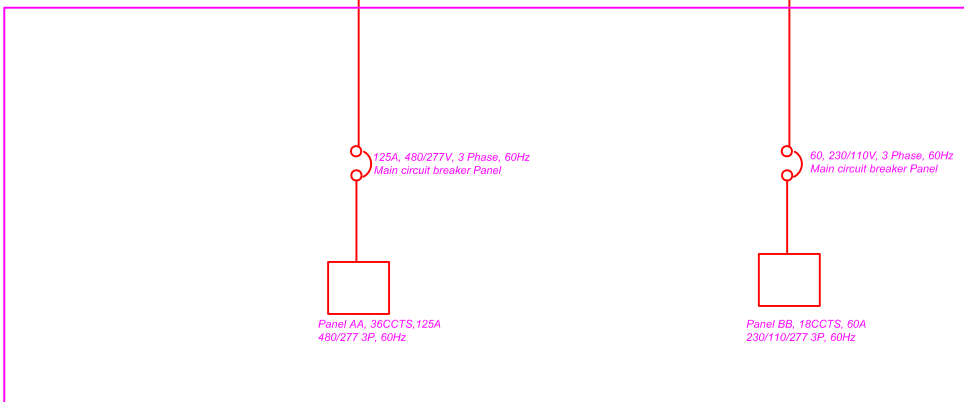
Approval and Acceptance

The contractor must get client approval for any changes to the design or scope before implementation. Final approval will be given after completion of installation work, testing, and submitting deliverables

EXISTING SUPPLY TO BUILDING

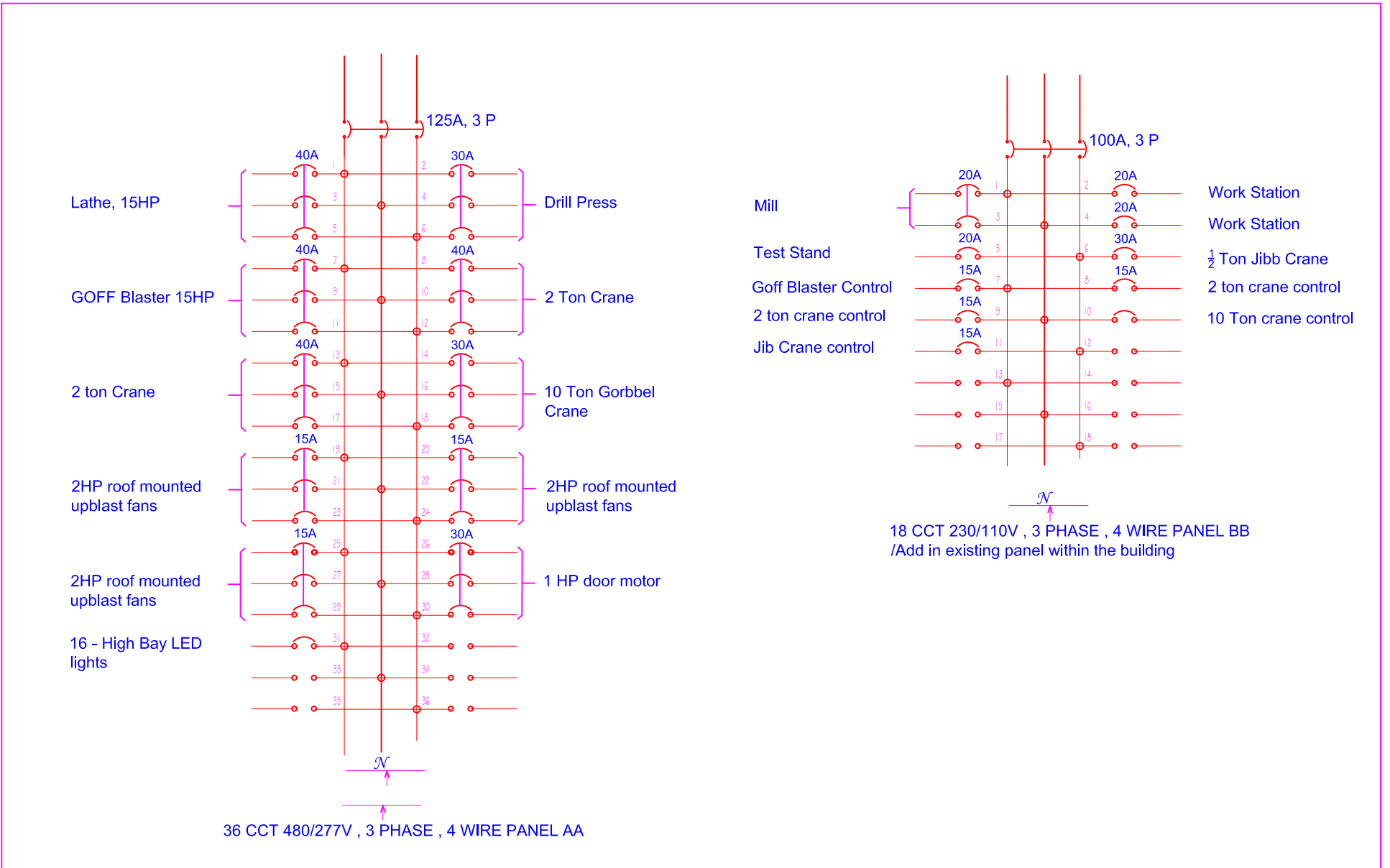


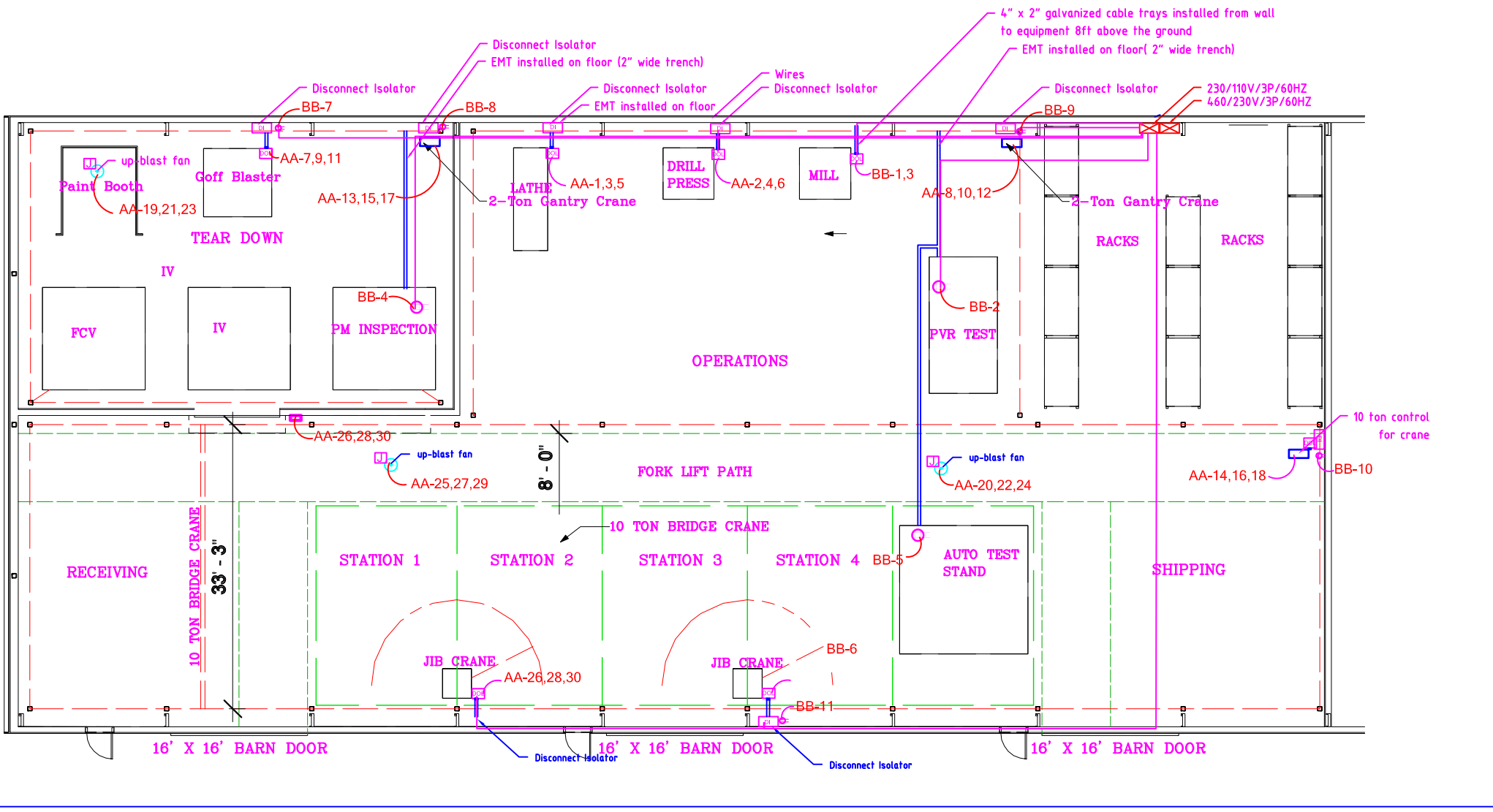
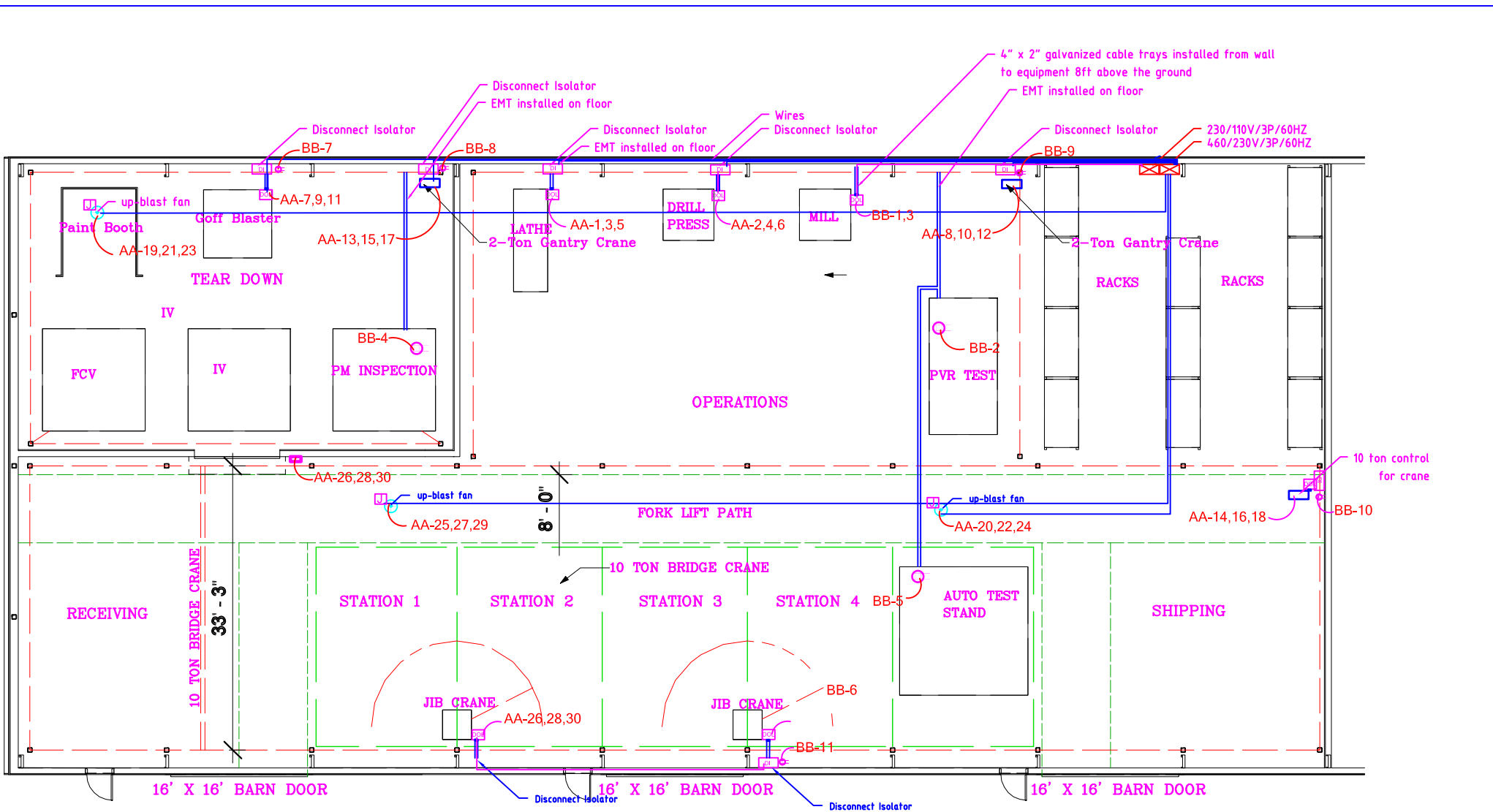
SUPPLY TO NEW PANEL



LEGEND	NOTES
<ul style="list-style-type: none"> Roof mounted up-blast fan, 2HP, 3KW, 460/230V, 3P Single way switch mounted 42" above floor, 120V, 15A 1 X 2 LED high bay lights with battery backup, 120V-277V, 165W, 22500lm 	<p>INSTALLATION SHALL CONFORM NEC</p> <p>ALL CIRCUITS MUST HAVE GROUNDING WIRE INSTALLED</p> <p>METAL CLAD CABLE SHALL BE INSTALLED IN THE METAL PURLIN ON THE INSIDE OF ROOF AND ALONG THE WALL</p> <p>ELECTRICAL METAL TUBING (EMT – GALVANIZED) SHALL BE USED TO INSTALL METAL CLAD CABLES FROM THE WALL TO THE EQUIPMENT – MANY OF THE EQUIPMENTS ARE LOCATED CLOSE TO THE WALLS. HOWEVER, WHERE OUTLETS ARE CLOSE TO THE MIDDLE OF THE BUILDING, THE EMT SHALL BE INSTALLED ON THE FLOOR OR CUT AND INSTALLED UNDER THE CONCRETE BASED ON CLIENT INSTRUCTIONS.</p>
NOTES	
INSTALLATION SHALL CONFORM NEC	
ALL CIRCUITS MUST HAVE GROUNDING WIRE INSTALLED	

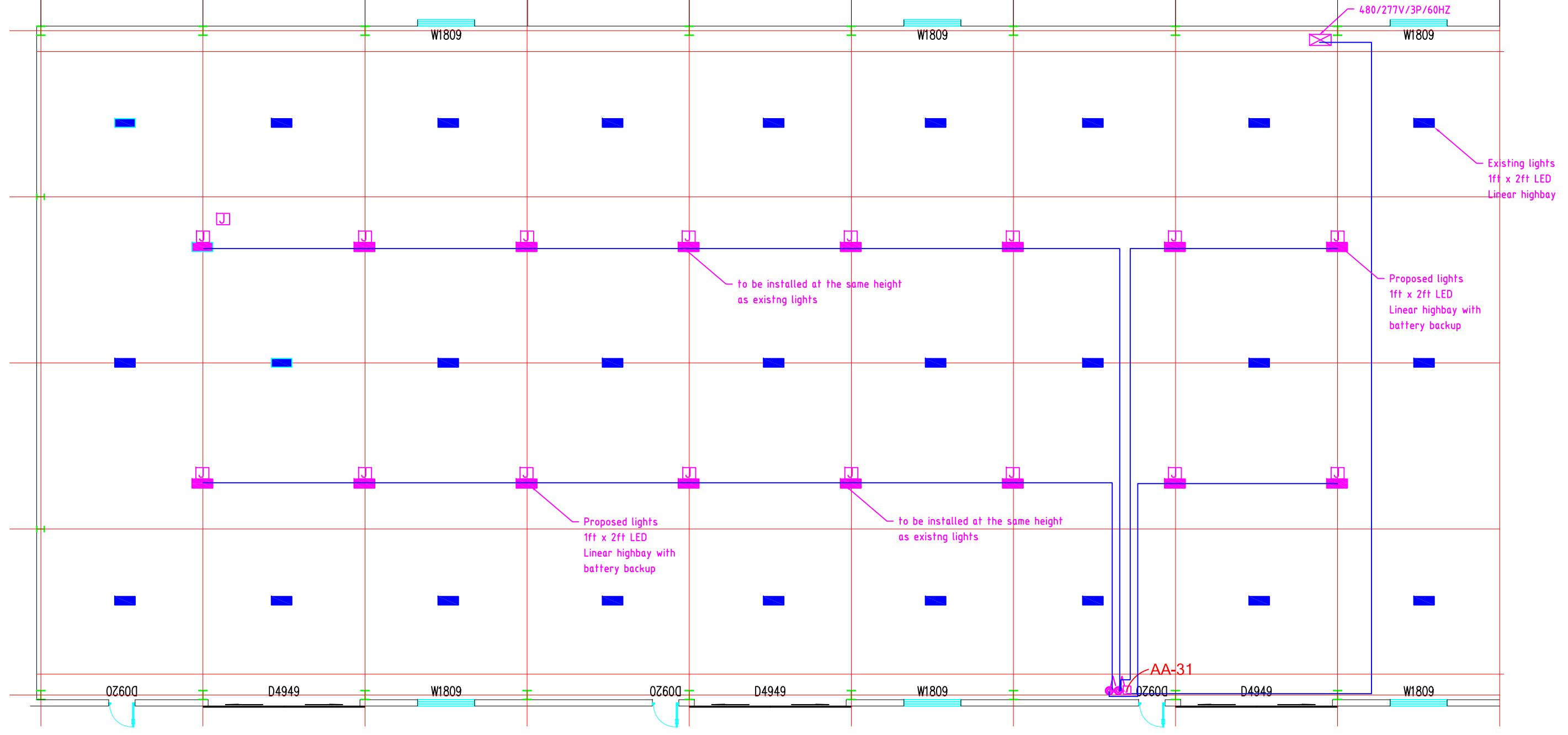
PANEL SCHEDULES





G1 G2 G3 G4 G5 G6 G7 G8 G9 G10

ADDITIONAL DESIGN FOR LIGHTING



LOAD SUMMARY											
480/277V, 3 PHASE, 60HZ SUPPLY											
Circuits	Equipment Name	Circuit Breaker	Voltage/Phase	Connected Load (W)	Cable size (mm2)	Cable Length (ft)	Voltage Drop (Actual) %	Voltage Drop (Permissible) %	Cable type	Comments	
AA- 1,3,5	Lathe (15HP, 21FLA)	40A/3P	480/3P	17,460	4x16 (3L, 1G)	96	2.99	3	metal clad		
AA- 2,4,6	Drill Press	30A/3P	480/3P	6600	4x10 (3L, 1G)	80	2.96	3	metal clad		
AA- 7,9,11	GOFF Blaster (15HP, 21FLA)	40A/3P	480/3P	17,460	4x16 (3L, 1G)	122	2.85	3	metal clad		
AA- 8,10,12	2 Ton Crane	40A/3P	480/3P	3020	4x6 (3L, 1G)	25	2.07	3	metal clad		
AA- 13,15,17	2 Ton Crane	40A/3P	480/3P	3020	4x16 (3L, 1G)	100	2.33	3	metal clad		
AA- 14,16,18	10 ton Gorbelt Crane	30A/3P	480/3P	14965	4x16 (3L, 1G)	90	2.80	3	metal clad		
AA- 19,21,23	Roof mounted blast fan	15A/3P	460/230/3P	2000	4x4 (3L, 1G)	150	2.33	3	metal clad		
AA- 20,22,24	Roof mounted blast fan	15A/3P	460/230/3P	2000	4x4 (3L, 1G)	90	1.40	3	metal clad		
AA- 25,27,29	Roof mounted blast fan	15A/3P	480/230/3P	2000	4x4 (3L, 1G)	150	2.33	3	metal clad		
AA- 22,28,30	Door Motor	15A/3P	15A/3P	1000	4x4 (3L, 1G)	160	2.49	3	metal clad		
AA- 31	Highbay lights & Drivers(8)	15A/1P	277/1P	1400	4 x 4 (2L, 1N, 1G)	230	2.64	3	metal clad		
	Highbay lights & Drivers(8)	15A/1P	277/1P	1400	4 x 4 (2L, 1N, 1G)	160	2.49	3	metal clad		
	Highbay lights Panel to switch	15A/1P	277/1P	2640	3 x 4 (1L, 1N, 1G)	115	2.86	3	metal clad		
	36 cct 3 Phase Panel cable	125/3P	480		4 X 50(3L, 1N)	15			xlpe armoured		
Total				74,965							
230/110V, 3 PHASE, 60HZ SUPPLY											
BB- 1,3	Mill	20/2P	230/120/2P	3840	4x6 (2L, 1N, 1G)	60	2.87	3	metal clad		
BB- 2	Work Station	20A/1P	120/1P	1500	3x6 (1L, 1N, 1G)	60	2.87	3	metal clad		
BB- 4	Work Station	20A/1P	120/1P	1500	3x16 (1L, 1N, 1G)	125	2.24	3	metal clad		
BB- 5	Test stand	20A/1P	120/1P	1500	3x10 (1L, 1N, 1G)	100	2.85	3	metal clad		
BB- 6	1/2 ton JIB Crane (2)	30A/1P	120/1P	2160	3x16 (1L, 1N, 1G)	165	2.96	3	metal clad		
BB- 7	Power to GOFF Blaster control	15A	120/1P	1000	3x4 (1L, 1N, 1G)	125	2.25	3	metal clad		
BB- 8	Power to 2 ton crane control	15A	120/1P	1000	3x4 (1L, 1N, 1G)	110	1.98	3	metal clad		
BB- 9	Power to 2 ton crane control	15A	120/1P	1000	3x4 (1L, 1N, 1G)	25	0.45	3	metal clad		
BB- 10	Power to 10 ton crane control	15A	120/1P	1000	3x4 (1L, 1N, 1G)	100	1.80	3	metal clad		
BB- 11	Power to JIB crane control	15A	120/1P	1000	3x6 (1L, 1N, 1G)	200	2.39	3	metal clad		
Total				15,500							

480/277V, 3P, 60Hz Supply		230/110V, 3P, 60Hz Supply	
Total load	74,965	Total load	15,500
Total current at 480V, 3P	92	Total current at 230V, 3P	40
Recommended	125A	Recommended	60A