Item	Recommendation from Milestone 2	Summarize the impact of the Stage 2 recommendation on the following over different entities							
		Normal Power SLD	**Emergency Power SLD**	**Lighting layout drawing**	**Luminaire schedule**	**Power layout drawing**	**Mechanical schedule**	**Panel Schedule(s)**	**Service sizing calculation**
Inclusion of UPS equipment	No recommendation is given	N/A	The Emergency SLD includes two 25 kVA UPS units (one active, one standby) to support a load of 17.43 kVA with a 1-hour backup time, as calculated with a 25% safety margin. This setup has been incorporated into the Emergency SLD diagram in Milestone-2.	The lighting layout drawing will reflect UPS-backed emergency lighting circuits, ensuring critical lights are powered during outages.	N/A	In our milestone-2, we have already incorporated 2 UPS in power layout diagram.	The mechanical schedule must account for cooling requirements (e.g., HVAC modifications) if the UPS system generates significant heat.	As we have used two UPS here where one is active, another one is standby and both are connected via a static bypass switch for the continuous and non-continuous load. Also the UPS are connected with a dedicated MCCB breaker for protection. Considering this scenario, panel schedule will be impacted.	We have incorporated 2 UPS (Each of 25 KVA) in our design. There will be an impact to the overall service sizing calculation.
Generator type, location, sizing	No recommendation is given	N/A	Emergency SLD will be impacted. In Milestone-2, a 290 kVA, 3-phase, 208V generator was used which connected to the UPS via a 1000A VCB, with an 11 kV automated circuit switch and disconnect switch. Two 800 kcmil underground cables were used for wiring, as shown in the Emergency SLD	The generator room, located beside the electrical room, will require a dedicated lighting layout with appropriate luminaires and emergency lighting, as reflected in the power layout diagram.	Luminaire schedule will be impacted. Based on the generator room's length and width, we will require 9 luminairies	The generator room, sized at 16' (L) x 10.5' (W) x 10.5' (H), has been already incorporated into the power layout diagram beside the electrical room.	Mechanical schedule will be impacted as it must include ventilation systems (e.g., air intake/exhaust fans, louvers, or HVAC) to manage heat from the generator and ensure proper airflow. Additionally, it should account for fuel storage and supply systems, including fuel tank capacity, piping layout, and ventilation for fuel storage areas.	Panel schedule will be impacted as it must account for the lighting load in the generator room, requiring a 60A breaker for the 9 luminaries (total load = 4923 W). Since the generator acts as an emergency device, it is not included in the panel schedule but is connected to the bus bar via an automated circuit switch.	The generator room's lighting load (0.547 KVA) has a minimal impact on the service sizing calculation due to its small size.
Distribution options for the site	No recommendation is given	The Normal Power SLD diagram must reflect the chosen distribution option by showing feeders, subpanels, and load balancing across the network. It should also indicate renewable energy integration (e.g., solar, BESS, fuel cells) and their connection points to the distribution system.	The Emergency Power SLD diagram must show critical load isolation and backup power sources (e.g., BESS, fuel cells, or microgrids) from distribution site to ensure uninterrupted power during outages.	N/A	N/A	The power layout drawing must reflect the chosen distribution method, showing the locations of transformers, switchgear, distribution panels, and how power is distributed from sources to loads.	The mechanical schedule must allocate space for distribution equipment (e.g., transformers, switchgear) and include pathways for power cables and conduits based on the chosen distribution option.	The distribution option for the site impacts the panel schedule by determining the number of panels, breaker sizes, and load distribution.	The decentralized distribution option impacts service sizing by requiring the transformer to handle peak loads with diversity factors and ensuring proper feeder cable sizing for each panel.

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		Normal Power SLD	**Emergency Power SLD**	**Lighting layout drawing**	**Luminaire schedule**	**Power layout drawing**	**Mechanical schedule**	**Panel Schedule(s)**	**Service sizing calculation**
Renewable Energy or alternative sources	No recommendation is given	The Normal Power SLD must include the solar inverter and solar panel connections to the main panel, reflecting the integration of solar power as a renewable energy source.	The Emergency Power SLD must incorporate the solar system, showing how it powers critical loads during a grid outage, including connections to inverters, batteries, and transfer switches for seamless backup operation.	N/A	N/A	The power layout drawing must reflect the solar panel array (ground-mounted) and inverter location near the main panel or electrical room, reflecting the integration of solar power into the system.	The mechanical schedule must account for cooling requirements for the solar inverter and structural support for ground-mount solar racking systems.	N/A	Service sizing calculation will be impacted as installing solar panels reduces the service sizing calculation by offsetting grid power demand
zero carbon initiatives	No recommendation is given	The Normal Power SLD must include the solar inverter and solar panel connections to the main panel, reflecting the integration of solar power as an alternative to grid electricity.	N/A	The lighting layout need to optimize fixture placement and prioritize emergency/critical lighting zones based on solar power and battery backup capacity. Smart lighting controls (e.g., dimmers, motion sensors) will enhance energy efficiency and align with solar integration.	The luminaire schedule will prioritize energy-efficient lighting (e.g., LED) and incorporate daylight harvesting strategies to align with solar power availability and reduce energy consumption	Power layout will be impacted as we need to replace the utility power source with solar panels, inverters, and battery storage, need to show DC wiring from panels to inverters and AC wiring to the main panel.	The mechanical schedule must account for cooling requirements for the solar inverter and structural support for ground-mount solar racking systems.	N/A	For service sizing calculation, there will be a significant impact if we use solar panel instead of grid electricity. Grid service sizing calculations will be eliminated, and all calculations will be based on solar power availability and storage capacity.
Consideration of future technologies	No recommendation is given	The Normal Power SLD must show connections for solar, BESS, and hydrogen/fuel cells, along with AI-driven BMS and IoT-controlled loads. It should also indicate grid interaction (e.g., net metering, peak shaving) for optimized energy management.	The Emergency Power SLD must highlight BESS and fuel cells as backup power sources, show critical load isolation, and include automatic transfer switches for seamless transition during outages.	The Lighting layout drawing must incorporate IoT-enabled lighting controls, occupancy sensors, and daylight harvesting, with optimized layouts and zoning/dimming controls for energy efficiency and alignment with renewable energy availability.	The luminaire schedule will align with AI-driven energy management strategies, ensuring dynamic lighting adjustments based on occupancy, daylight availability, and energy optimization.	The power layout drawing must include IoT devices, smart sensors, BESS, and hydrogen/fuel cell systems, along with their connections and wiring for IoT networks, showing seamless integration of renewable energy sources into the main distribution system.	The mechanical schedule must include HVAC modifications for BESS cooling, structural reinforcements for ground-mounted racks, and smart climate control systems to optimize power consumption and integrate future technologies.	The panel schedule will need to account for IoT devices, smart sensors, and AI-driven BMS by including dedicated circuits for these systems. Additionally, it must integrate BESS and hydrogen/fuel cell connections, ensuring proper breaker sizing and load distribution for optimized energy management.	Service sizing calculation will be impacted as it will account for renewable energy generation, storage, and AI-driven load optimization, reducing grid dependency and including hydrogen/fuel cell output in the total