

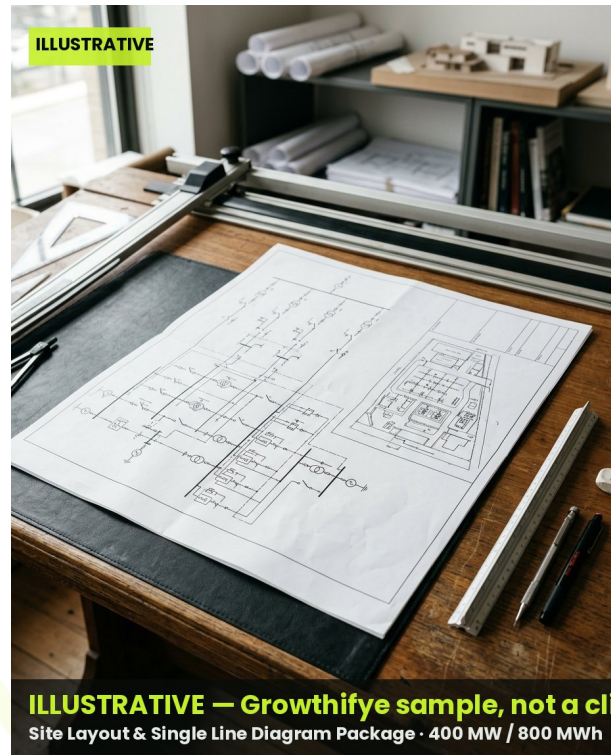


EPC · STEP 01 · ENGINEER FOR CONSTRUCTABILITY · DRAWING

Site Layout & Single Line Diagram Package

Site-adapted general arrangement and electrical single line diagram, reconciled against survey data and code clearances, issued for procurement.

Worked example (anonymised): Standalone BESS constructability review · 400 MW / 800 MWh · Western India. A DISCOM-awarded standalone BESS project moved from vendor reference layout to a site-adapted design after review flagged drainage, crane-access and fire-clearance issues ahead of procurement.



Illustrative sample image

Sample excerpt · Single Line Diagram — Equipment Schedule Extract

Tag	Equipment	Rating	Qty	Location
T-01/02	Power Transformer	33/132 kV, 63 MVA	2	Substation yard
PCS-01 to 48	Power Conversion Skid	3.6 MW, 800 V DC	48	Battery blocks A-D
SWG-01	33 kV Switchgear Panel	33 kV, 1250 A	6	Switchgear room
CB-01	132 kV Circuit Breaker	132 kV, 2000 A	3	Switchyard
CT-01	Current Transformer	132 kV, 1200/1 A	9	Switchyard

Notes

- Layout iterated three times against crane and cable-trench constraints before freeze
- Issued alongside a marked-up redline set showing changes from vendor reference design

What happens in this step

1. Cross-check vendor reference layouts against site topo survey, geotechnical data and drainage patterns
2. Validate equipment sizing (PCS, transformers, cabling) against actual ambient conditions and site-specific auxiliary loads
3. Review access roads, crane paths and lay-down areas against real construction logistics, not idealised plot plans



4. Verify clearances, bay spacing and fire safety against applicable IS/CEA codes and state electrical inspectorate requirements
5. Design O&M; walkways, module-swap aisles and maintenance zones for 20-year operability, not just installation-day access
6. Flag constructability risks in a formal register with mitigation options, costed where material
7. Issue a sign-off package that procurement and construction teams work from — not a marketing-grade GA drawing

Outcomes

- Site-specific design issues identified before procurement, avoiding costly rework during construction
- O&M; access and safety clearances built into the layout from day one, reducing lifecycle operating costs
- Equipment sizing validated against actual site conditions, not vendor default assumptions
- Constructability sign-off typically reduces change orders during EPC execution by 15-20%

Want this for your project? Write to info@growthifye.com or use the Contact page — we will scope the real deliverable set for your capacity, state and lender requirements.

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