

WASTE MANAGEMENT

Various stages in an asset's lifecycle present the potential for waste generation and need to be minimised from the outset



DESIGN

- Lowest-price-wins model
- Non-functional designs
- Incomplete design
- Detail design errors
- Frequent changes
- No awareness of standards for raw materials
- Bespoke design
- Lack of consideration for complete lifecycle
- Inflexible structures
- Poor logistical planning leading to delays for orders, permits, inspections, instructions
- No re-usable metallic frame
- No energy efficiency considerations and monitoring systems

PLANNING

- No plans in place for the lifecycle of the asset. All focus on design through to delivery
- Lack of standards and mandates to account for waste through asset lifecycle

CONTRACTUAL

- Document errors
- Unclear specifications
- Frequent changes
- Unclear risk allocation leading to dispute
- Government approvals not in place
- Unrealistic schedules
- Poor cost estimation
- Delayed decision-making process
- Payment delays
- Lack of communication between project parties

PROCUREMENT

- Inappropriate procurement method
- Poor communication
- Not sourcing reclaimed materials
- Over-ordering to avoid shortage
- Ordering errors (non-compliant materials)
- Minimum order requirements
- Supplier errors
- Transport and storage damage
- Poor stock control

ONSITE

- Poor site management
- Communication issues caused by multi-nationalities
- Errors and re-work caused by unskilled, badly-supervised staff
- Broken equipment causing delays
- Poor waste management plan
- Bad site layout
- Delayed decisions and communications
- Initiating construction without proper/finished design
- Carbon emissions
- Excessive fuel usage
- Lost human effort and energy
- Adversarial attitudes

HANDOVER

- No set standards for waste management
- No plans for disposal of excessive materials and other resources
- Direct-to-landfill approach for excess and refuse
- Inept or biased inspection processes

OPERATIONS AND MAINTENANCE

- BIM models generated throughout construction left unused and treated as records
- Waste generated by asset not segregated for recycling
- Lack of energy efficiency, building optimisation practices

DECOMMISSIONING AND DEMOLITION

- Little thought for re-use of components during planning
- Use of glue, not bolts, excessive finishes and coating, non-durable components
- Poor waste management plan
- Lack of market for monetised waste disposal and recycling
- Direct-to-landfill approach

Complete lifecycle monitoring and feedback is required from all stakeholders to inform and improve future project development