



Built Environment Portfolio

Project & Construction Management
Civil Engineering & Environmental Management
Construction Technology III

Construction Site Layout

Construction Site Layout

- ➔ Construction site layout is about planning and organising the site area around the proposed structure to accommodate the resources necessary to construct the project.



Construction Site Layout



⇒ Importance of operating space

- Consider as a resource
- Life of the project
- Sequence of work
- Effectiveness
- Efficiency
- When planned?
- Restrictions

Construction Site Layout

- ⇒ Contractual issues can dictate site layout...
 - Contract period
 - Start / completion dates
 - Handover
 - Phased completion!
 - Specifications
 - Others?



Construction Site Layout

➔ Factors likely to influence site layout

- Access
- Materials storage
- Accommodation
- Plant
- Services
- Safety
- Sensitive areas



Construction Site Layout

➡ Site access

- Entrance and exit
- Short direct routes
- Traffic flow
- Temporary approaches
- Drainage / maintenance
- Spoil heaps
- Public footpaths
- hoardings



Construction Site Layout



- ➔ Materials storage
 - Minimise waste
 - Double handling
 - Stores / compounds
 - Designated areas
 - Material protection
 - Completed sections
 - Schedules
 - Subcontractors
 - Security

STORAGE AREA PROGRAMME

Sosat Construction Ltd

Contract title _____
 Contract no. _____ Site layout dwg. no. _____
 Compiled by _____ Date _____

Amendments

Storage area designation	WEEKS																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
NB/1	CAR PARKING																																		
EB/2	REINFORCEMENT												AIR CONDITION DUCTING																						
C/3	SAND AND AGGREGATE												AND MIXER																						
C/4	FORMWORK												PRECAST CLADDING UNITS																						
C/5	FORMWORK												PRECAST CLADDING UNITS																						
C/6	PRECAST FLOOR UNITS												INTERNAL CONCRETE BLOCKS																						
C/7	PRECAST FLOOR UNITS												INTERNAL CONCRETE BLOCKS																						
C/8	BRICKS												PAINTING CONTRACTOR																						
C/9	PRECAST FLOOR UNITS												FLOOR SCREED S/C																						
C/10	PRECAST FLOOR UNITS												ELECTRICAL SUB CONTRACTOR																						
C/11	DUCTING & CONDUIT												HEATING AND VENT S/C																						
GROUND FLOOR	NOT IN USE												WINDOWS AND DOOR UNITS												NOT IN USE										

Typical storage area programme

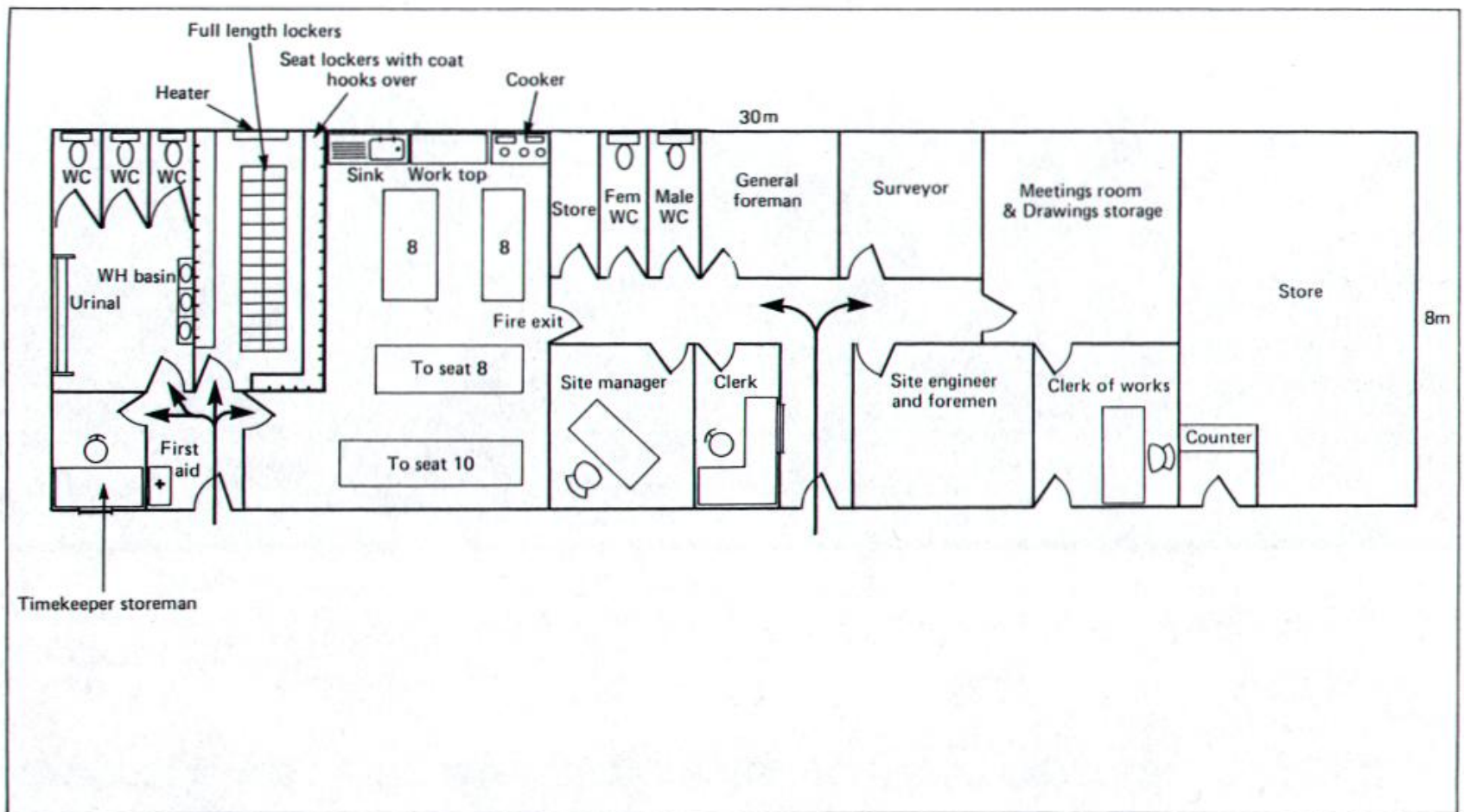
Construction Site Layout

➔ Accommodation

- Selection
- Offices
- Difficult areas



- Visitors
- Car parks
- Continuity
- Privacy
- Workshops



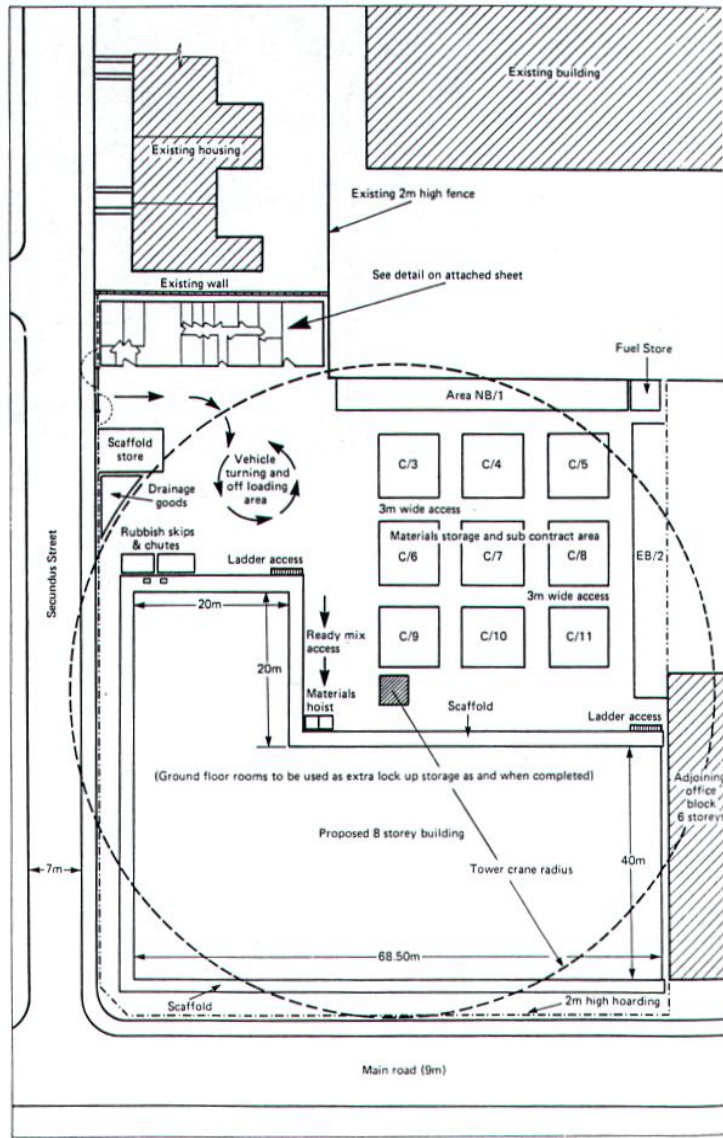
Typical site office layout

Construction Site Layout

⇒ Plant

- Selection
- Fixed / mobile
- Services
- Jibs
- Scaffolding
- Safety



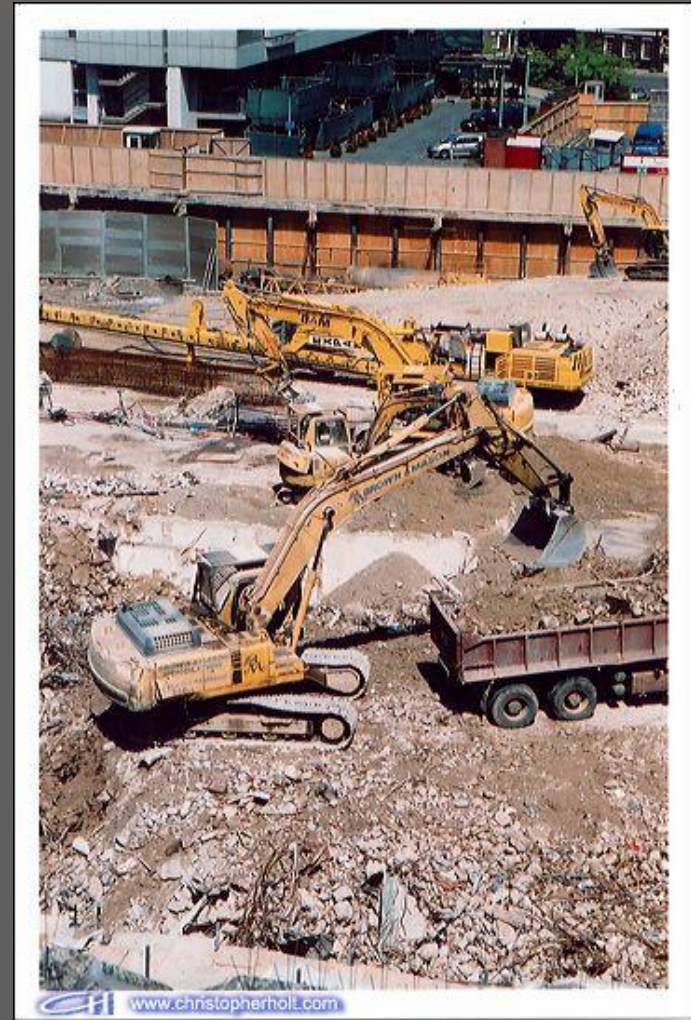


Tower crane positioning

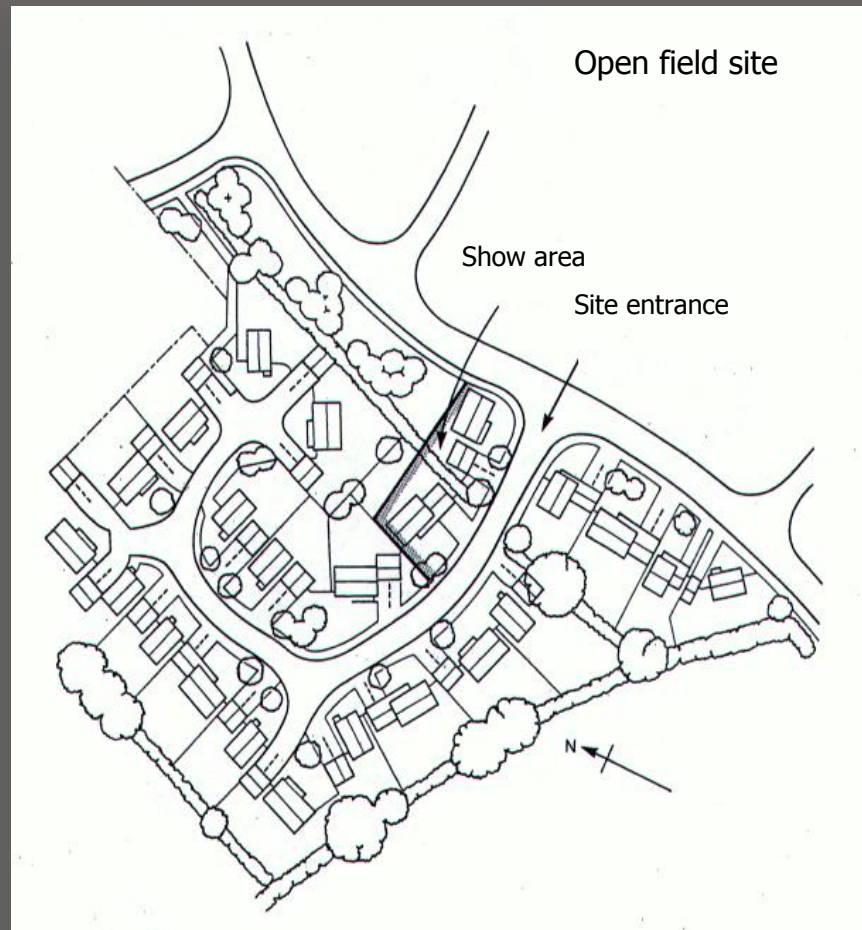
Construction Site Layout

➔ Services

- Existing
- Disruption
- New service routes
- Temporary
- Statutory authority
 - Water
 - Telephone
 - Data
 - Electricity
 - Gas
 - waste



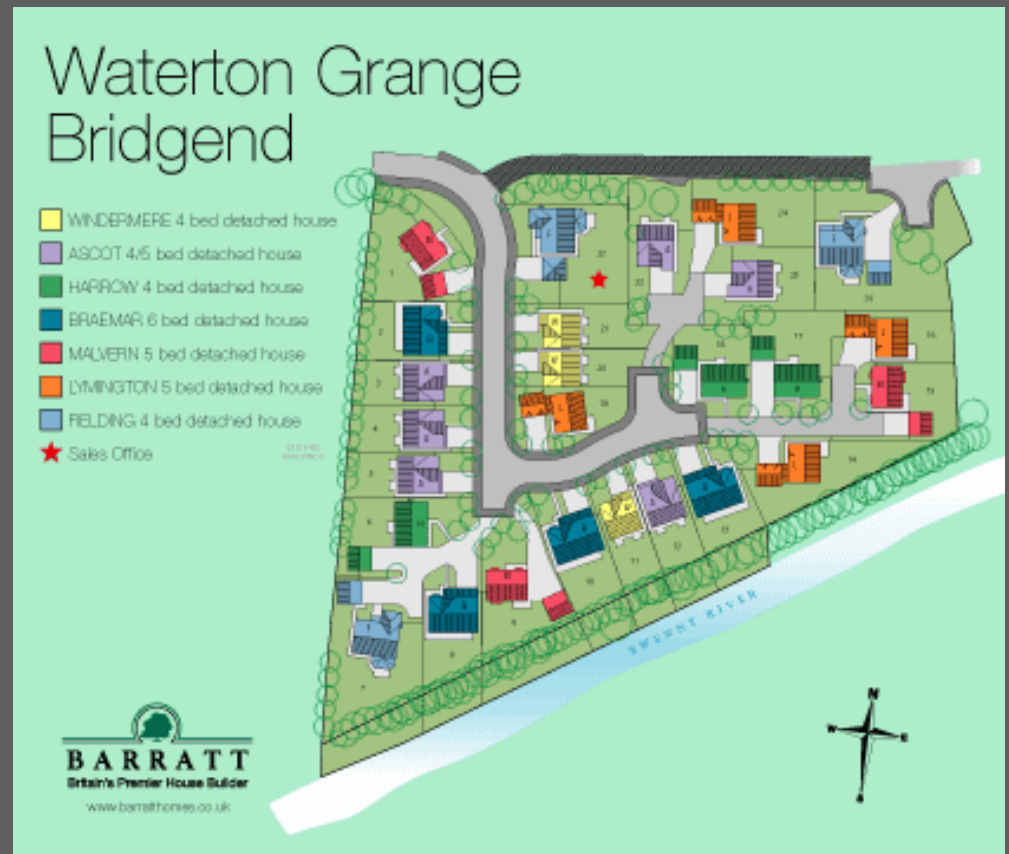
Construction site layout

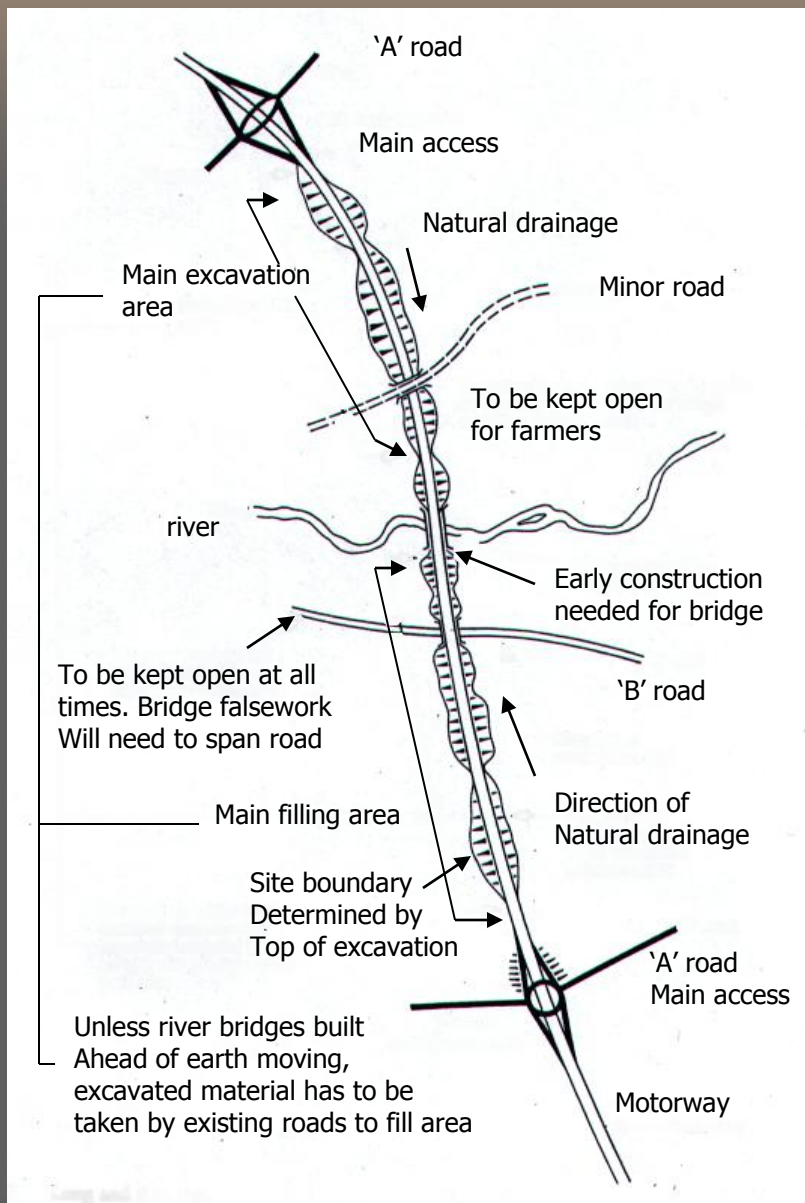


Construction site layout

➡ Discussion

- What key factors need to be considered for an open field housing site similar to the shown?





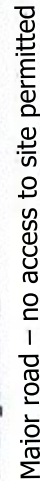
Construction site layout

⇒ Discussion

- ⇒ Identify the areas of concern for long thin sites such as the one displayed.



Storage within site boundary only



Construction site layout

- ➔ What are the challenges associated with restricted sites?



Construction site layout



➔ Guidelines for planning restricted sites

- In depth study of the site
 - Boundaries
 - Adjacent structures
 - Obstructions
- Restrictions of the site itself
- Exploit any features
 - Unexcavated areas not to be built on
- Access and unloading issues

Construction site layout

➡ Boundary conditions

- Encroachment
- Setting out
- Adjacent properties
- Security



Construction site layout

➔ Security

- Guard against trespass
- Protection of the works and plant
- Statutory duty of care
- Protect people and property
- Safeguard the environment



Construction site layout

⇒ Effect of boundary conditions on plant selection

- Offloading
- Access to plant
- Pollution
- Trespass
- Sizing of plant



Construction site layout

Workshop

Discuss those areas relating to construction sites where challenges regarding safety will arise.



Include in your analysis the issues surrounding any legal obligation relevant to plant and services











