

FOUNDATIONS FOOTINGS & FORMWORK A PRACTICAL APPROACH

Foundations

Good Foundations provide sound bearing for the Structure to be built on without fear of collapse.



CLEAN YELLOW SAND COMPACTED
TO 97%



FOOTINGS

Simple Strip Footings being excavated and poured

Simply Raft Ground Slab



SETTING OUT




- Setting Out requires accuracy and consideration regarding the sequence of excavation of the Footings
- The use of an experienced Engineering Surveyor pays benefits in the long term



PILING

- Piling is used to provide good Foundations where Ground conditions are suspect
- Different types of Piling are:
 - Bored Piles
 - Reinforced Piles
 - Secant Piles
 - Screw Piles
 - Driven Piles
 - Contiguous Piles

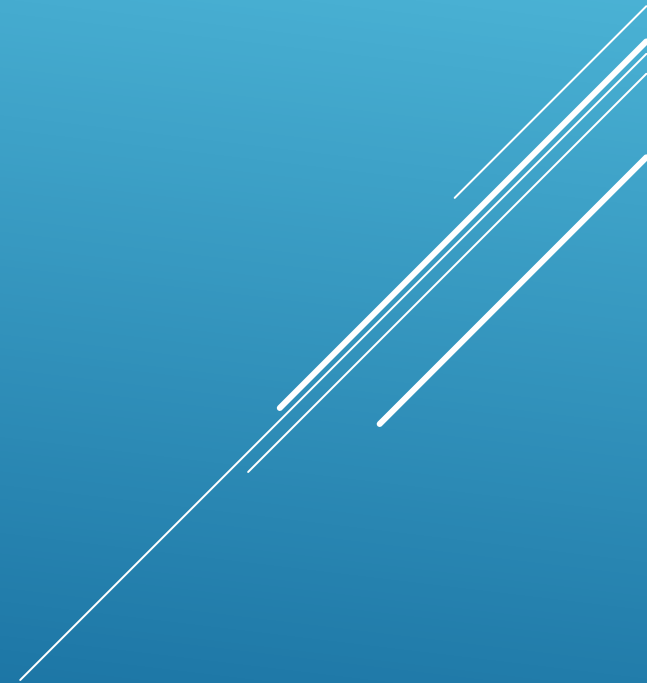
PLANNING

- Planning the excavation sequence and process is a very important part of this sequence of works.
 - Consideration should also be given to the location and depth of **Temporary Services**, these should be clearly recorded and “marked up” on a Site Plan.
 - Consideration needs to be given to what do you do with all the excavated material, some may need to be used for backfilling
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FOOTING TYPES

There are various Footing Types all have different applications

- **Strip Footings** are those which will generally support Brickwork or Insitu Concrete Walls or carry the edge of a Edge Thickening of a Raft Slab. Strip Footings will also be used for the base of Retaining
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- **Pad Footings** are simple isolated Footings of various sizes and depths which will generally support Steel Columns or Concrete Columns



QUALITY

- The Quality requirements are clearly articulated in the Project Specification
- Inspection Test Plans referred to as ITP's
- The ITPs are developed from the Specification and the Engineering Notes and Notes on the Structural Drawings

Concrete Pre-pour Checklist (FMS-MP01-07)

Project:		Date:	
Project No.:		Area:	
Drawings:		Location:	
Lot Name/No:			
Reference Docs:			

Inspection Activity	Acceptance Inspection			Comments
	Y	N	N/A	
Placement				
Survey values established				
Checked permanent survey marks				
Established temporary bench marks				
Checked lines & levels				

Authorization:

Surveyor: _____
Name
Signature
Date

Inspection Activity	Acceptance Inspection			Comments
	Y	N	N/A	
Sub-base/sub-structure				
Foundation preparation				
Blinding				
Scabbling of base structure				
Formwork				
Formwork approved by Engineer				Class of finish:
Material suitable for location and surface finish				
Fillet installed to exposed edges				
Checked location, dimensions, elevation and alignment				
Checked form ties, bottom bearing and propping				
Formwork clean and release agent applied				
Checked location of construction and expansion joints				
Voids/inserts/embedded items				
Checked type, size and number				
Checked location, rigidity and protection				

FORMWORK



- On today's fast-paced construction sites boundaries are being pushed with Design , Specific Client requirements
- Temporary Works Engineers should be engaged to Inspect and Sign Off Formwork Installations prior to any Concrete being poured

Conclusion

- The importance of good Quality Control and Quality Assurance Practices cannot be understated here, take a short cut eventually it will come to light as unforeseen loads are being imposed on part of a structure causing catastrophic failures.
- These failures have a serious impact on the Industry through loss of credibility and huge financial costs but most of all loss of life ...can you afford to have that on your conscious