

# GROUNDWORKS - DESIGN REQUEST FORM

Customer Name and Site Address:		Mabey Engineering Job Number (MABEY):
		Mabey Sales Representative (MABEY):
Scheme Title:		Estimated Hire Duration:
Principle Contractor:	Consultant (if applicable):	Quote Required By:
		Equipment Required By:

Required Information:		Comments:
1.	Is Professional Certification Required e.g., RPEQ, CPENG (Y/N – Give Details)	
2.	Excavation Purpose: (e.g., pipe run, storage tank, wet well etc.)	
3.	Plan Dimensions: (State if clearance or external dims provided.)	
4.	Max Excavation Depth:	
5.	Are any ground reductions taking place / OR possible? (Provide levels):	
6.	Ground / Groundwater Conditions: (provide site investigation report, relevant boreholes etc.) <i>If No Soils info is available, complete verbal soils form.</i>	
7.	Adjacent Water Courses: (provide details / levels of any nearby rivers, creeks, oceans etc.)	
8.	Details of any Dewatering taking place: (e.g. sump pumps / dewatering spears and to what level the water is to be reduced to.)	
9.	Details of Plant / Excavators / Cranes etc. working around Excavation: (provide weights and distances.)	
10.	Details of any additional nearby Loads: (e.g. Spoil, Live Roads, Railways, Buildings etc.)	
11.	Any height restrictions on use of lifting plant: (e.g. max lift height of excavator / overhead power cables.)	

<p><b><u>Required Attachments / Information</u></b></p> <ol style="list-style-type: none"> <li>Long sections and plans of permanent works.</li> <li>Full Soil Investigation Report inc. relevant BH / TP.</li> <li><u>OR</u> Verbal soils form if no SI available.</li> </ol>	<p><b><u>Useful Attachments / Comments</u></b></p> <ol style="list-style-type: none"> <li>Sketch of site layout &amp; Problem (next page).</li> <li>Photos of site.</li> <li>Schedule of works</li> </ol>
---	---

# VERBAL SOILS DESCRIPTION – ONLY USE IF NO SOILS INFO IS AVAILABLE

## SOILS DESCRIPTION GUIDELINES

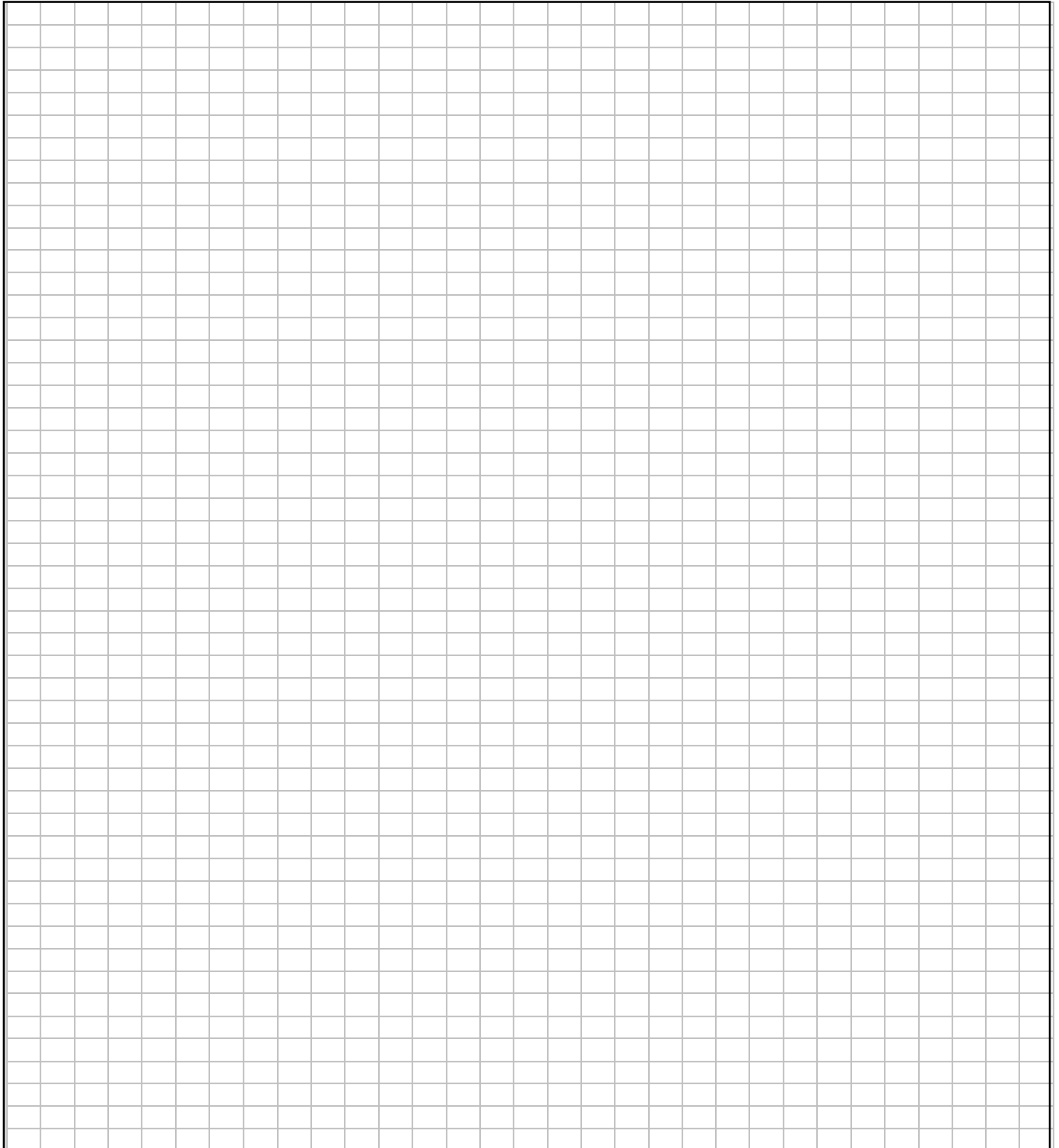
SOIL TYPE		PARTICLE SIZE, mm	COMPACTNESS / STRENGTH		NOTES & VALUES																				
			TERM	FIELD IDENTIFICATION																					
Descriptions generally in accordance with AS 1726-1993. For more information see Australian Standard.																									
<b>VERY COARSE</b>	BOULDERS	200			<b>Plasticity - Clay and Silts</b> <table border="1"> <thead> <tr> <th>Descriptive Term</th> <th>Range of liquid limit %</th> </tr> </thead> <tbody> <tr> <td>Low Plasticity</td> <td>≤ 35</td> </tr> <tr> <td>Medium Plasticity</td> <td>&gt; 35 ≤ 50</td> </tr> <tr> <td>High Plasticity</td> <td>&gt; 50</td> </tr> </tbody> </table>	Descriptive Term	Range of liquid limit %	Low Plasticity	≤ 35	Medium Plasticity	> 35 ≤ 50	High Plasticity	> 50												
	Descriptive Term	Range of liquid limit %																							
Low Plasticity	≤ 35																								
Medium Plasticity	> 35 ≤ 50																								
High Plasticity	> 50																								
COBBLES	63			<b>Classification of Granular soils</b> <table border="1"> <thead> <tr> <th>Density</th> <th>SPT 'N' Value</th> <th>Φ</th> </tr> </thead> <tbody> <tr> <td>Very loose</td> <td>&lt; 4</td> <td>28°</td> </tr> <tr> <td>Loose</td> <td>4 - 10</td> <td>29° - 30°</td> </tr> <tr> <td>Medium Dense</td> <td>10 - 30</td> <td>30° - 36°</td> </tr> <tr> <td>Dense</td> <td>30 - 50</td> <td>36° - 40°</td> </tr> <tr> <td>Very Dense</td> <td>&gt; 50</td> <td>&gt; 40</td> </tr> </tbody> </table>	Density	SPT 'N' Value	Φ	Very loose	< 4	28°	Loose	4 - 10	29° - 30°	Medium Dense	10 - 30	30° - 36°	Dense	30 - 50	36° - 40°	Very Dense	> 50	> 40			
Density	SPT 'N' Value	Φ																							
Very loose	< 4	28°																							
Loose	4 - 10	29° - 30°																							
Medium Dense	10 - 30	30° - 36°																							
Dense	30 - 50	36° - 40°																							
Very Dense	> 50	> 40																							
<b>COARSE</b>	GRAVELS	Coarse			<b>Descriptive Terms for Material Proportions</b> <table border="1"> <thead> <tr> <th colspan="2">Coarse</th> <th colspan="2">Fine</th> </tr> <tr> <th>% Fines</th> <th>Modifier</th> <th>% Coarse</th> <th>Modifier</th> </tr> </thead> <tbody> <tr> <td>≤ 5</td> <td>Trace</td> <td>≤ 15</td> <td>Trace</td> </tr> <tr> <td>&gt; 5 ≤ 12</td> <td>With some</td> <td>&gt; 15 ≤ 30</td> <td>With some</td> </tr> <tr> <td>&gt; 12</td> <td>Much/many</td> <td>&gt; 30</td> <td>Much/many</td> </tr> </tbody> </table>	Coarse		Fine		% Fines	Modifier	% Coarse	Modifier	≤ 5	Trace	≤ 15	Trace	> 5 ≤ 12	With some	> 15 ≤ 30	With some	> 12	Much/many	> 30	Much/many
		Coarse		Fine																					
		% Fines	Modifier	% Coarse		Modifier																			
	≤ 5	Trace	≤ 15	Trace																					
	> 5 ≤ 12	With some	> 15 ≤ 30	With some																					
	> 12	Much/many	> 30	Much/many																					
Medium	Loose	Can be excavated by spade; 50mm wooden peg easily driven.																							
6	Dense	Requires pick for excavation; 50mm peg hard to drive.																							
SANDS	Coarse	Slightly Cemented	Visual examination: pick removes soil in lumps which can be abraded.																						
	Medium																								
	0.6																								
<b>FINE</b>	SILTS	Coarse	Soft or loose	Easily moulded or crushed in the fingers.	<b>Consistency Terms - None Cohesive Soils</b> <table border="1"> <thead> <tr> <th>Term</th> <th>Density</th> <th>Index %</th> </tr> </thead> <tbody> <tr> <td>Very Loose</td> <td></td> <td>≤ 12</td> </tr> <tr> <td>Loose</td> <td>&gt;15</td> <td>≤ 35</td> </tr> <tr> <td>Medium Dense</td> <td>&gt; 35</td> <td>≤ 65</td> </tr> <tr> <td>Dense</td> <td>&gt; 65</td> <td>≤ 85</td> </tr> <tr> <td>Very Dense</td> <td>&gt; 85</td> <td></td> </tr> </tbody> </table>	Term	Density	Index %	Very Loose		≤ 12	Loose	>15	≤ 35	Medium Dense	> 35	≤ 65	Dense	> 65	≤ 85	Very Dense	> 85			
		Term	Density	Index %																					
		Very Loose		≤ 12																					
	Loose	>15	≤ 35																						
	Medium Dense	> 35	≤ 65																						
	Dense	> 65	≤ 85																						
Very Dense	> 85																								
0.02																									
0.006	Firm or dense	Can be moulded or crushed by strong pressure in fingers.																							
CLAYS	0.002			<b>FIELD TEST GUIDE</b> <table border="1"> <thead> <tr> <th></th> <th>SPT 'N' Value (Blows per 300mm)</th> <th>Consistency Terms - Cohesive Soils - Strength (kPa)</th> </tr> </thead> <tbody> <tr> <td>Very soft</td> <td>0 &gt; 2</td> <td>≤ 12</td> </tr> <tr> <td>Soft</td> <td>2 &gt; 4</td> <td>&gt; 12 ≤ 25</td> </tr> <tr> <td>Firm</td> <td>4 &gt; 8</td> <td>&gt; 25 ≤ 50</td> </tr> <tr> <td>Stiff</td> <td>8 &gt; 15</td> <td>&gt; 50 ≤ 100</td> </tr> <tr> <td>Very Stiff</td> <td>15 &gt; 30</td> <td>&gt; 100 ≤ 200</td> </tr> <tr> <td>Hard</td> <td>&gt; 30</td> <td>&gt; 200</td> </tr> </tbody> </table>		SPT 'N' Value (Blows per 300mm)	Consistency Terms - Cohesive Soils - Strength (kPa)	Very soft	0 > 2	≤ 12	Soft	2 > 4	> 12 ≤ 25	Firm	4 > 8	> 25 ≤ 50	Stiff	8 > 15	> 50 ≤ 100	Very Stiff	15 > 30	> 100 ≤ 200	Hard	> 30	> 200
		SPT 'N' Value (Blows per 300mm)	Consistency Terms - Cohesive Soils - Strength (kPa)																						
	Very soft	0 > 2	≤ 12																						
	Soft	2 > 4	> 12 ≤ 25																						
	Firm	4 > 8	> 25 ≤ 50																						
	Stiff	8 > 15	> 50 ≤ 100																						
	Very Stiff	15 > 30	> 100 ≤ 200																						
Hard	> 30	> 200																							
<b>ORGANIC</b>	ORGANIC CLAY, SILT OR SAND	Varies	Firm	Fibres already compressed together	<b>Structure</b> Fibrous: Plant remains recognizable and retain some strength Amorphous: Recognizable plant remains absent																				
	PEAT		Spongy	Very compressible and open structure																					
			Plastic	Can be moulded in hand, and smears on fingers																					

### VERBAL SOILS DESCRIPTION

### Thickness (m)

Layer 1		
Layer 2		
Layer 3		
Layer 4		
Layer 5		
Groundwater level Reduced water level Details of Dewatering Methods (if applicable)		

**Any Additional Comments / sketches**



<b>Declaration:</b> "I declare that the information contained should be used to prepare the required scheme".		
<b>Name:</b>	<b>Position:</b>	<b>Date:</b>
<b>Signature:</b>	<b>Email:</b>	<b>Tel No:</b>

**PLEASE RETURN FORM TO:**     [engineering@mabey.com.au](mailto:engineering@mabey.com.au)