Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	A

Input parameters:

Sensitive Structure:	Wall Length, L =	7.90	m
	Wall Height, H (including foundation depth) =	11.50	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.69	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	2.0	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

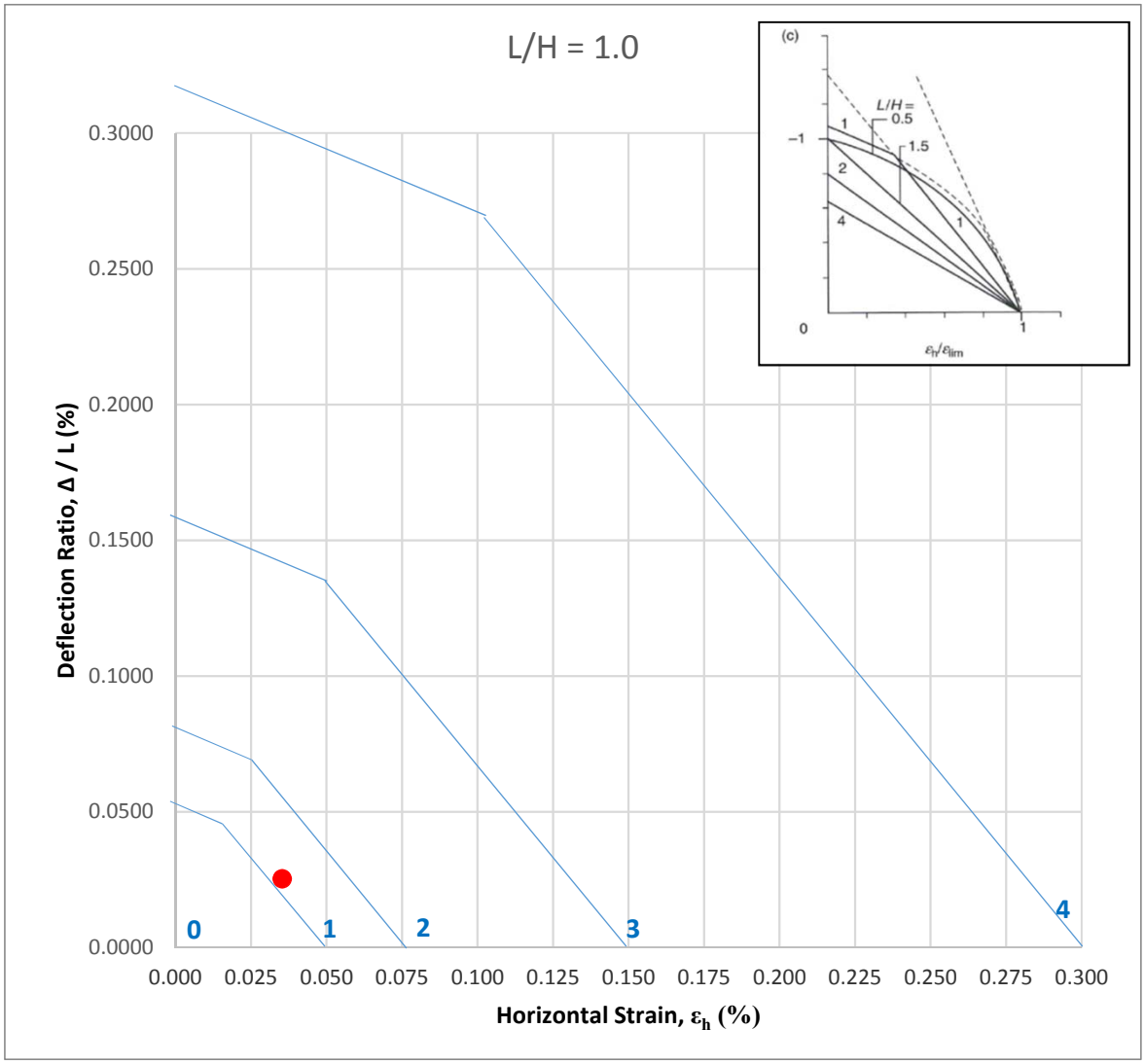
Change in horizontal movement, δ_h =	2.8	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 1 - VERY SLIGHT

Project Number	J17062
Revision	0.0
Wall Reference	A

L / H = **0.69**



Wall Length, L =	7.9	m
Wall Height, H =	11.5	m
Change in horizontal movement, δ_h =	2.80	mm
Change in vertical movement, Δ =	2.00	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0354**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0253**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	B

Input parameters:

Sensitive Structure:	Wall Length, L =	14.50	m
	Wall Height, H (including foundation depth) =	11.50	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.26	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.11	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 0 - NEGLIGIBLE

Project Number	J17062
Revision	0.0
Wall Reference	B

L / H = **1.26**

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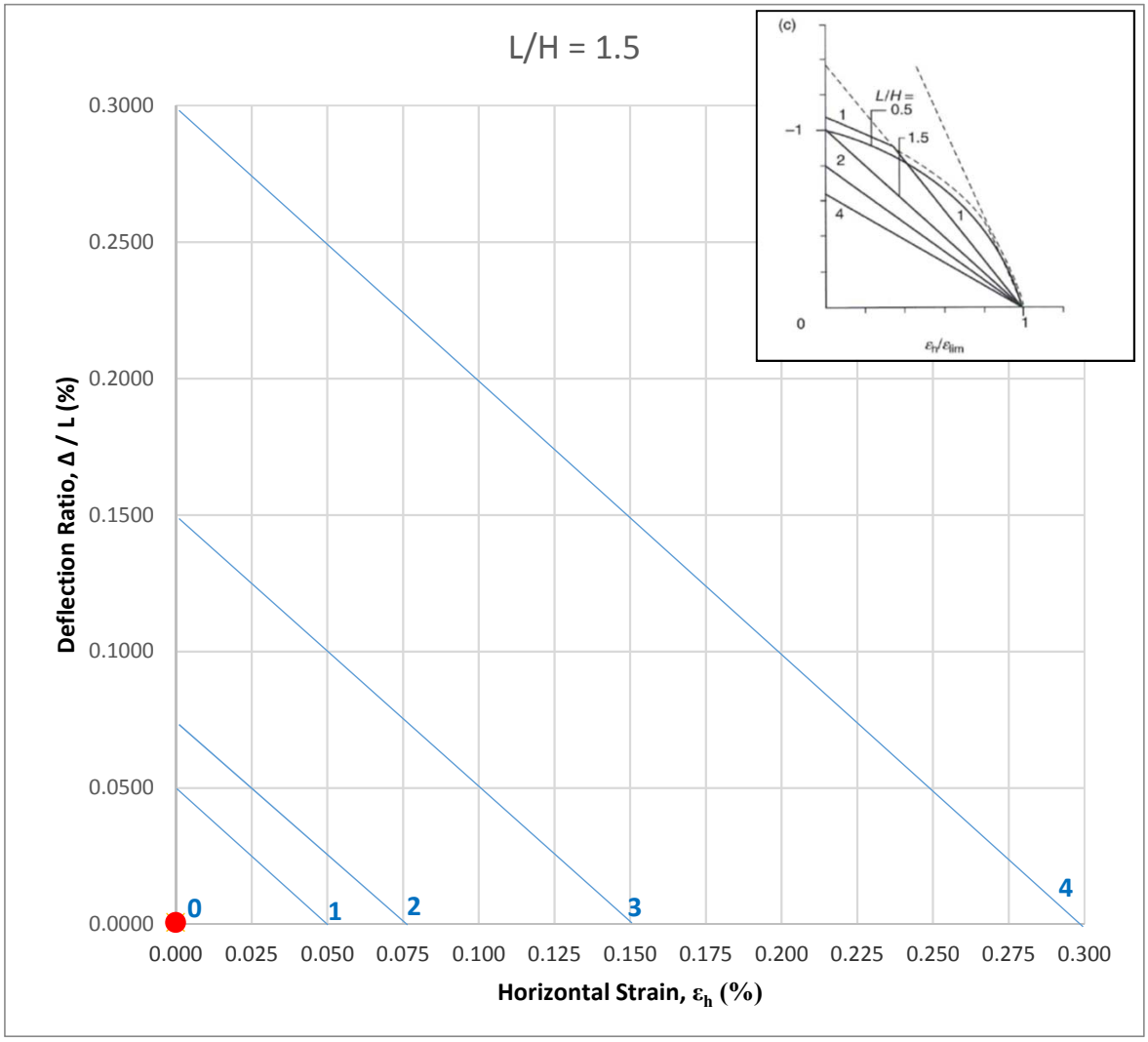


Wall Length, L =	14.5	m
Wall Height, H =	11.5	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.11	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0008**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	C

Input parameters:

Sensitive Structure:	Wall Length, L =	8.60	m
	Wall Height, H (including foundation depth) =	11.50	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.75	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.20	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

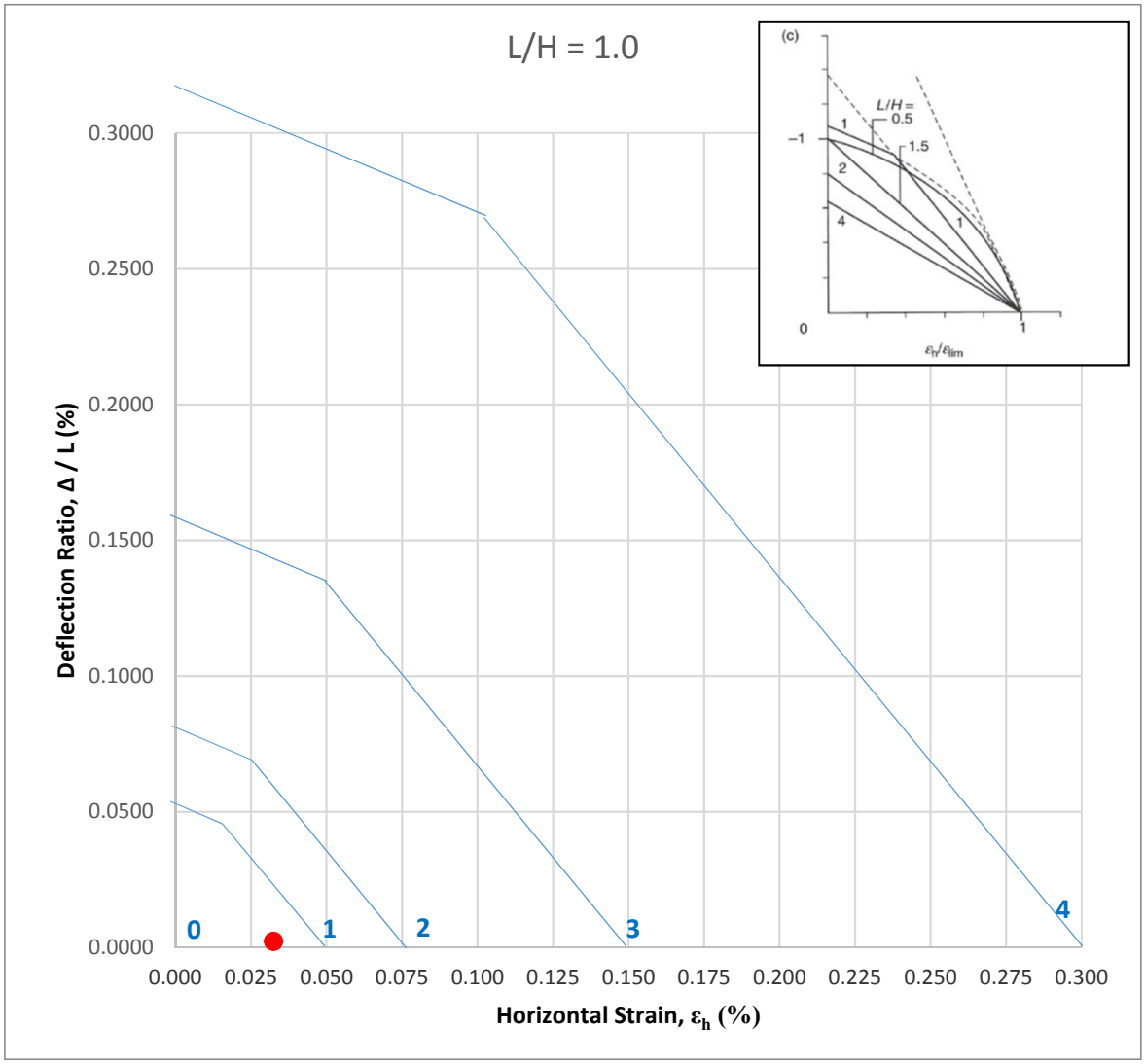
Change in horizontal movement, δ_h =	2.8	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	C

L / H = **0.75**



Wall Length, L =	8.6	m
Wall Height, H =	11.5	m
Change in horizontal movement, δ_h =	2.80	mm
Change in vertical movement, Δ =	0.20	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0326**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0023**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	D

Input parameters:

Sensitive Structure:	Wall Length, L =	6.20	m
	Wall Height, H (including foundation depth) =	14.00	m
	Foundation depth below ground level =	3.50	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	0.00	m
	L / H =	0.44	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.60 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.0 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	D

L / H = **0.44**

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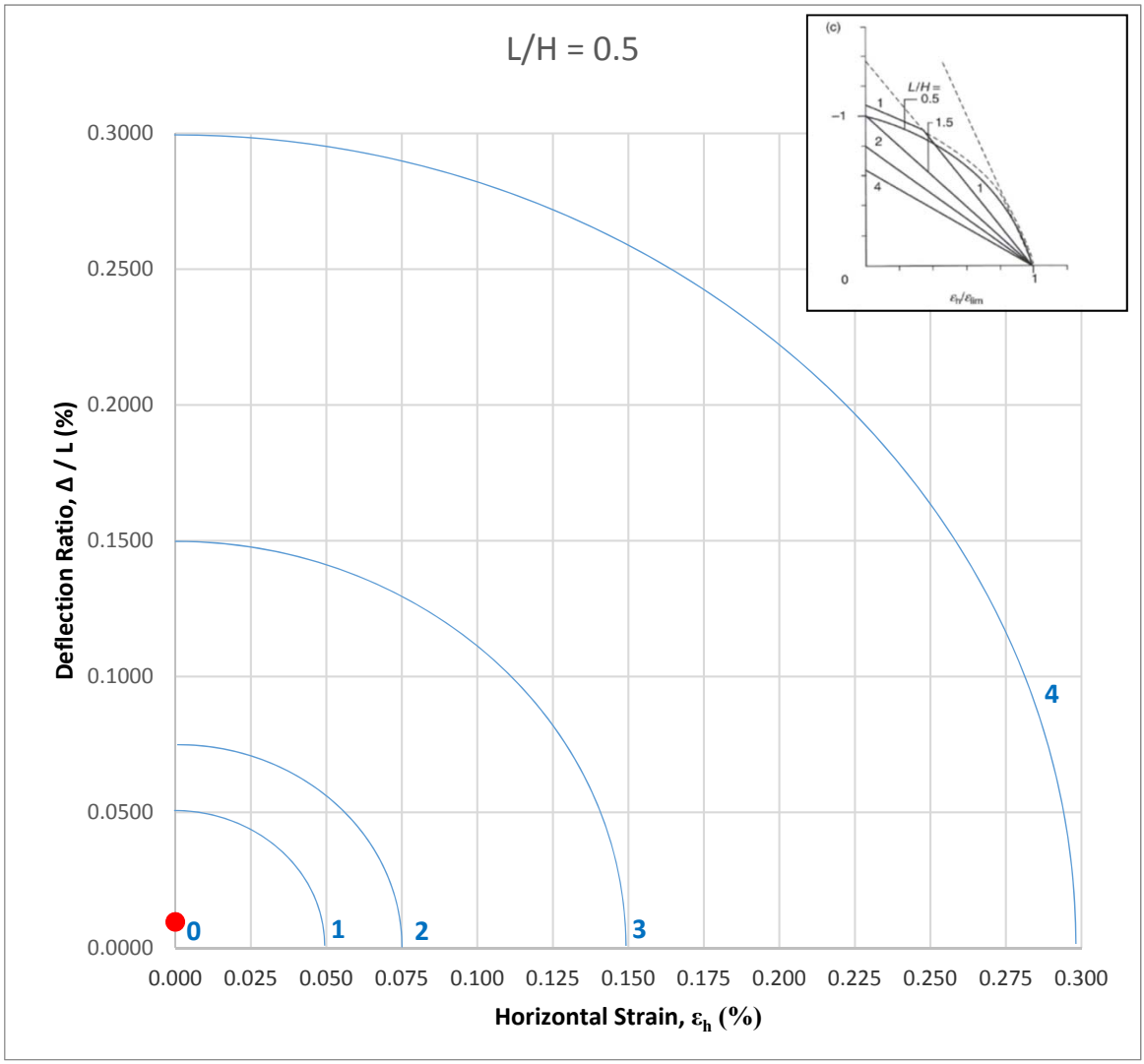


Wall Length, L =	6.2	m
Wall Height, H =	14.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.60	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0097**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	E

Input parameters:

Sensitive Structure:	Wall Length, L =	1.00	m
	Wall Height, H (including foundation depth) =	14.00	m
	Foundation depth below ground level =	3.50	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	0.00	m
	L / H =	0.07	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.00 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.0 **mm**

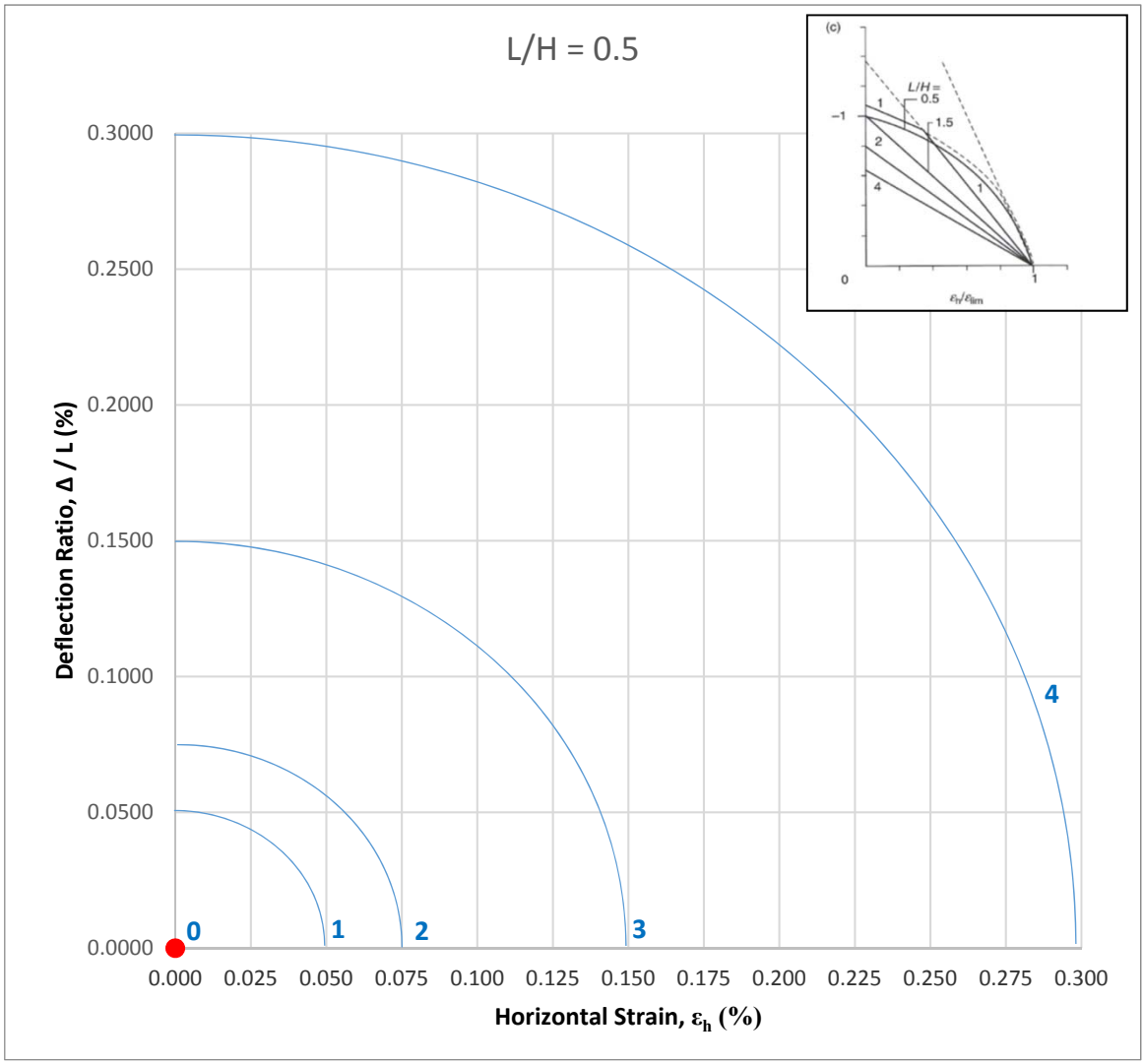
Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	E

L / H = **0.07**

Geotechnical & Environmental Associates



Wall Length, L =	1.0	m
Wall Height, H =	14.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.00	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0000**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	F

Input parameters:

Sensitive Structure:	Wall Length, L =	8.00	m
	Wall Height, H (including foundation depth) =	14.00	m
	Foundation depth below ground level =	3.50	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	0.00	m
	L / H =	0.57	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.71 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

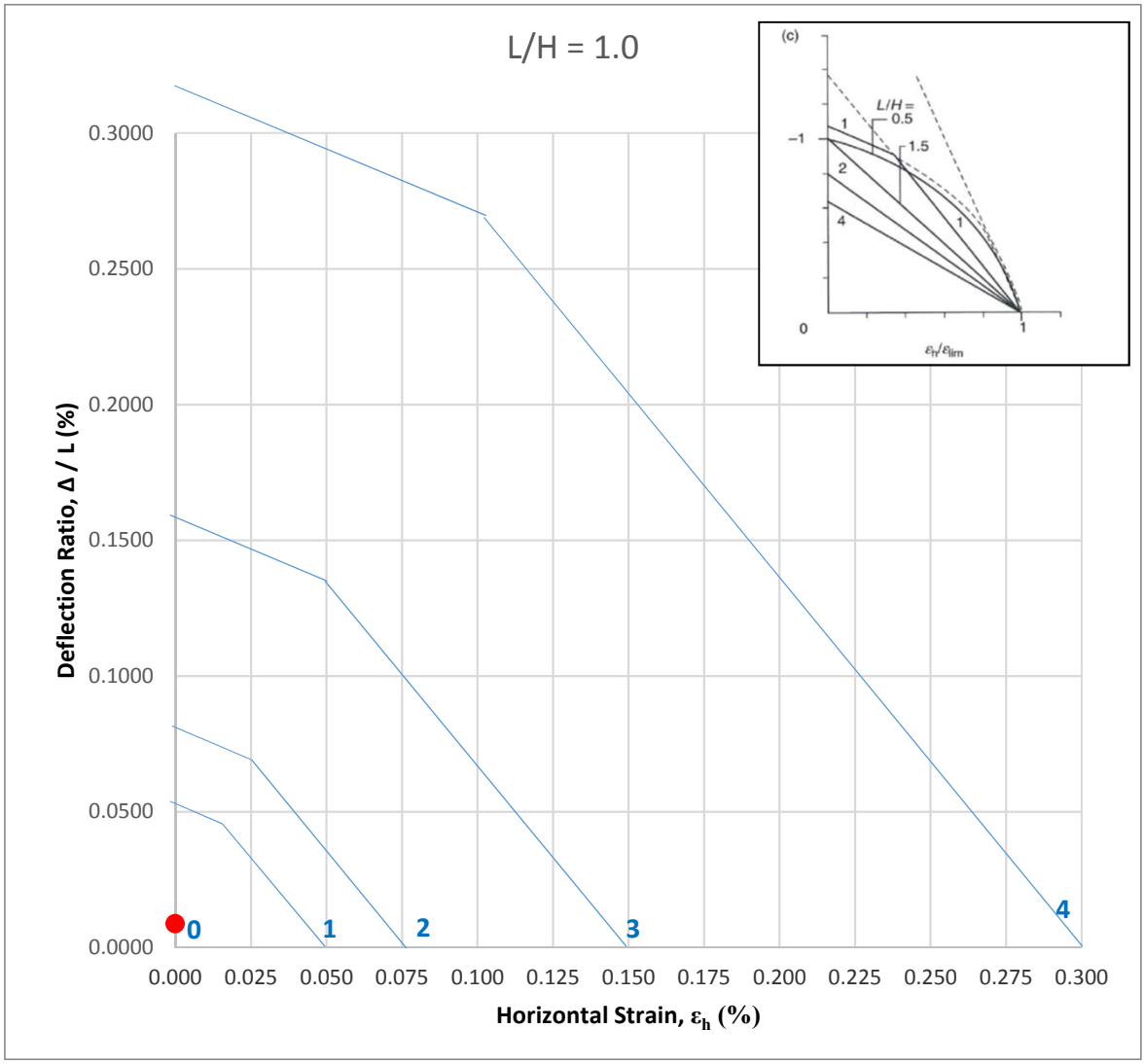
Change in horizontal movement, δ_h = 0.0 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	F

L / H = **0.57**



Wall Length, L =	8.0	m
Wall Height, H =	14.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.71	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_{h\ \times 100}}{L\ \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0089**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	G

Input parameters:

Sensitive Structure:	Wall Length, L =	1.80	m
	Wall Height, H (including foundation depth) =	8.36	m
	Foundation depth below ground level =	3.50	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	0.00	m
	L / H =	0.22	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.03 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.0 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	G

L / H = **0.22**

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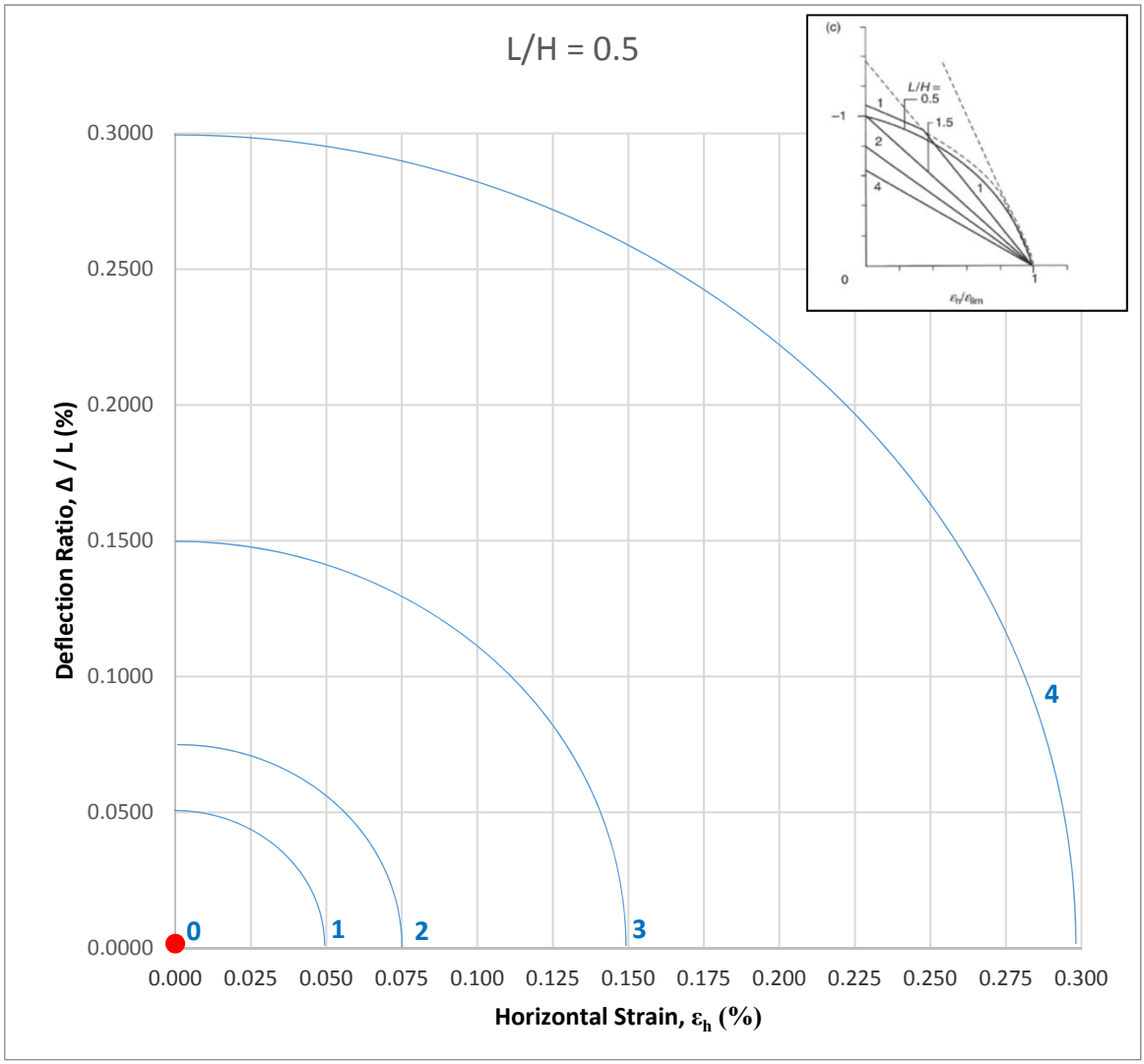

Wall Length, L =	1.8	m
Wall Height, H =	8.4	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.03	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0017**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	H

Input parameters:

Sensitive Structure:	Wall Length, L =	2.70	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.46	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.80	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	1.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	H

L / H = **0.46**

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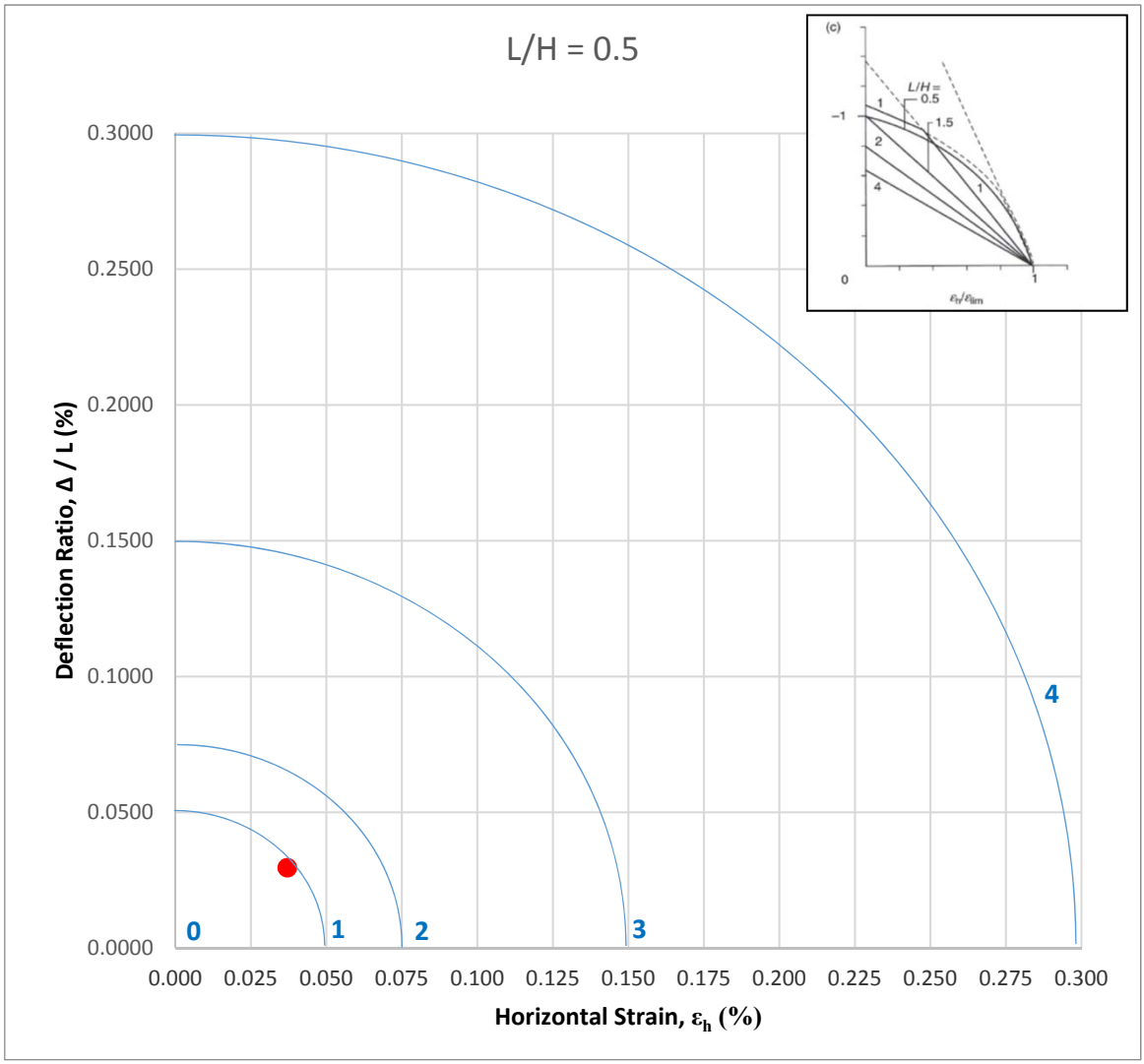


Wall Length, L =	2.7	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	1.00	mm
Change in vertical movement, Δ =	0.80	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0371**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0296**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	I

Input parameters:

Sensitive Structure:	Wall Length, L =	1.80	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.31	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.02	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

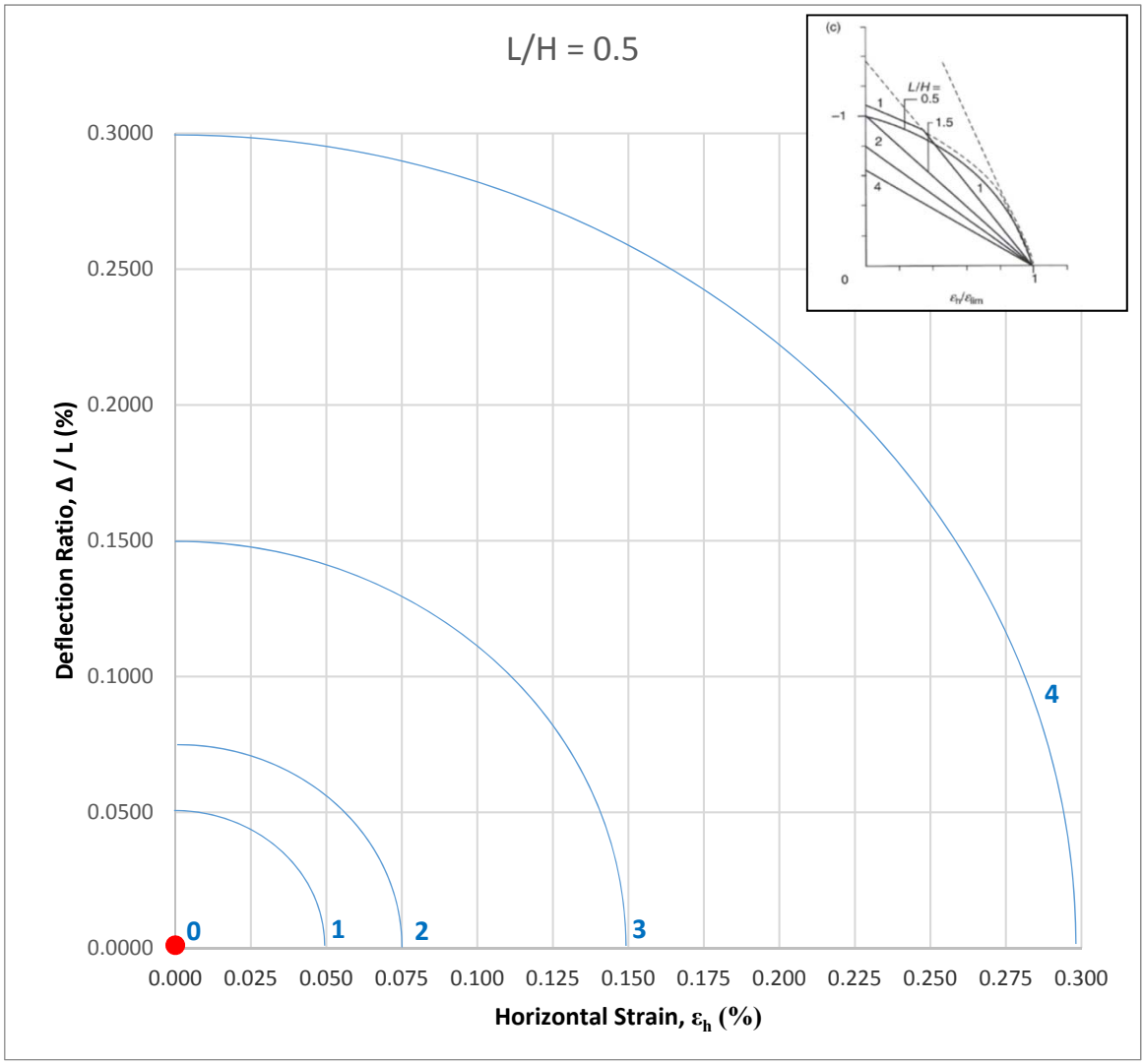
Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	I

L / H = **0.31**



Wall Length, L =	1.8	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.02	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0011**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	J

Input parameters:

Sensitive Structure:	Wall Length, L =	0.90	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.15	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.00 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.0 mm

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 0 - NEGLIGIBLE

Project Number	J17062
Revision	0.0
Wall Reference	J

L / H = **0.15**

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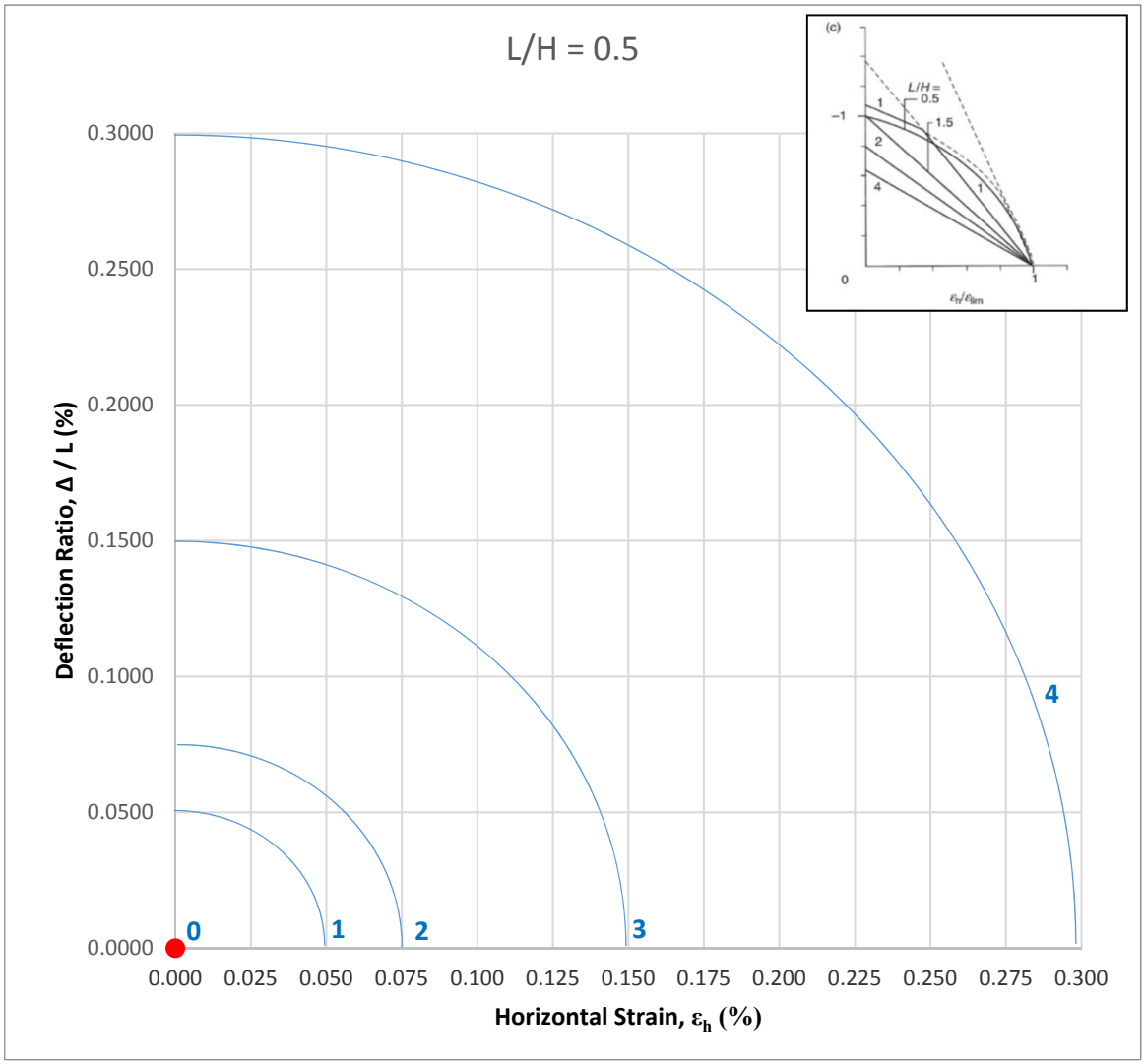

Wall Length, L =	0.9	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.00	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0000**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	K

Input parameters:

Sensitive Structure:	Wall Length, L =	1.08	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.18	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.01 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.5 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	K

L / H = **0.18**

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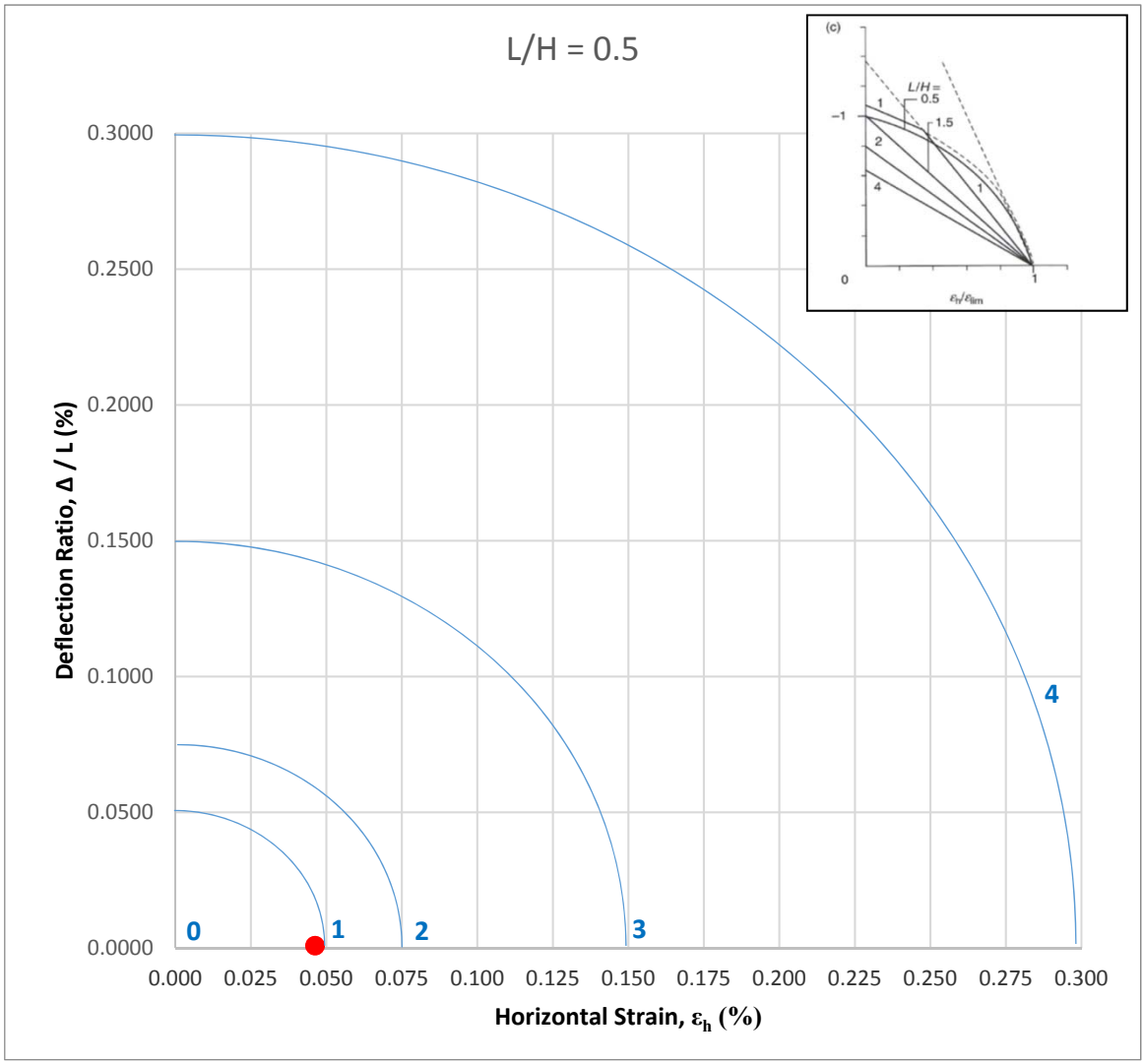

Wall Length, L =	1.1	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.50	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0463**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0009**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	L

Input parameters:

Sensitive Structure:	Wall Length, L =	2.20	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.38	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.06	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.8	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	L

L / H = **0.38**

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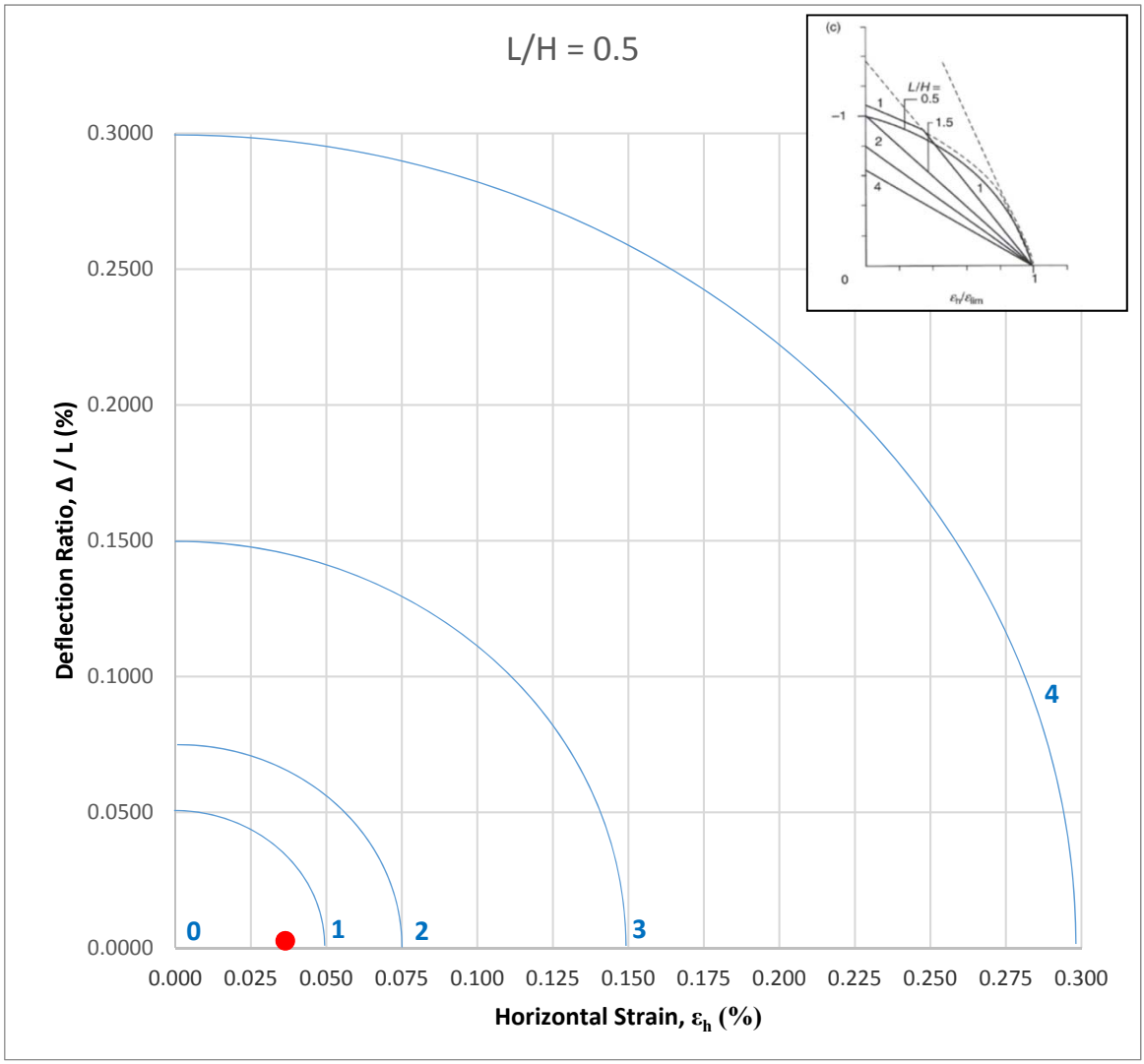

Wall Length, L =	2.2	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.80	mm
Change in vertical movement, Δ =	0.06	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0364**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0027**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	M

Input parameters:

Sensitive Structure:	Wall Length, L =	1.36	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.23	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.00 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.3 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	M

L / H = **0.23**

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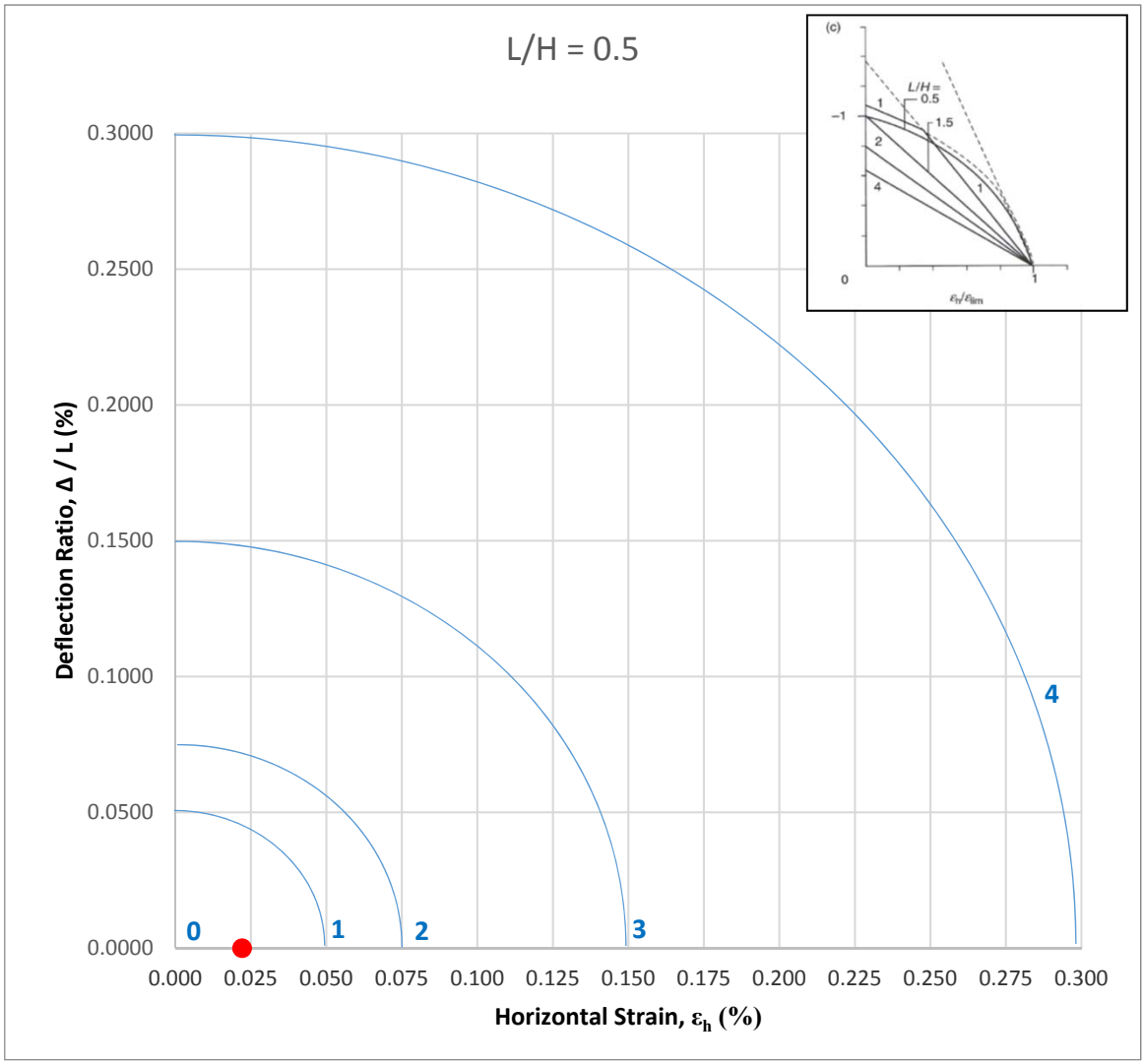

Wall Length, L =	1.4	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.30	mm
Change in vertical movement, Δ =	0.00	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0221**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0000**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	N

Input parameters:

Sensitive Structure:	Wall Length, L =	0.60	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.10	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.00 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.0 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	N

L / H = **0.10**

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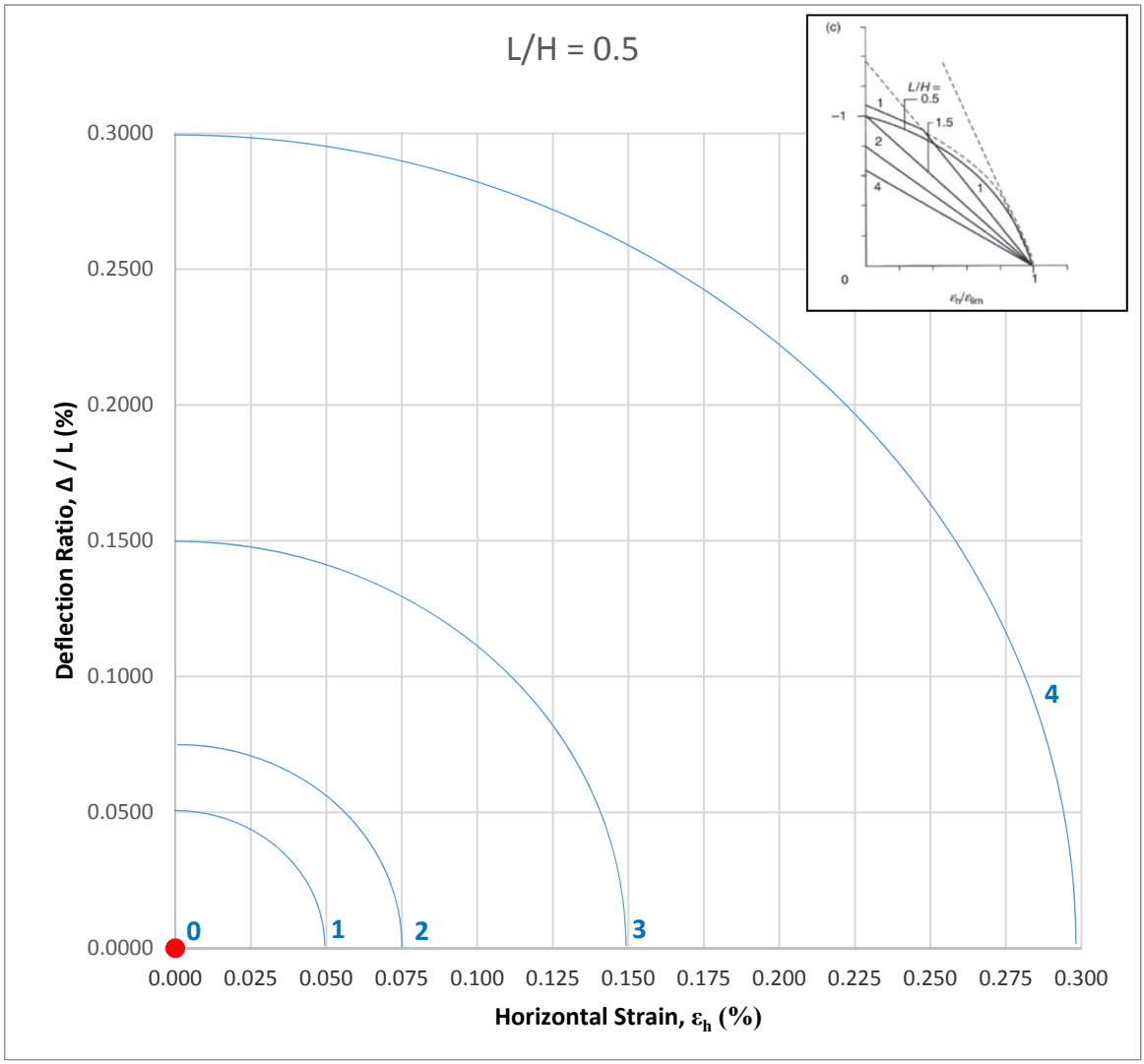

Wall Length, L =	0.6	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.00	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0000**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	O

Input parameters:

Sensitive Structure:	Wall Length, L =	1.14	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.19	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.01 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.2 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	O

L / H = **0.19**

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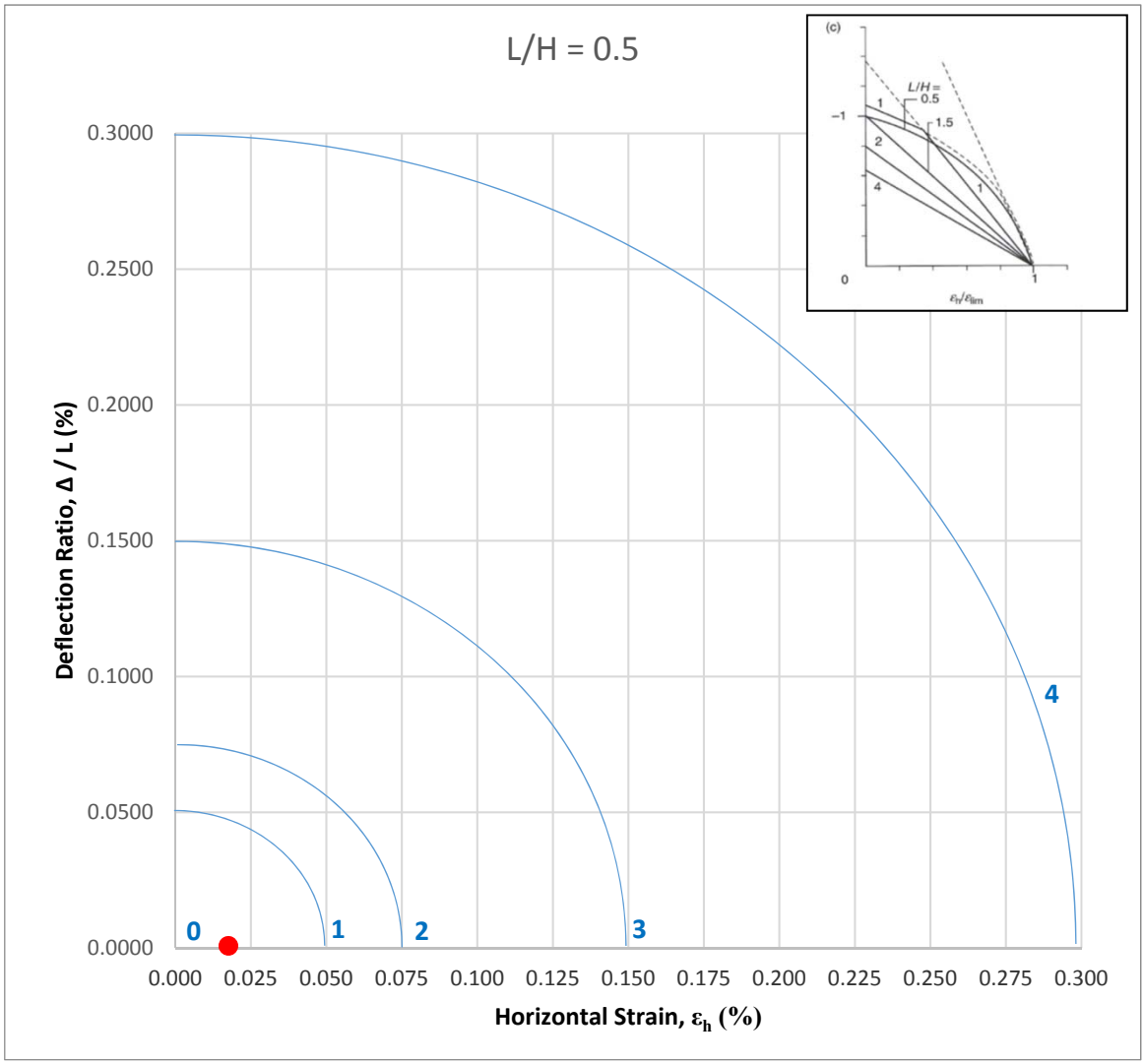


Wall Length, L =	1.1	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.20	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0176**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0009**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	P

Input parameters:

Sensitive Structure:	Wall Length, L =	1.43	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.24	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.01 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.4 **mm**

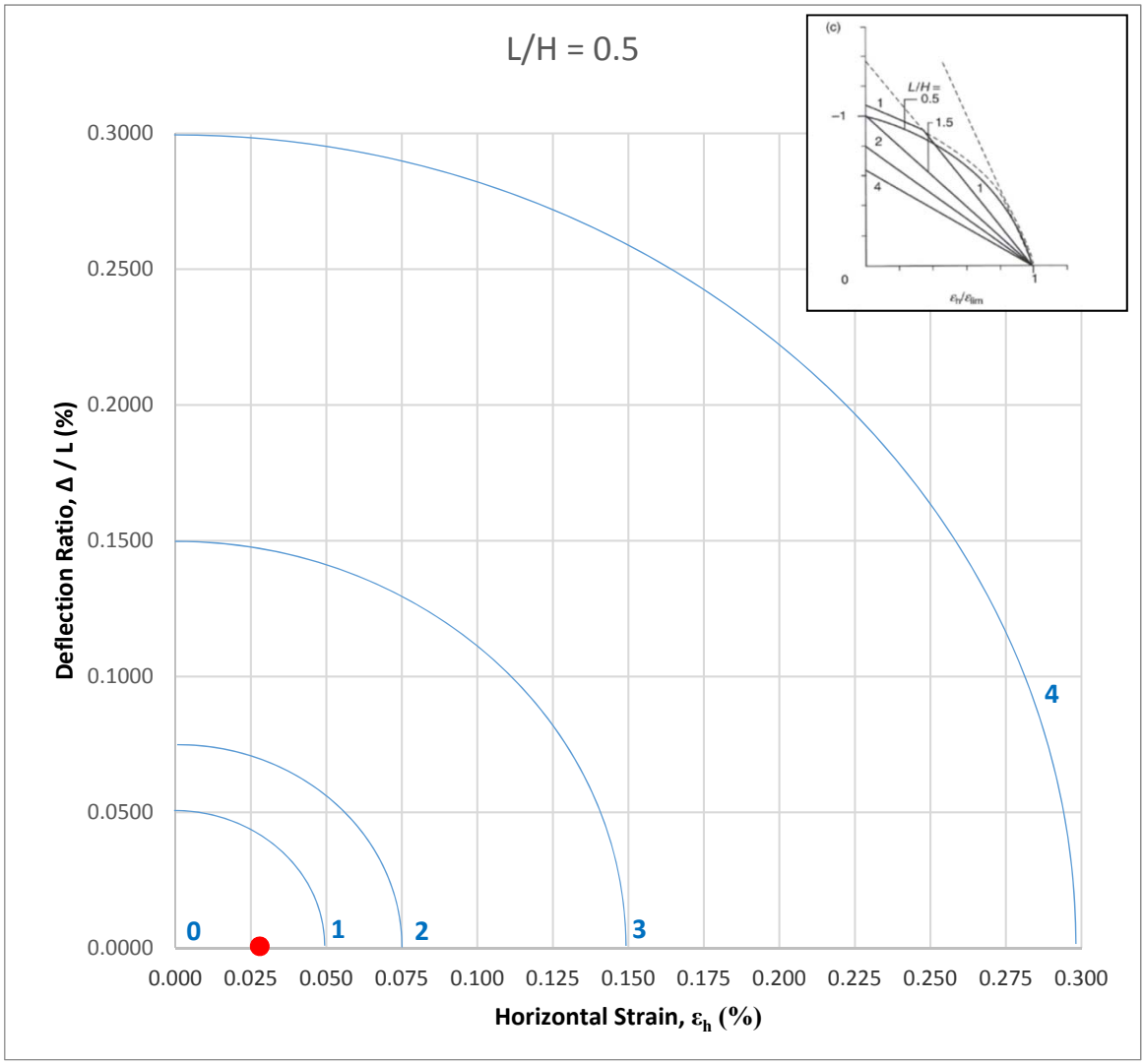
Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	P

L / H = **0.24**

Geotechnical & Environmental Associates



Wall Length, L =	1.4	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.40	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0280**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0007**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	Q

Input parameters:

Sensitive Structure:	Wall Length, L =	1.52	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.26	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.01	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.5	**mm**

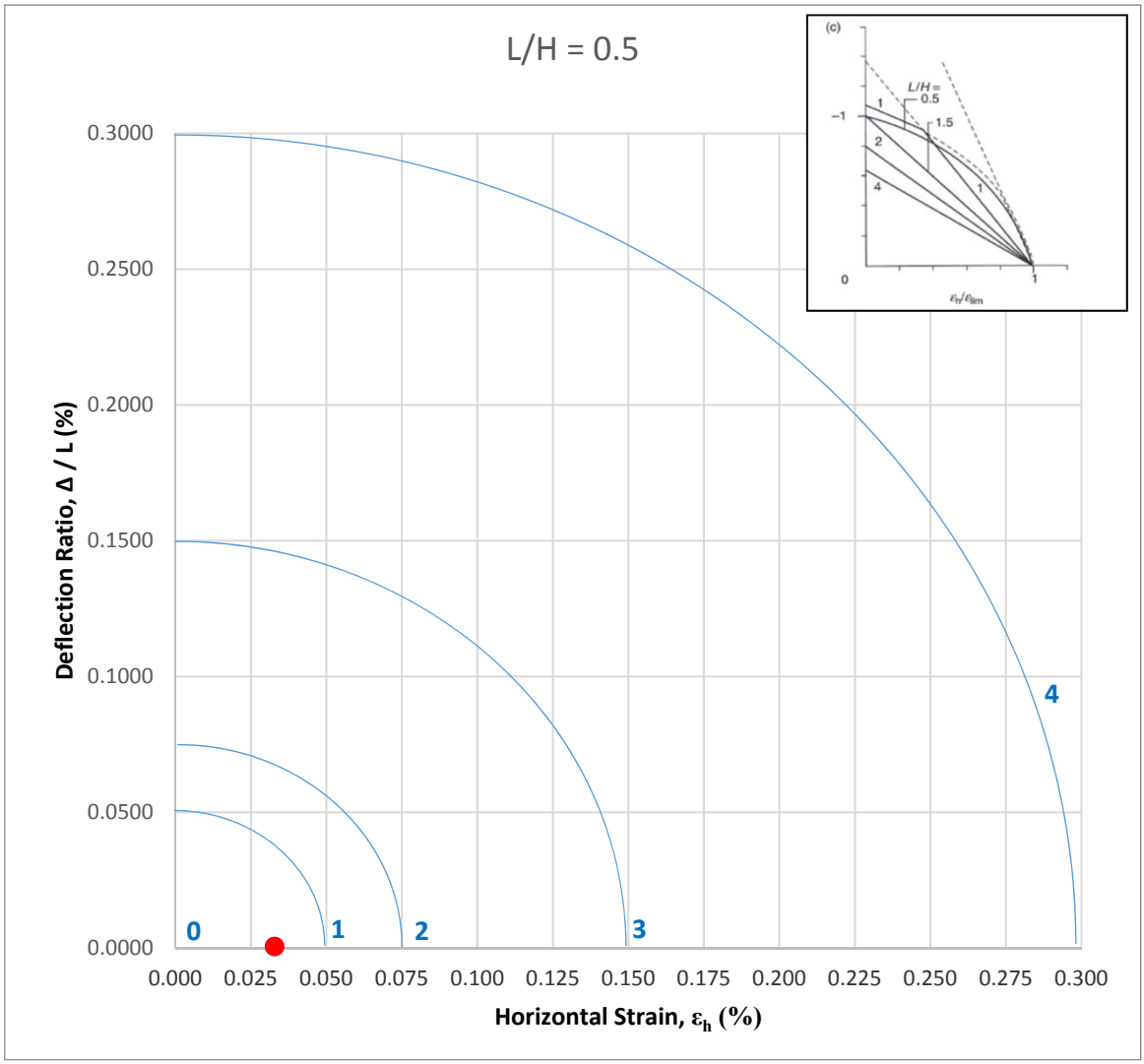
Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	Q

L / H = **0.26**

Geotechnical & Environmental Associates



Wall Length, L =	1.5	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.50	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0329**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0007**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	R

Input parameters:

Sensitive Structure:	Wall Length, L =	1.12	m
	Wall Height, H (including foundation depth) =	5.86	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.19	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.01 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h = 0.2 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	R

L / H = **0.19**

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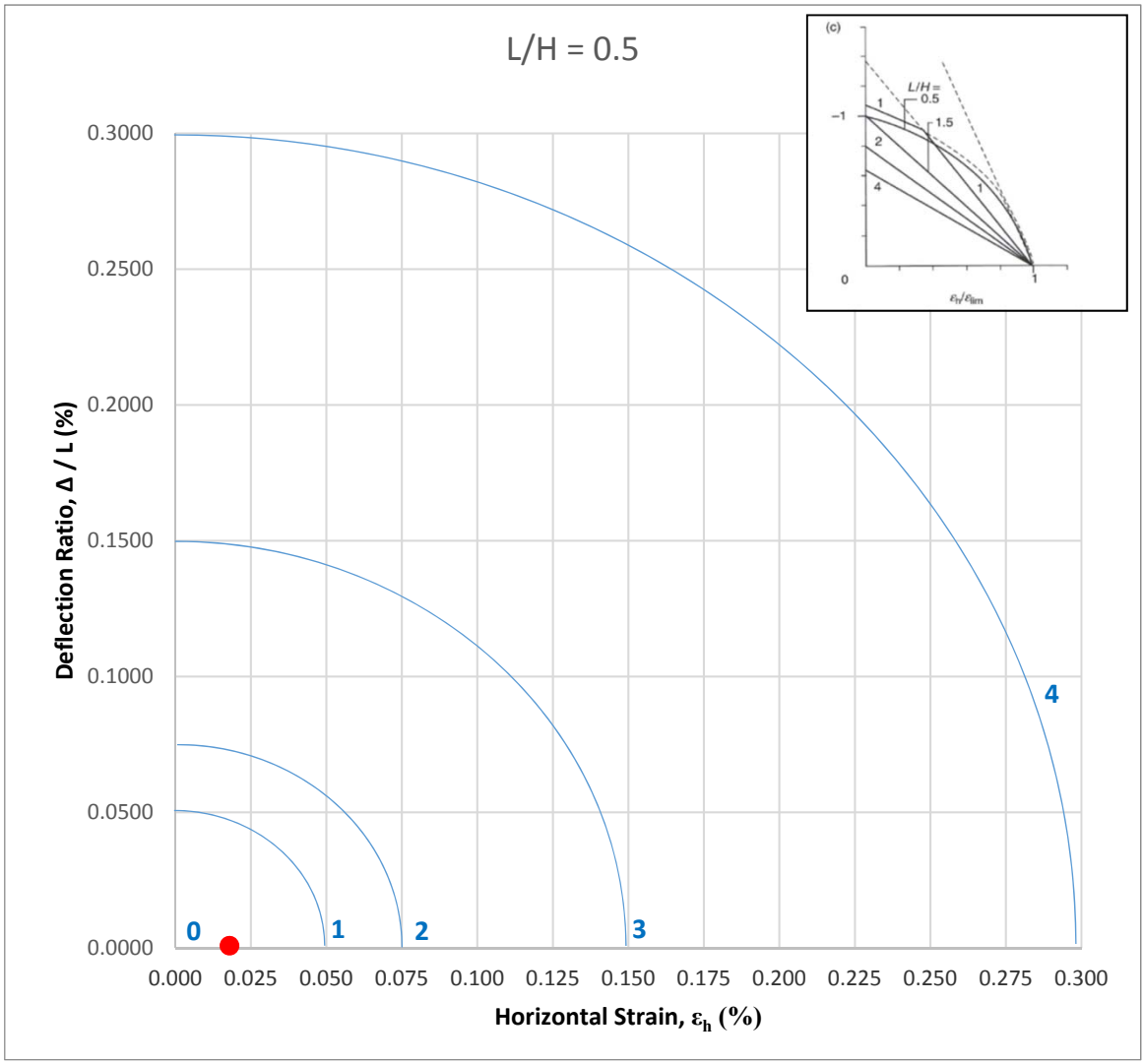


Wall Length, L =	1.1	m
Wall Height, H =	5.9	m
Change in horizontal movement, δ_h =	0.20	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0179**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0009**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	S

Input parameters:

Sensitive Structure:	Wall Length, L =	6.34	m
	Wall Height, H (including foundation depth) =	4.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.58	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.07	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

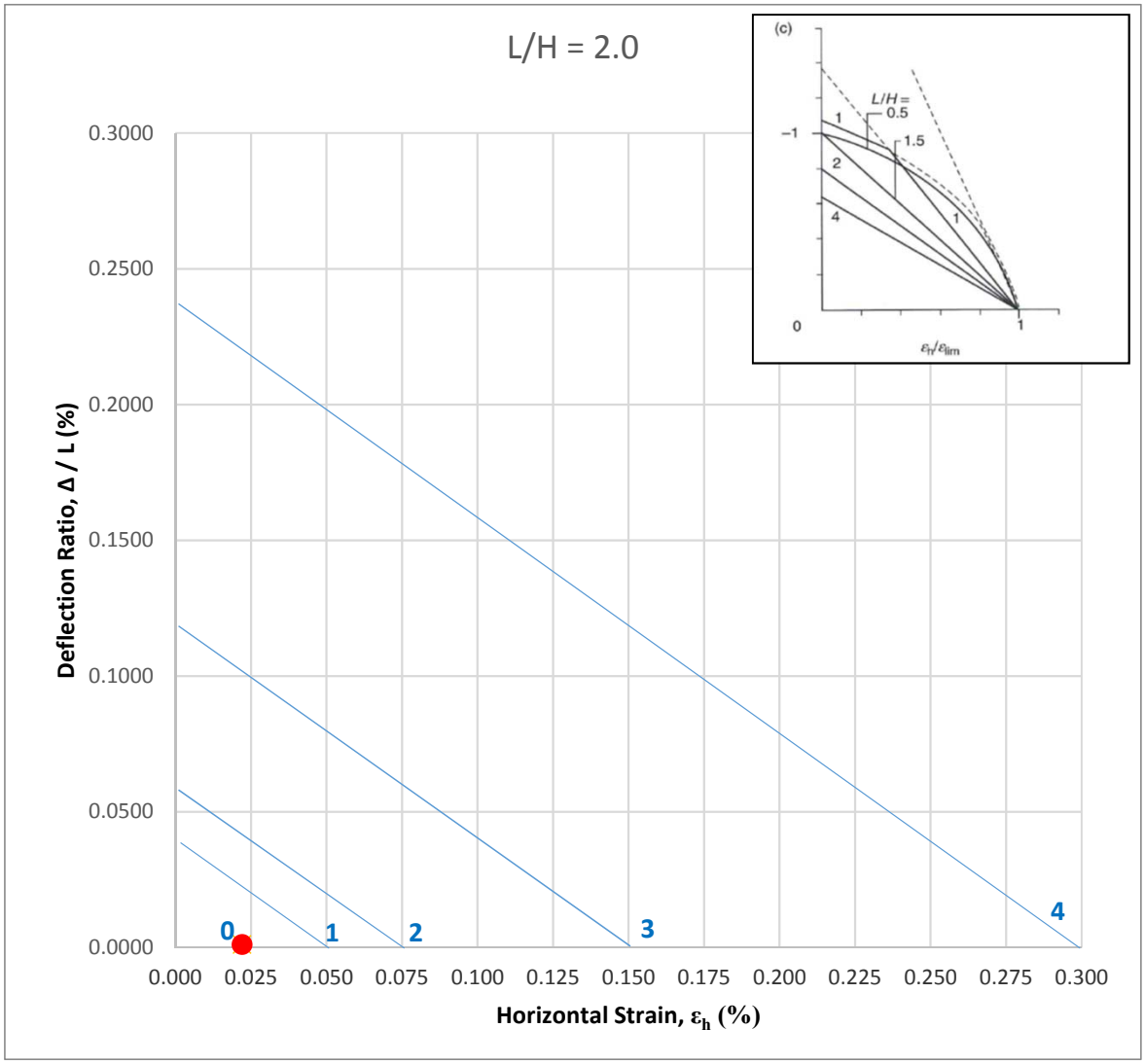
Change in horizontal movement, δ_h =	1.4	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 0 - NEGLIGIBLE

Project Number	J17062
Revision	0.0
Wall Reference	S

L / H = **1.58**



Wall Length, L =	6.3	m
Wall Height, H =	4.0	m
Change in horizontal movement, δ_h =	1.40	mm
Change in vertical movement, Δ =	0.07	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0221**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0011**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	T

Input parameters:

Sensitive Structure:	Wall Length, L =	2.40	m
	Wall Height, H (including foundation depth) =	4.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	0.60	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.01	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

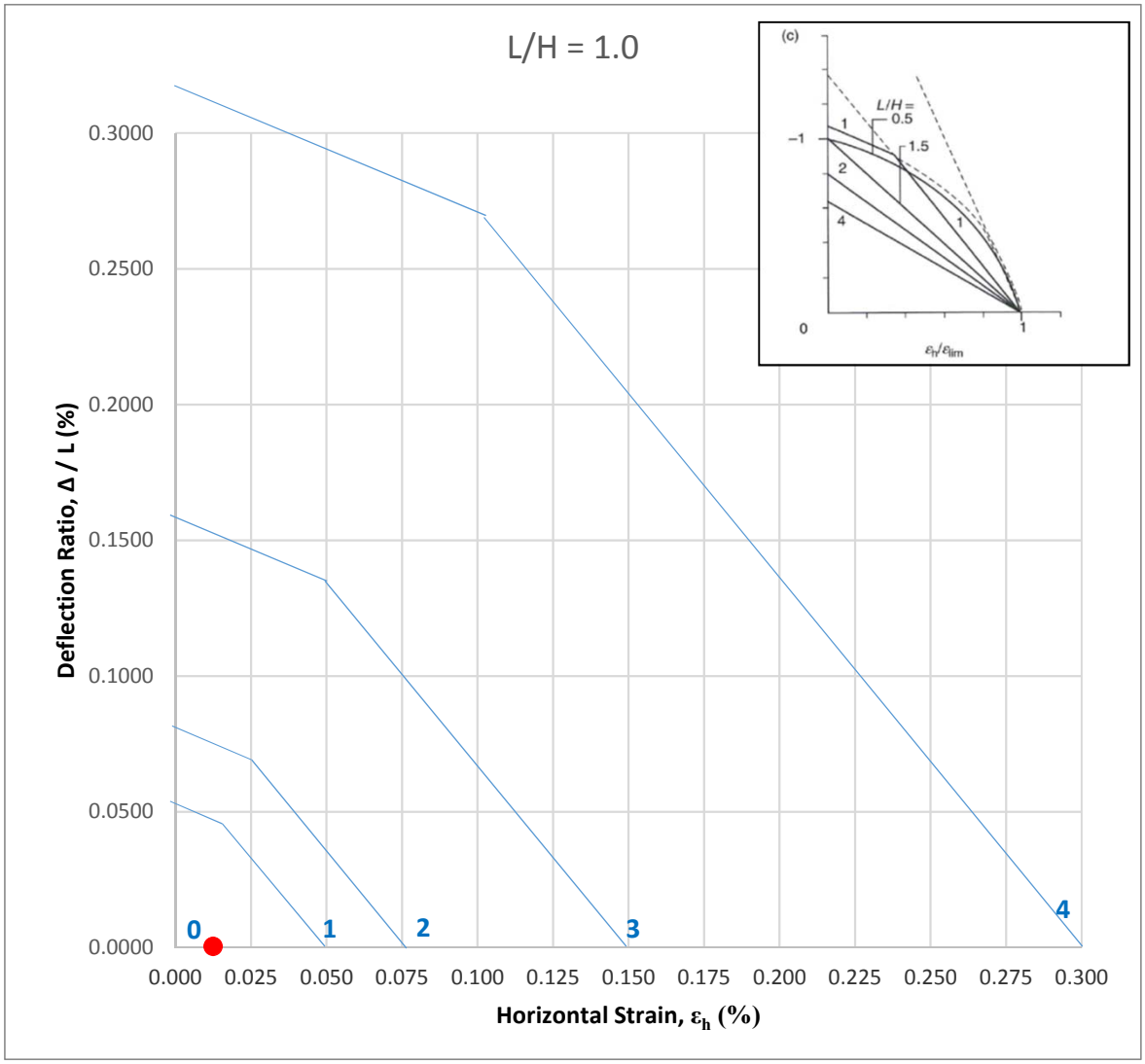
Change in horizontal movement, δ_h =	0.3	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	T

L / H = **0.60**



Wall Length, L =	2.4	m
Wall Height, H =	4.0	m
Change in horizontal movement, δ_h =	0.30	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0125**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0004**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	U

Input parameters:

Sensitive Structure:	Wall Length, L =	6.58	m
	Wall Height, H (including foundation depth) =	4.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.64	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ = 0.32 mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

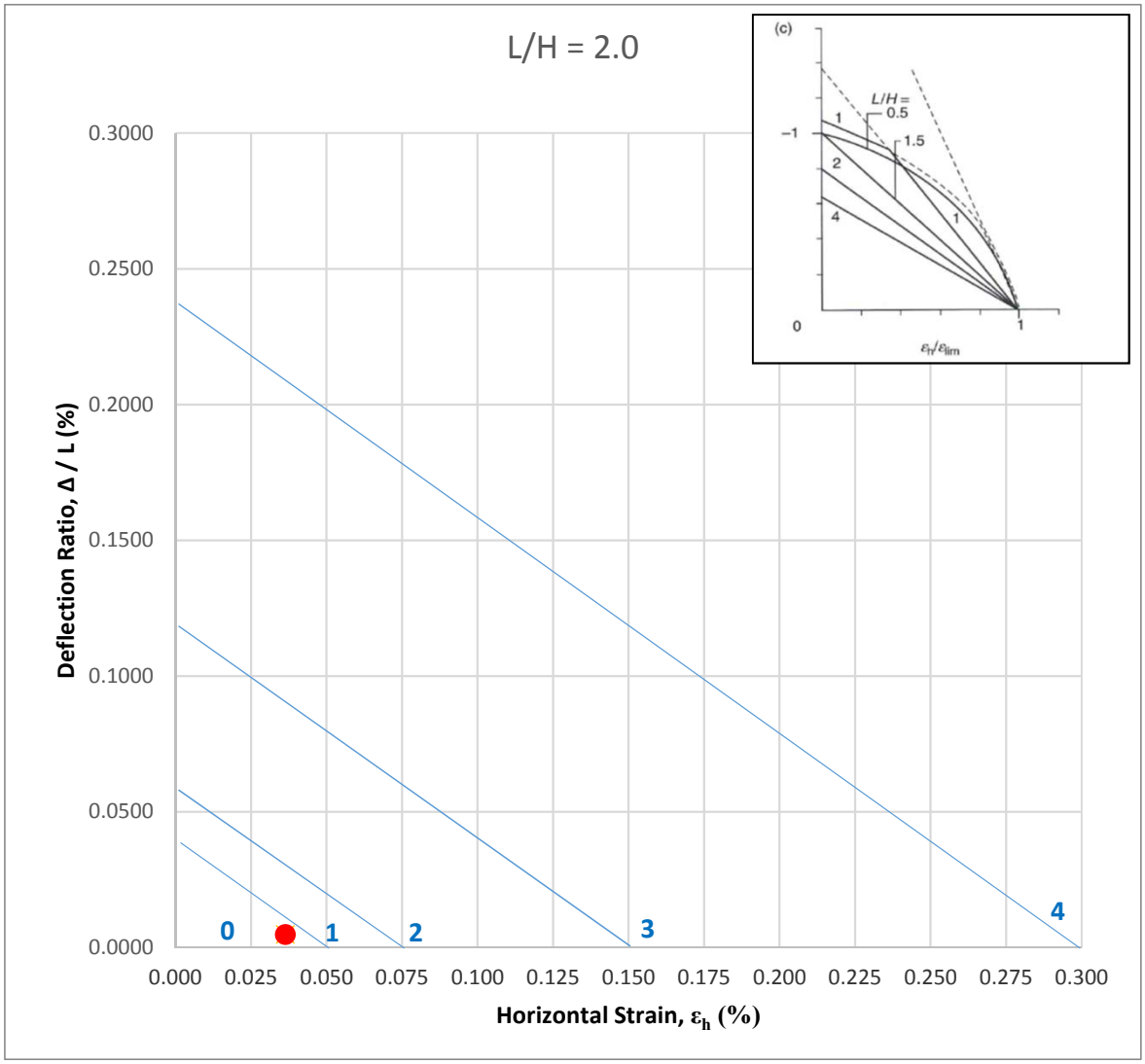
Change in horizontal movement, δ_h = 2.4 **mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	U

L / H = **1.64**



Wall Length, L =	6.6	m
Wall Height, H =	4.0	m
Change in horizontal movement, δ_h =	2.40	mm
Change in vertical movement, Δ =	0.32	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_{h\ \times 100}}{L\ \times 1000}$$

ε_h = **0.0365**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0049**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	W

Input parameters:

Sensitive Structure:	Wall Length, L =	5.60	m
	Wall Height, H (including foundation depth) =	3.67	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.53	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.01	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.2	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	W

L / H = **1.53**

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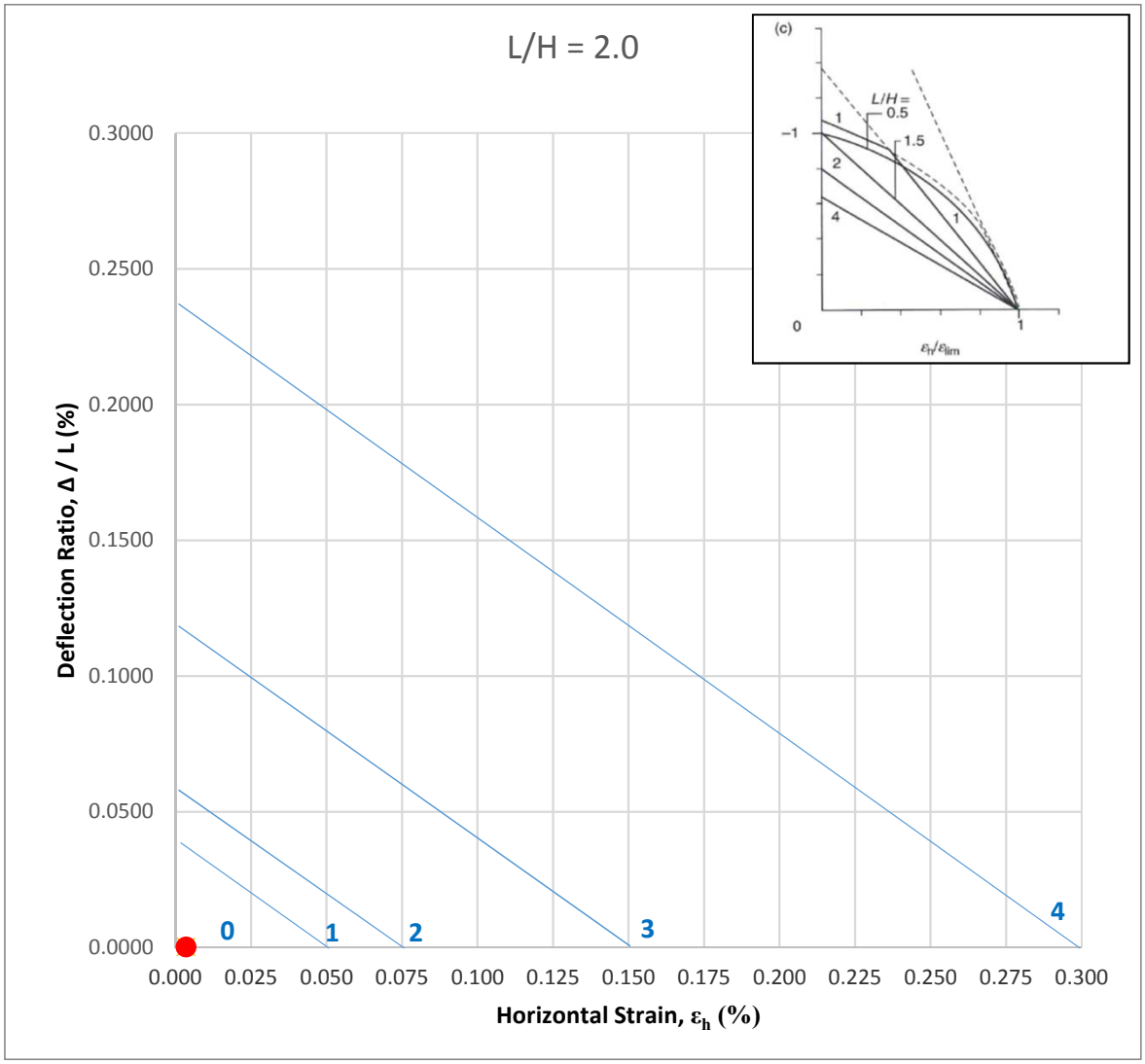

Wall Length, L =	5.6	m
Wall Height, H =	3.7	m
Change in horizontal movement, δ_h =	0.20	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0036**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0002**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	Z

Input parameters:

Sensitive Structure:	Wall Length, L =	4.45	m
	Wall Height, H (including foundation depth) =	3.67	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.21	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.25	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 0 - NEGLIGIBLE

Project Number	J17062
Revision	0.0
Wall Reference	Z

L / H = **1.21**

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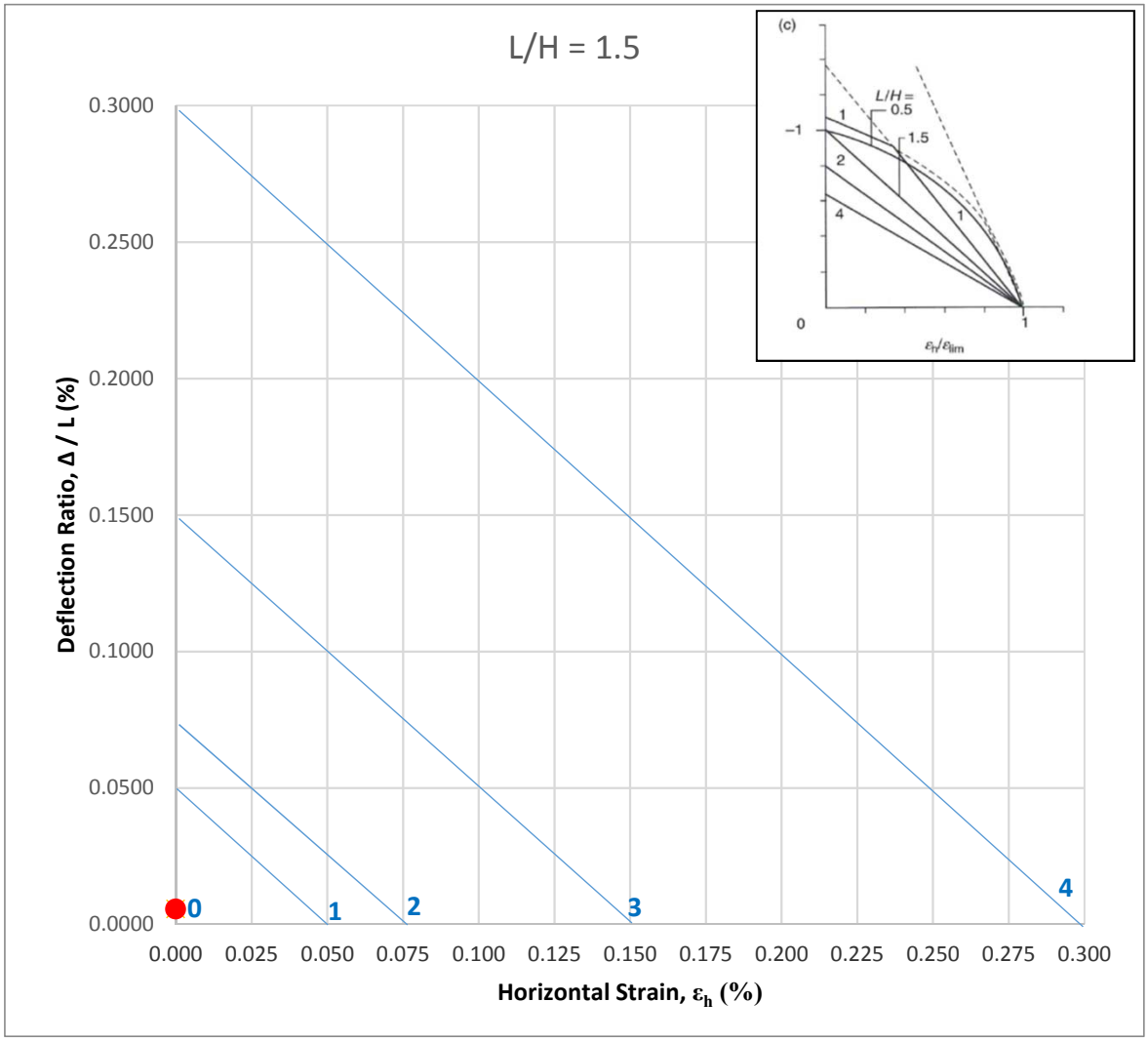


Wall Length, L =	4.5	m
Wall Height, H =	3.7	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.25	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0056**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	AA

Input parameters:

Sensitive Structure:	Wall Length, L =	13.15	m
	Wall Height, H (including foundation depth) =	3.67	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	3.58	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	2.6	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

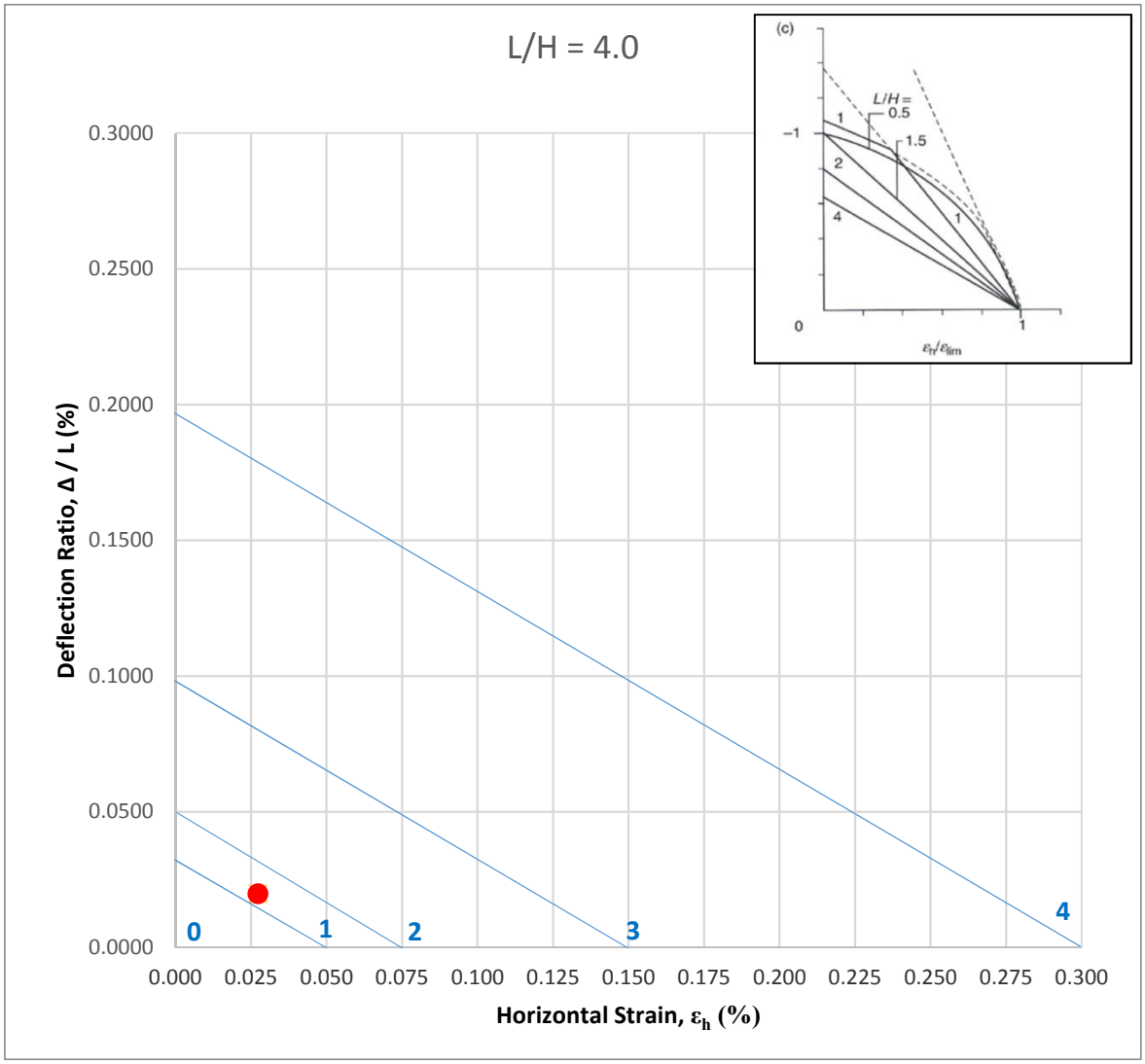
Change in horizontal movement, δ_h =	3.6	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 1 - VERY SLIGHT

Project Number	J17062
Revision	0.0
Wall Reference	AA

L / H = **3.58**



Wall Length, L =	13.1	m
Wall Height, H =	3.7	m
Change in horizontal movement, δ_h =	3.60	mm
Change in vertical movement, Δ =	2.60	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_{h\ \times 100}}{L\ \times 1000}$$

ε_h = **0.0274**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0198**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	AB

Input parameters:

Sensitive Structure:	Wall Length, L =	16.60	m
	Wall Height, H (including foundation depth) =	5.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	3.32	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.03	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

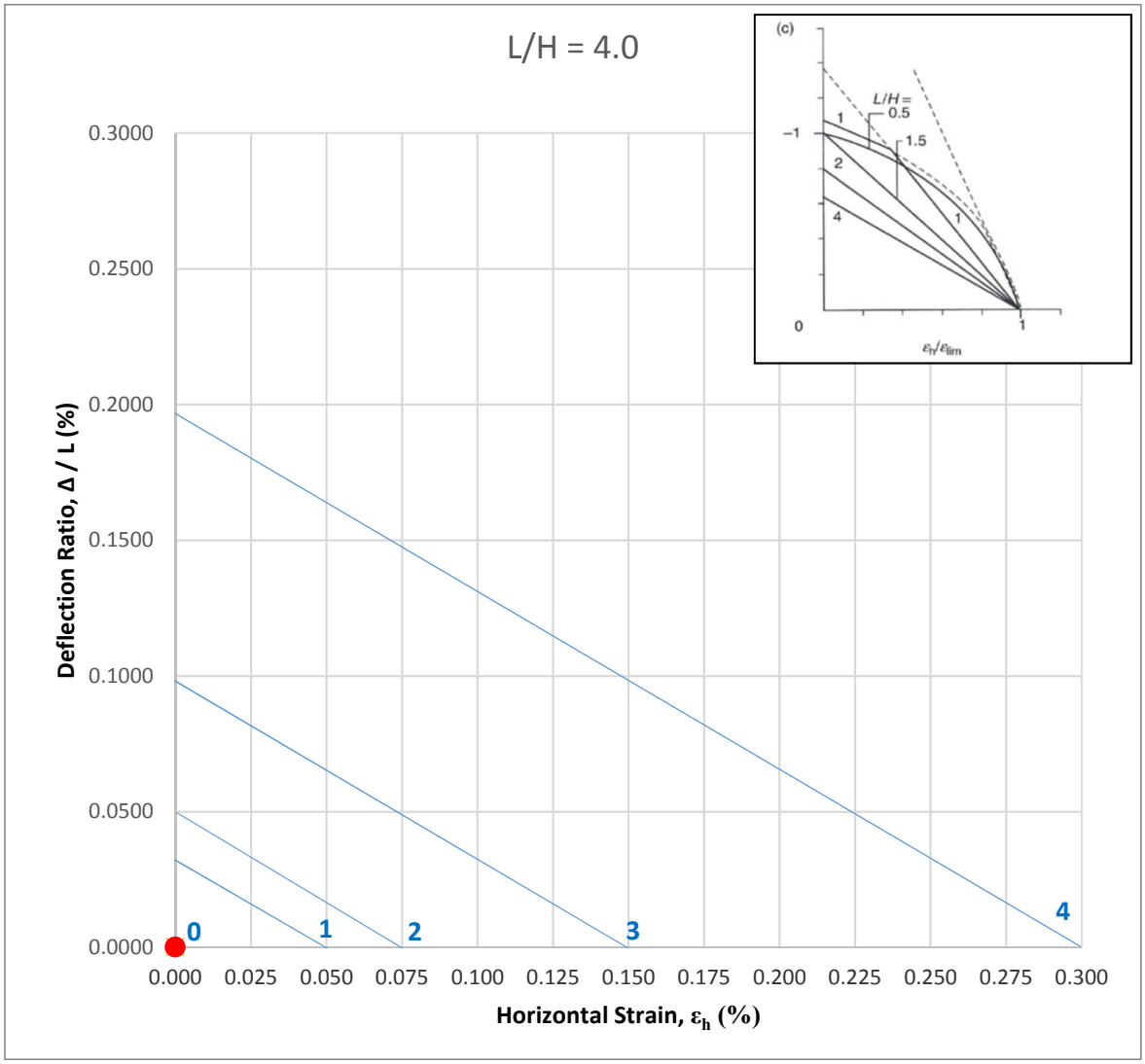
Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	AB

L / H = **3.32**



Wall Length, L =	16.6	m
Wall Height, H =	5.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.03	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0002**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	AC

Input parameters:

Sensitive Structure:	Wall Length, L =	6.70	m
	Wall Height, H (including foundation depth) =	5.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.34	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.01	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = CATEGORY 0 - NEGLIGIBLE

Project Number	J17062
Revision	0.0
Wall Reference	AC

L / H = **1.34**

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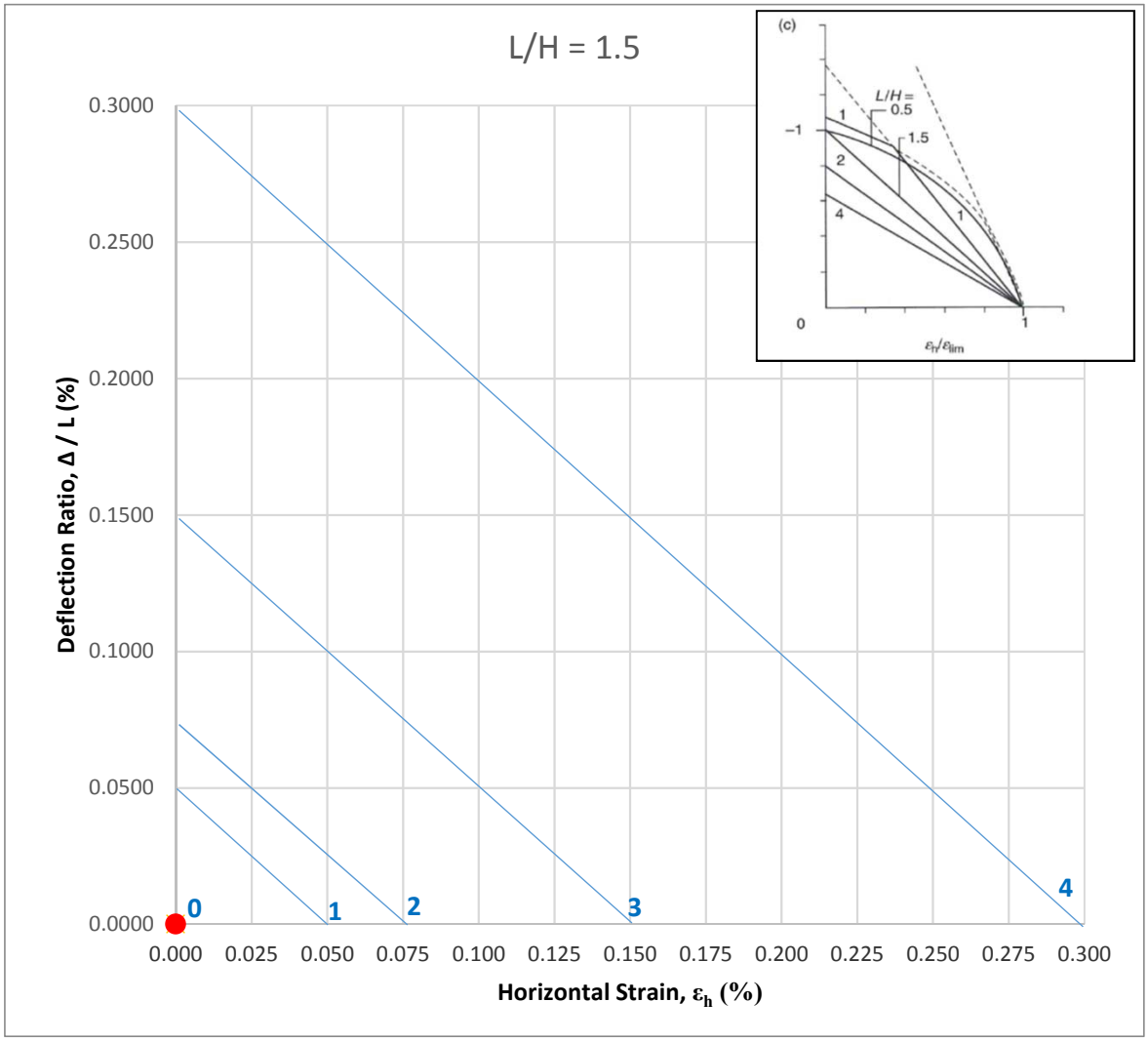


Wall Length, L =	6.7	m
Wall Height, H =	5.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0001**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	AD

Input parameters:

Sensitive Structure:	Wall Length, L =	11.70	m
	Wall Height, H (including foundation depth) =	5.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	2.34	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.01	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

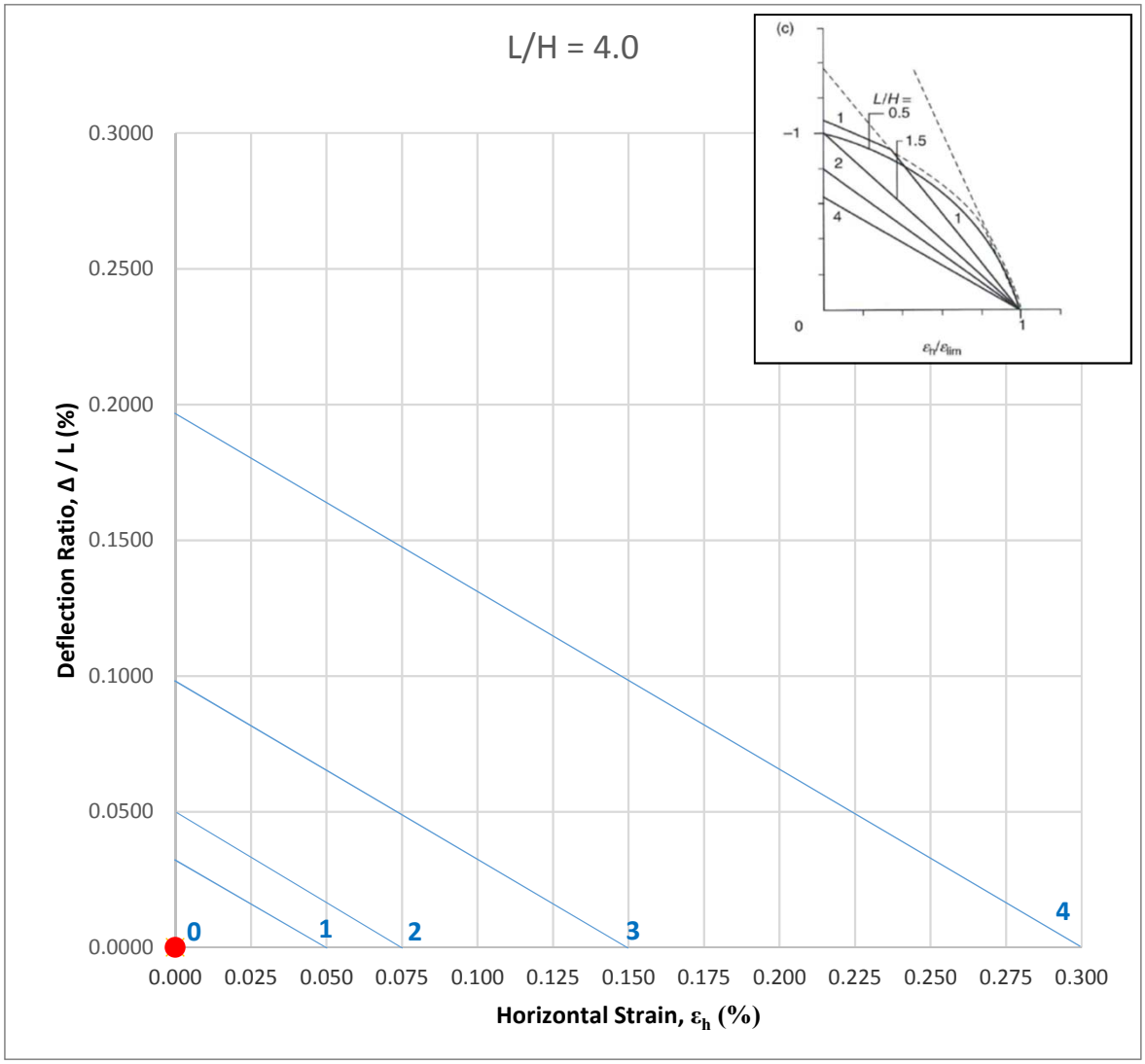
Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	AD

L / H = **2.34**



Wall Length, L =	11.7	m
Wall Height, H =	5.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0001**

Ground Movement Assessment Summary

Project Number	J17062
Revision	0.0
Wall Reference	AE

Input parameters:

Sensitive Structure:	Wall Length, L =	6.10	m
	Wall Height, H (including foundation depth) =	5.00	m
	Foundation depth below ground level =	1.00	m
Basement Details:	Proposed basement depth =	3.50	
	Effective proposed basement depth =	2.50	m
	L / H =	1.22	

Vertical Displacement Behind Wall Prediction:

Change in vertical movement, Δ =	0.01	mm

Predicted from P-Disp taking worst case of short term and total movement

Horizontal Displacement Behind Wall Prediction:

Change in horizontal movement, δ_h =	0.0	**mm**

Predicted from CIRIA C760 (Fig 6.15a) assuming excavation in front of a wall in stiff clay, based on 5 mm horizontal movement at wall with 3.5 m excavation

Building Damage Category = **CATEGORY 0 - NEGLIGIBLE**

Project Number	J17062
Revision	0.0
Wall Reference	AE

L / H = **1.22**

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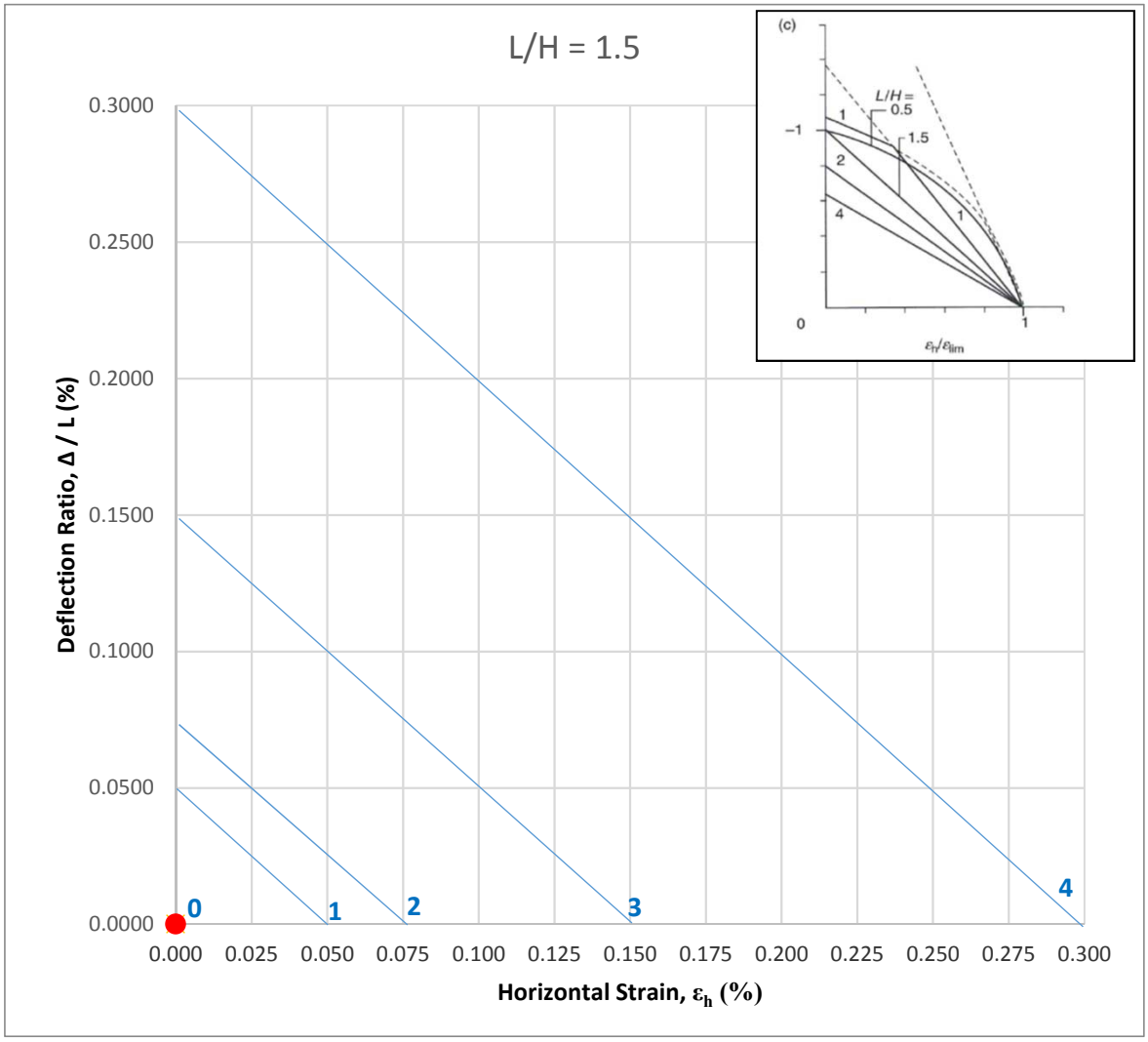

Wall Length, L =	6.1	m
Wall Height, H =	5.0	m
Change in horizontal movement, δ_h =	0.00	mm
Change in vertical movement, Δ =	0.01	mm

Horizontal Strain:

$$Horizontal\ Strain, \varepsilon_h = \frac{\delta_h \times 100}{L \times 1000}$$

ε_h = **0.0000**

Deflection Ratio:

$$Deflection\ Ratio = \frac{\Delta \times 100}{L \times 1000}$$

= **0.0002**

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Widbury Barn
Widbury Hill
Ware
Herts SG12 7QE

Site Plan

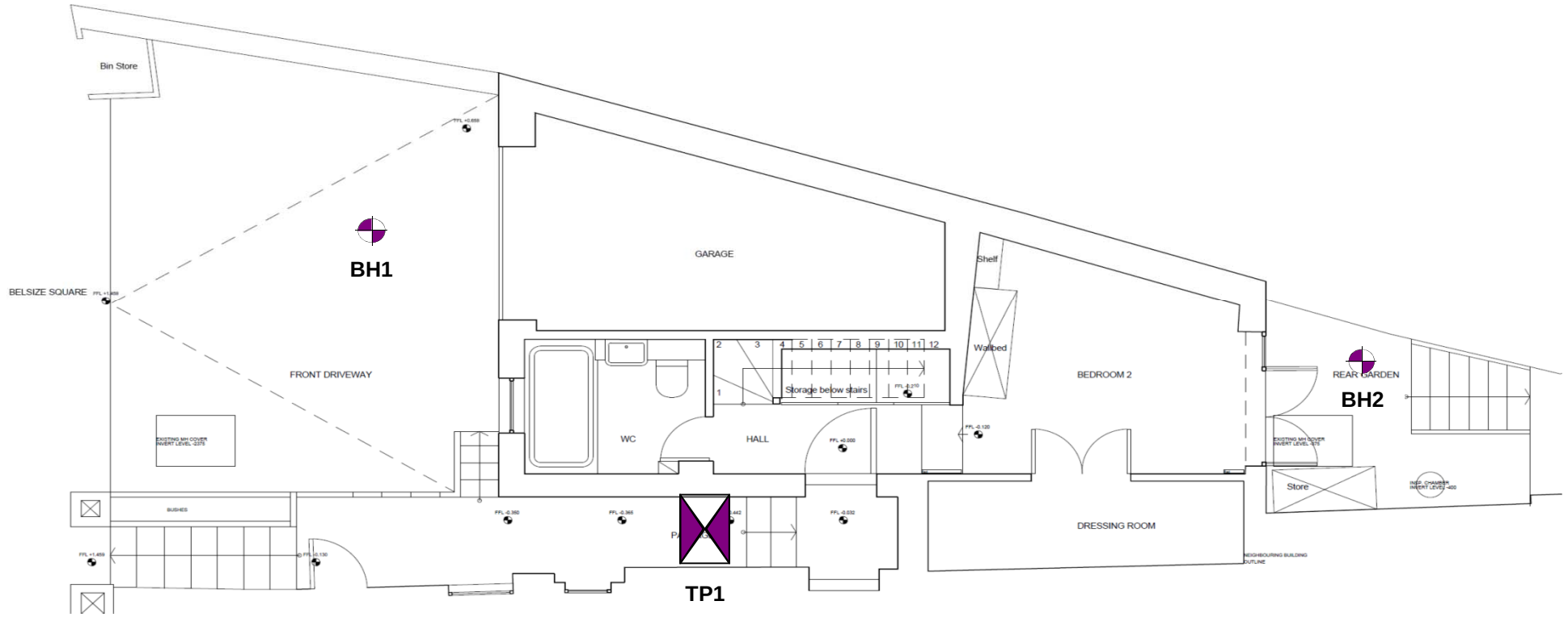
Site The Coach House, 50A Belsize Square, London NW3 4HN

Client Mr Philip Welch

Engineer Studio Gil Ltd

Job Number J17062

Sheet 1 / 1



Geotechnical & Environmental Associates (GEA)
is an engineer-led and client-focused independent specialist providing a complete range of geotechnical and contaminated land investigation, analytical and consultancy services to the property and construction industries.

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where information can be found on all of the services that we offer.

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