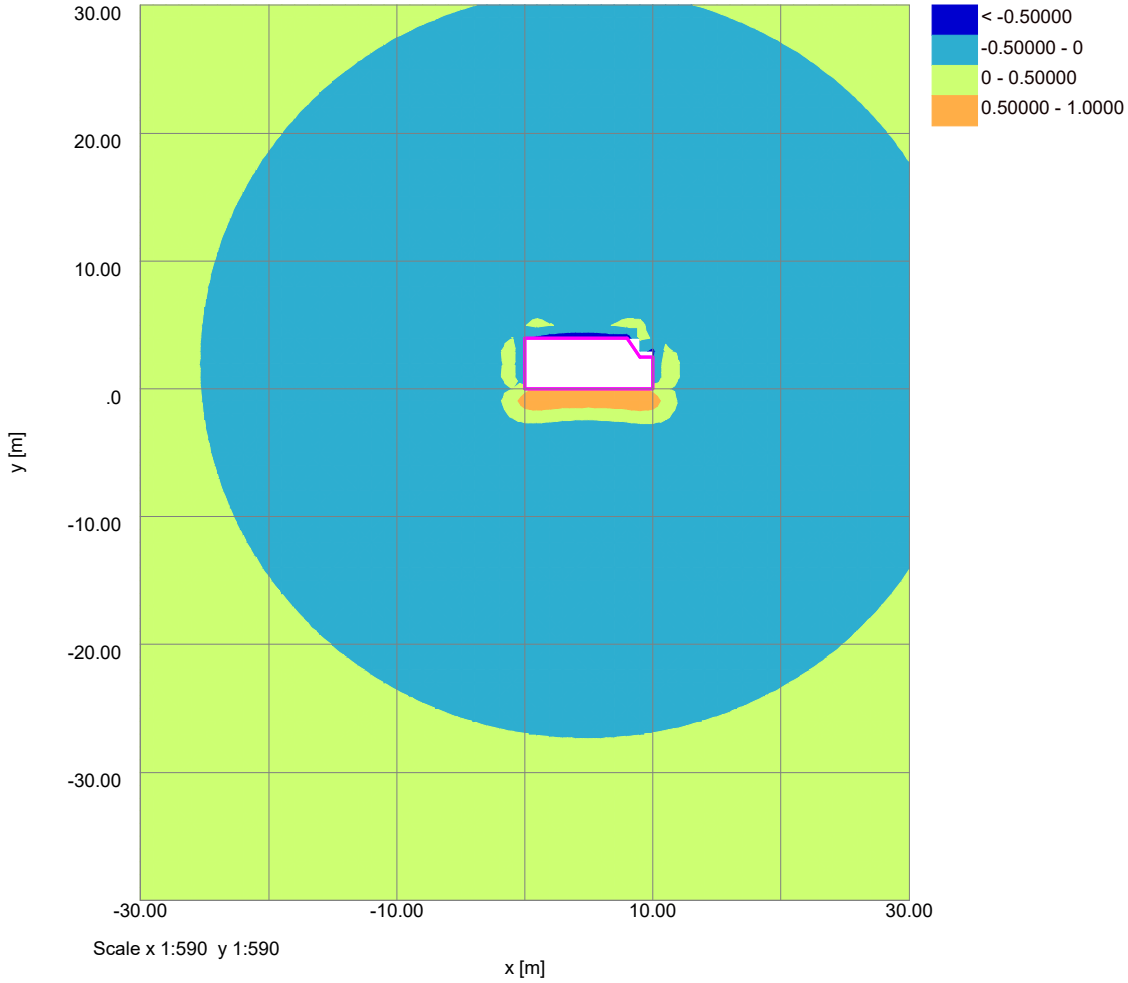
Oasys

Proposed Chiller Plant Room, No 8 South Square
Ground Movement Assessment
Combined Movements with total heave

Job No.	Sheet No.	Rev.
J20048		
Drg. Ref.		
Made by: MP	Date: 10-Mar-2020	Checked

Vertical Settlement Contours: Grid 2 (level 17.500m) (Interval 0.5mm)



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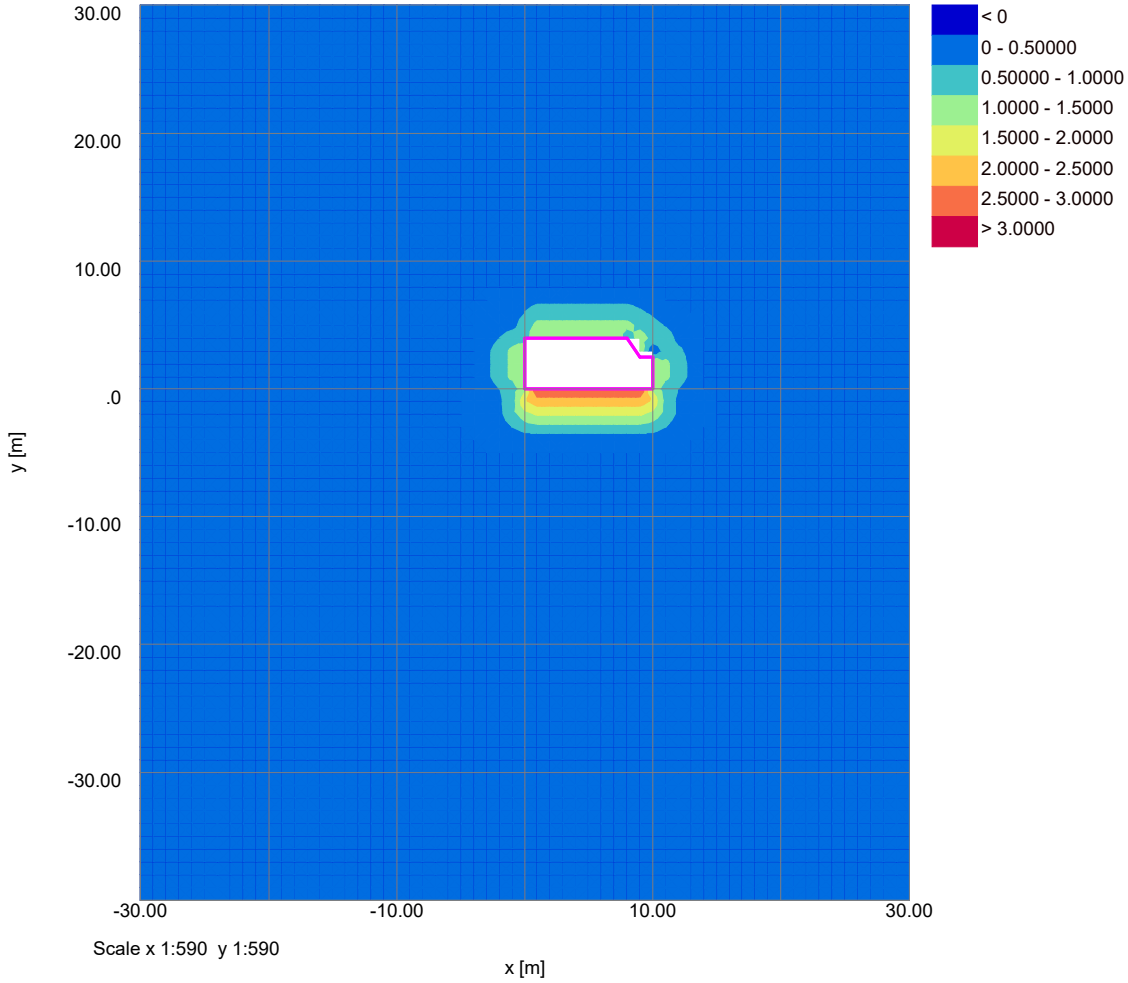

Specific Building Damage Results - Detail

Stage: Ref.	Stage: Name	Specific Building: Ref.	Specific Building: Name	Sub-building Name	Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature	Deflection Ratio	Average Horizontal Strain	Max Tensile Strain	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0	Base Model	1	No 8 South Square	A		0.0 All vertical displacements are less than the limit sensitivity.										
		2	No 8 South Square	B		0.0 All vertical displacements are less than the limit sensitivity.										
		3	No 8 South Square	C		0.0 All vertical displacements are less than the limit sensitivity.										
		4	No 8 South Square	D		0.0 All vertical displacements are less than the limit sensitivity.										
		5	No 8 South Square	E		0.0 All vertical displacements are less than the limit sensitivity.										
		6	No 8 South Square	F		0.0 All vertical displacements are less than the limit sensitivity.										
		7	No 8 South Square	G		0.0 All vertical displacements are less than the limit sensitivity.										
		8	No 8 South Square	H		0.0 All vertical displacements are less than the limit sensitivity.										
		9	No 8 South Square / No 5-7 South Square	I		0.0 All vertical displacements are less than the limit sensitivity.										
		10	No 8 South Square	J		0.0 All vertical displacements are less than the limit sensitivity.										
		11	No 8 South Square / Chapel	K		0.0 All vertical displacements are less than the limit sensitivity.										
		12	No 8 South Square / Chapel	L		0.0 All vertical displacements are less than the limit sensitivity.										
		13	No 8 South Square / Chapel	M		0.0 All vertical displacements are less than the limit sensitivity.										
		14	No 8 South Square / Chapel	N		0.0 All vertical displacements are less than the limit sensitivity.										
		15	No 8 South Square	O		0.0 All vertical displacements are less than the limit sensitivity.										
		16	No 8 South Square / Hall	P		0.0 All vertical displacements are less than the limit sensitivity.										
		17	Hall	A		0.0 All vertical displacements are less than the limit sensitivity.										
		18	Hall	B		0.0 All vertical displacements are less than the limit sensitivity.										
		19	Hall	C		0.0 All vertical displacements are less than the limit sensitivity.										
		20	Hall	D		0.0 All vertical displacements are less than the limit sensitivity.										
		21	Hall	E		0.0 All vertical displacements are less than the limit sensitivity.										
		22	Chapel	A		0.0 All vertical displacements are less than the limit sensitivity.										
		23	Chapel	B		0.0 All vertical displacements are less than the limit sensitivity.										
		24	No 5-7 South Square	A		0.0 All vertical displacements are less than the limit sensitivity.										
		25	No 5-7 South Square	B		0.0 All vertical displacements are less than the limit sensitivity.										
		26	No 5-7 South Square	C		0.0 All vertical displacements are less than the limit sensitivity.										

Tensile horizontal strains are +ve, compressive horizontal strains are -ve.

Specific Building Damage Results - Detail

Stage: Ref.	Stage: Name	Specific Building: Ref.	Specific Building: Name	Sub-building Name	Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0	Base Model	1	No 8 South Square	A	0.0	1	4.9286	1.9714	None	0.019454	0.037500	0.044619	-374.86E-6	566.97E-6	995.77	0 (Negligible)
		2	No 8 South Square	B	0.0	1	0.0	1.3157	None	0.0035578	-0.024248	0.0052745	914.87E-6	-288.63E-6	3315.5	0 (Negligible)
						2	1.3157	1.5843	None	0.0057571	-0.020303	0.0053368	914.87E-6	-288.63E-6	2753.5	0 (Negligible)
		3	No 8 South Square	C	0.0	1	0.0	6.5064	None	0.0012965	0.0	0.0011707	0.0	62.380E-6	61211.	0 (Negligible)
						2	6.5064	1.8136	None	10.475E-6	-0.010393	0.0020787	265.95E-6	137.37E-6	11077.	0 (Negligible)
		4	No 8 South Square	D	0.0	1	1.4000	0.0	None	0.0	0.0	35.763E-9	-115.37E-6	-156.36E-6	-	0 (Negligible)
		5	No 8 South Square	E	0.0	1	0.0	0.0	None	0.0	0.0	35.763E-9	-443.65E-6	184.95E-6	5675.8	0 (Negligible)
		6	No 8 South Square	F	0.0 All vertical displacements are less than the limit sensitivity.											
		7	No 8 South Square	G	0.0 All vertical displacements are less than the limit sensitivity.											
		8	No 8 South Square	H	0.0 All vertical displacements are less than the limit sensitivity.											
		9	No 8 South Square / No 5-7 South Square	I	0.0 All vertical displacements are less than the limit sensitivity.											
		10	No 8 South Square	J	0.0 All vertical displacements are less than the limit sensitivity.											
		11	No 8 South Square / Chapel	K	0.0 All vertical displacements are less than the limit sensitivity.											
		12	No 8 South Square / Chapel	L	0.0 All vertical displacements are less than the limit sensitivity.											
		13	No 8 South Square / Chapel	M	0.0 All vertical displacements are less than the limit sensitivity.											
		14	No 8 South Square / Chapel	N	0.0 All vertical displacements are less than the limit sensitivity.											
		15	No 8 South Square	O	0.0 All vertical displacements are less than the limit sensitivity.											
		16	No 8 South Square / Hall	P	0.0 All vertical displacements are less than the limit sensitivity.											
		17	Hall	A	0.0 All vertical displacements are less than the limit sensitivity.											
		18	Hall	B	0.0 All vertical displacements are less than the limit sensitivity.											
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		20	Hall	D	0.0 All vertical displacements are less than the limit sensitivity.											
		21	Hall	E	0.0 All vertical displacements are less than the limit sensitivity.											
		22	Chapel	A	0.0 All vertical displacements are less than the limit sensitivity.											
		23	Chapel	B	0.0 All vertical displacements are less than the limit sensitivity.											
		24	No 5-7 South Square	A	0.0 All vertical displacements are less than the limit sensitivity.											
		25	No 5-7 South Square	B	0.0 All vertical displacements are less than the limit sensitivity.											
		26	No 5-7 South Square	C	0.0 All vertical displacements are less than the limit sensitivity.											

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Specific Building Damage Results - Detail

Stage: Ref.	Stage: Name	Specific Building: Ref.	Specific Building: Name	Sub-building Name	Vertical Offset from Line for Vertical Movement Calculations [m]	Segment	Start [m]	Length [m]	Curvature	Deflection Ratio [%]	Average Horizontal Strain [%]	Max Tensile Strain [%]	Max Gradient of Horizontal Displacement Curve	Max Gradient of Vertical Displacement Curve	Min Radius of Curvature [m]	Damage Category
0	Base Model	1	No 8 South Square	A	0.0	1	0.98571	0.93418	None	0.0	0.0	35.763E-9	0.0	35.556E-6	91072. 0	(Negligible)
						2	1.9199	2.4197	None	0.0025498	0.021536	0.022471	-374.86E-6	-157.04E-6	10072. 0	(Negligible)
						3	4.3396	2.5604	None	0.018605	0.037500	0.044708	-374.86E-6	617.45E-6	985.27 0	(Negligible)
		2	No 8 South Square	B	0.0	1	0.0	1.3486	None	0.0039890	-0.025885	0.0056764	914.87E-6	-318.62E-6	3151.0 0	(Negligible)
						2	1.3486	0.58476	None	0.0	-0.091403	0.018281	914.87E-6	-318.62E-6	7272.0 0	(Negligible)
		3	No 8 South Square	C	0.0	1	0.0	6.6244	None	0.0018348	0.0	0.0016807	0.0	85.560E-6	44342. 0	(Negligible)
						2	6.6244	3.5903	None	0.0044994	-0.011161	0.0035240	265.95E-6	138.30E-6	11472. 0	(Negligible)
						3	10.215	0.18435	None	0.0	0.0075251	0.0075251	-75.245E-6	138.30E-6	78805. 0	(Negligible)
		4	No 8 South Square	D	0.0	1	0.0	0.0	None	0.0	0.0	35.763E-9	-115.37E-6	-135.54E-6	- 0	(Negligible)
		5	No 8 South Square	E	0.0	1	0.98000	2.9400	None	871.85E-6	0.011995	0.012381	-443.65E-6	154.50E-6	8668.7 0	(Negligible)
		6	No 8 South Square	F	0.0	1	10.364	1.0354	None	0.0	0.0	35.763E-9	0.0	4.6777E-6	291560. 0	(Negligible)
		7	No 8 South Square	G	0.0	1	0.0	0.89900	None	0.0	0.0	35.763E-9	0.0	36.379E-6	- 0	(Negligible)
		8	No 8 South Square	H	0.0	1	0.0	3.1714	None	153.53E-6	0.0	151.24E-6	0.0	-14.222E-6	185860. 0	(Negligible)
		9	No 8 South Square / No 5-7 South Square	I	0.0	All vertical displacements are less than the limit sensitivity.										
		10	No 8 South Square	J	0.0	All vertical displacements are less than the limit sensitivity.										
		11	No 8 South Square / Chapel	K	0.0	All vertical displacements are less than the limit sensitivity.										
		12	No 8 South Square / Chapel	L	0.0	All vertical displacements are less than the limit sensitivity.										
		13	No 8 South Square / Chapel	M	0.0	All vertical displacements are less than the limit sensitivity.										
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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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