Appendix 10.1

SITE TERRAIN ADJUSTMENT

NOTE

Jackson's Row Developments Ltd (hereinafter referred to as ‘the Applicant’) is seeking to construct a major development proposal known as St Michael’s, Jackson’s Row, Manchester, UK

The planning application for the development was originally registered in January 2017. Following feedback, the decision was taken to revise the scheme. Revised plans and documents were submitted in November 2017 and the development was granted planning permission in June 2018.

Through the detailed design process, a number of relatively minor improvements to the original scheme have been identified; these will also provide technical and functional improvements through the next stage design process. The Applicant wishes to progress these proposed changes, which are considered to require amendments to the original scheme, through a Section 73 application.

An Environmental Statement, produced in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011, was submitted in support of the Approved Development in 2017. The 2017 Environmental Statement comprised three volumes, as follows:

Volume 1: Main Text and Figures;
Volume 2: Technical Appendices;
Volume 3: Non-Technical Summary

With reference to Volumes 1 and 2 of the 2017 Environmental Statement, it has been decided that rather than updating and re-submitting the entire Volumes in support the Section 73 application, an ‘Addendum’ to the 2017 Environmental Statement should be submitted. This is because the Proposed Amendments to the scheme are minor in nature and the potential to affect the environmental assessment is limited.

This Environmental Statement Volume 2 (2017) appendix formed part of the application package for the June 2018 approved scheme and remains valid.

Site Terrain Adjustment

Wind condition at weather station

BREVe32 : An aid to the use of BS6399-2 and EN1991-1-4

Design wind speeds in m/s

Provenance

Report generated by BREVe 3.2.1.5, 21/11/2016 15:16:03
SJ825847 BREVe3 site data for SJ825847
Design annual risk = 0.02000
Shelter effect from obstructions is **NOT** included.
Site altitude = 79.0m.
Topographic increment from internal parameters. Range = 500 m
Season length is all year.
Using UK / Irish direction factors.
Basic wind speeds :
BS*Vb* (1 hour) = 22.0 m/s.
EN*Vb*,map (10 min.) = 22.4 m/s.

BS6399-2 Directional Method - Mean and turbulence wind speeds

SJ825847 BREVe3 site data for SJ825847

Height above ground = 2.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	13.3	12.4	12.5	12.7	12.5	13.7	14.6	15.9	17.1	17.0	16.0	14.1
1s gust *V* (m/s) :	23.1	21.6	21.7	22.0	21.8	23.9	25.3	27.7	29.7	29.5	27.7	24.4
Turbulence *V* (m/s) :	2.85	2.67	2.68	2.72	2.69	2.94	3.12	3.41	3.65	3.62	3.41	3.01

Height above ground = 5.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	16.2	15.2	15.3	15.5	15.3	16.7	17.8	19.4	20.9	20.7	19.5	17.1
1s gust *V* (m/s) :	26.9	25.1	25.3	25.6	25.3	27.8	29.5	32.2	34.6	34.3	32.3	28.4
Turbulence *V* (m/s) :	3.10	2.90	2.91	2.95	2.92	3.20	3.40	3.71	3.97	3.94	3.71	3.27

Height above ground = 10.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	18.5	17.3	17.4	17.6	17.4	19.0	20.2	22.1	23.8	23.6	22.2	19.5
1s gust *V* (m/s) :	29.7	27.8	28.0	28.3	28.0	30.7	32.6	35.6	38.2	37.9	35.7	31.4
Turbulence *V* (m/s) :	3.28	3.06	3.08	3.12	3.09	3.38	3.59	3.92	4.20	4.16	3.92	3.46

Height above ground = 15.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	19.8	18.5	18.6	18.8	18.6	20.4	21.7	23.7	25.5	25.3	23.8	20.9
1s gust *V* (m/s) :	31.4	29.3	29.5	29.9	29.5	32.4	34.3	37.5	40.3	40.0	37.6	33.1
Turbulence *V* (m/s) :	3.37	3.15	3.16	3.21	3.17	3.47	3.69	4.03	4.31	4.28	4.03	3.55

Height above ground = 20.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	20.7	19.4	19.5	19.7	19.5	21.4	22.7	24.8	26.7	26.5	24.9	21.9
1s gust *V* (m/s) :	32.5	30.4	30.5	31.0	30.6	33.5	35.6	38.9	41.8	41.4	39.0	34.3
Turbulence *V* (m/s) :	3.42	3.20	3.22	3.26	3.22	3.53	3.75	4.09	4.38	4.34	4.09	3.61

Height above ground = 30.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	22.1	20.6	20.8	21.0	20.8	22.8	24.2	26.4	28.4	28.2	26.5	23.3
1s gust *V* (m/s) :	34.0	31.8	32.0	32.4	32.0	35.1	37.3	40.7	43.8	43.4	40.8	35.9
Turbulence *V* (m/s) :	3.48	3.25	3.27	3.31	3.27	3.59	3.81	4.16	4.45	4.42	4.16	3.67

Height above ground = 50.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	23.8	22.3	22.4	22.7	22.4	24.6	26.1	28.5	30.7	30.5	28.6	25.2
1s gust *V* (m/s) :	35.9	33.5	33.7	34.2	33.8	37.0	39.3	42.9	46.1	45.7	43.0	37.9
Turbulence *V* (m/s) :	3.50	3.27	3.29	3.33	3.29	3.61	3.83	4.18	4.48	4.44	4.18	3.69

Height above ground = 100.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	26.4	24.7	24.8	25.1	24.8	27.2	28.9	31.6	34.0	33.7	31.7	27.9
1s gust *V* (m/s) :	38.0	35.6	35.8	36.2	35.8	39.3	41.7	45.5	49.0	48.5	45.3	40.2
Turbulence *V* (m/s) :	3.39	3.17	3.19	3.23	3.19	3.50	3.71	4.05	4.34	4.30	3.97	3.58

Height above ground = 102.0 m

Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	26.5	24.7	24.9	25.2	24.9	27.3	29.0	31.6	34.1	33.8	31.8	27.9
1s gust *V* (m/s) :	38.1	35.6	35.8	36.3	35.9	39.3	41.7	45.6	49.0	48.6	45.4	40.2
Turbulence *V* (m/s) :	3.38	3.16	3.18	3.22	3.19	3.49	3.71	4.05	4.33	4.30	3.95	3.57

Wind condition at the proposed site

BREVe32 : An aid to the use of BS6399-2 and EN1991-1-4

Design wind speeds in m/s

Provenance

Report generated by BREVe 3.2.1.5, 21/11/2016 15:16:49
SJ837980 BREVe3 site data for SJ837980
Design annual risk = 0.02000
Shelter effect from obstructions is **NOT** included.
Site altitude = 59.0m.
Topographic increment from internal parameters. Range = 500 m
Season length is all year.
Using UK / Irish direction factors.
Basic wind speeds :
BS*Vb* (1 hour) = 22.3 m/s.
EN*Vb*,map (10 min.) = 22.5 m/s.

BS6399-2 Directional Method - Mean and turbulence wind speeds

SJ837980 BREVe3 site data for SJ837980

Height above ground = 2.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	9.2	8.5	7.9	7.3	7.9	8.7	9.2	10.1	11.4	11.6	10.6	9.7
1s gust *V* (m/s) :	20.1	18.6	18.1	17.7	18.0	19.8	21.0	23.0	25.3	25.7	23.5	21.1
Turbulence *V* (m/s) :	3.17	2.94	2.95	3.03	2.93	3.21	3.41	3.74	4.05	4.12	3.74	3.33
Height above ground = 5.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	13.6	12.6	11.7	10.9	11.7	12.9	13.7	15.0	16.9	17.1	15.7	14.3
1s gust *V* (m/s) :	25.8	23.9	23.1	22.5	23.0	25.3	26.8	29.4	32.4	33.0	30.1	27.1
Turbulence *V* (m/s) :	3.54	3.28	3.30	3.38	3.27	3.59	3.81	4.18	4.53	4.60	4.18	3.73
Height above ground = 10.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	16.9	15.6	14.6	13.6	14.6	16.1	17.0	18.7	21.0	21.3	19.5	17.8
1s gust *V* (m/s) :	30.0	27.8	26.8	26.2	26.8	29.4	31.2	34.2	37.8	38.4	35.0	31.6
Turbulence *V* (m/s) :	3.82	3.54	3.56	3.65	3.53	3.88	4.11	4.51	4.89	4.97	4.52	4.02
Height above ground = 15.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	18.7	17.3	16.2	15.2	16.3	17.9	19.0	20.9	23.3	23.7	21.6	19.8
1s gust *V* (m/s) :	32.4	30.0	29.0	28.3	28.9	31.8	33.7	37.0	40.8	41.5	37.8	34.2
Turbulence *V* (m/s) :	3.98	3.69	3.71	3.80	3.68	4.04	4.28	4.70	5.09	5.17	4.70	4.19
Height above ground = 20.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	20.0	18.5	17.4	16.3	17.5	19.1	20.3	22.4	25.0	25.4	23.1	21.2
1s gust *V* (m/s) :	34.1	31.6	30.5	29.8	30.5	33.4	35.5	39.0	43.0	43.7	39.7	36.0
Turbulence *V* (m/s) :	4.09	3.79	3.81	3.91	3.78	4.15	4.40	4.82	5.23	5.32	4.83	4.30
Height above ground = 30.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	21.7	20.1	19.0	18.0	19.1	20.9	22.2	24.5	27.3	27.8	25.2	23.1
1s gust *V* (m/s) :	36.1	33.6	32.5	31.9	32.6	35.7	37.9	41.7	45.6	46.6	42.4	38.2
Turbulence *V* (m/s) :	4.18	3.92	3.94	4.04	3.91	4.29	4.55	4.99	5.34	5.47	5.00	4.39
Height above ground = 50.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	23.7	22.0	20.9	20.1	21.1	23.1	24.6	27.2	30.0	30.6	27.6	25.3
1s gust *V* (m/s) :	37.7	35.2	34.4	33.9	34.6	37.9	40.1	44.1	47.9	48.9	44.7	40.0
Turbulence *V* (m/s) :	4.05	3.85	3.91	4.01	3.90	4.32	4.52	4.93	5.18	5.31	4.96	4.26
Height above ground = 100.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	26.2	24.3	23.6	23.1	23.9	25.9	27.7	30.7	33.6	34.3	30.7	28.1
1s gust *V* (m/s) :	39.1	36.6	36.0	35.9	36.3	39.8	42.1	46.5	50.1	50.7	46.4	41.7
Turbulence *V* (m/s) :	3.74	3.57	3.63	3.73	3.63	4.02	4.20	4.57	4.79	4.75	4.57	3.94
Height above ground = 102.0 m												
Direction (°N) :	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Mean *V* (m/s) :	26.3	24.4	23.6	23.2	23.9	26.0	27.8	30.8	33.7	34.4	30.8	28.2
1s gust *V* (m/s) :	39.1	36.6	36.1	36.0	36.4	39.8	42.2	46.5	50.1	50.7	46.4	41.7
Turbulence *V* (m/s) :	3.73	3.56	3.62	3.72	3.62	4.01	4.18	4.56	4.77	4.73	4.55	3.92