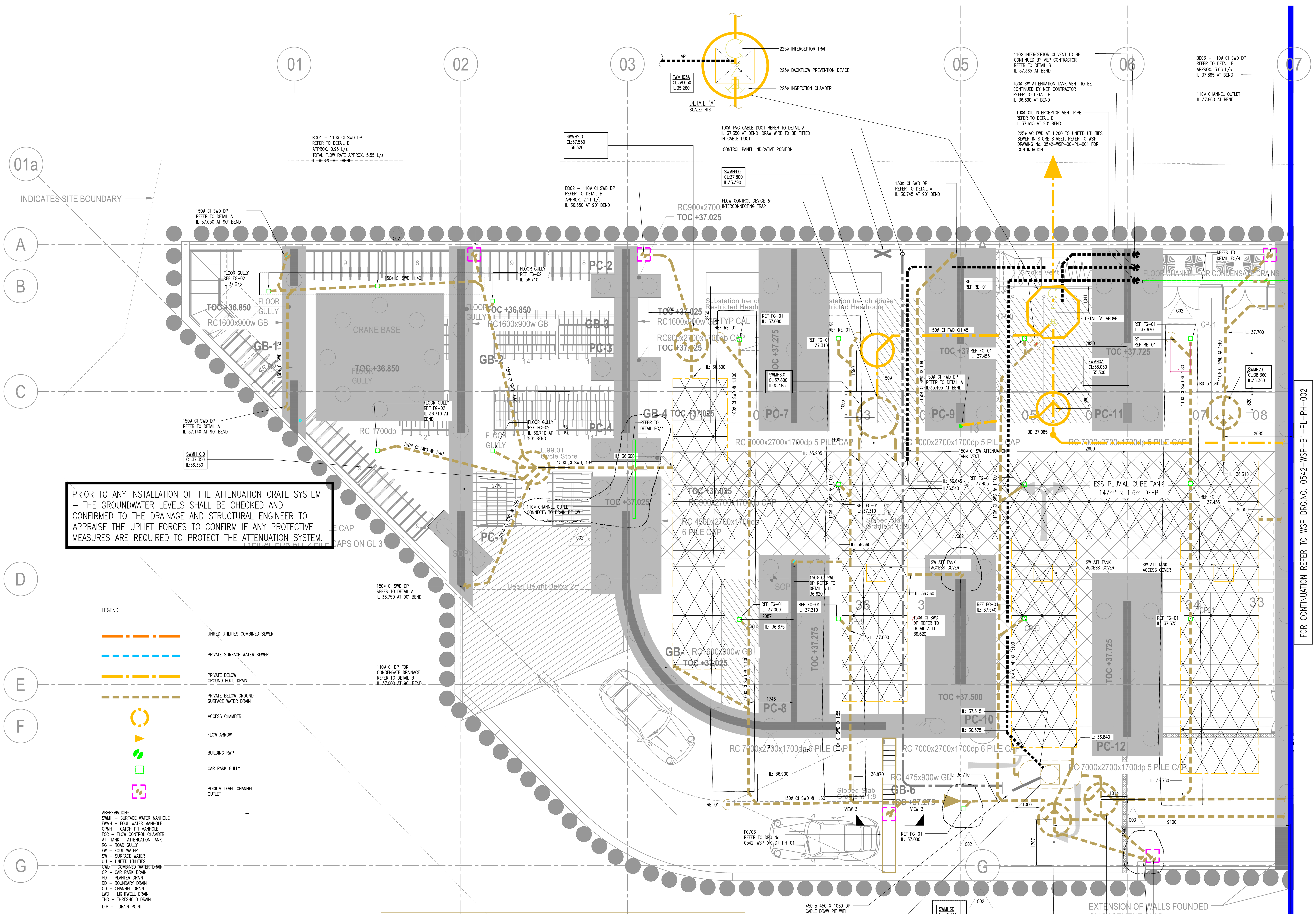

PRIOR TO ANY INSTALLATION OF THE ATTENUATION CRATE SYSTEM – THE GROUNDWATER LEVELS SHALL BE CHECKED AND CONFIRMED TO THE DRAINAGE AND STRUCTURAL ENGINEER TO APPRAISE THE UPLIFT FORCES TO CONFIRM IF ANY PROTECTIVE MEASURES ARE REQUIRED TO PROTECT THE ATTENUATION SYSTEM.

FOR CONTINUATION REFER TO WSP DRG.NO. 0542–WSP–B1–PL–PH–002

LEGEND:

▬ · ▬	UNITED UTILITIES COMBINED SEWER
▬ ▬ ▬	PRIVATE SURFACE WATER SEWER
▬ · ▬	PRIVATE BELOW GROUND FOUL DRAIN
▬ ▬ ▬	PRIVATE BELOW GROUND SURFACE WATER DRAIN
○	ACCESS CHAMBER
▶	FLOW ARROW
●	BUILDING RWP
□	CAR PARK GULLY
▢	PODIUM LEVEL CHANNEL OUTLET

ABBREVIATIONS
SWMH – SURFACE WATER MANHOLE
FWMH – FOUL WATER MANHOLE
CPMH – CATCH PIT MANHOLE
FCC – FLOW CONTROL CHAMBER
ATT TANK – ATTENUATION TANK
RG – ROAD GULLY
FW – FOUL WATER
SW – SURFACE WATER
UU – UNITED UTILITIES
CWD – COMBINED WATER DRAIN
CP – CAR PARK DRAIN
PD – PLANTER DRAIN
BD – BOUNDARY DRAIN
CD – CHANNEL DRAIN
LWD – LIGHTWELL DRAIN
THD – THRESHOLD DRAIN
D.P – DRAIN POINT

ATTENUATION TANK SIZING CRITERIA

DISCHARGE RATE	FLOW RATE	STORM EVENT	CLIMATE CHANGE	TANK VOLUME (m³)
GREENFIELD RUN–OFF	5 L/s	100 YEAR	30%	235m³

FOUL & SURFACE WATER DISCHARGE RATES

REFERENCE	FLOW RATE	DESCRIPTION	PEAK	INFORMATION SOURCE
FOUL WATER DISCHARGE	30 L/s	PEAK DOMESTIC	06:00–09:00 & 18:00–21:00	CE2 (MEP CONSULTANT)
	12.0 L/s	SWIMMING POOL BACK–WASH	OFF–PEAK	CE2 (MEP CONSULTANT)
	12.0 L/s	SWIMMING POOL BACK–WASH	OFF–PEAK	CE2 (MEP CONSULTANT)

DO NOT SCALE

Drawn In Accordance with

FILENAME	ORIGINATOR	TITLE	REV	DATE REC'D
05393_B1_02_1198	5 Plus Architects	Level -01 General Arrangement Plan	G	07.06.2018

GENERAL NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE BELOW GROUND DRAINAGE SPECIFICATION.
2. ALL DRAINAGE WORKS ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF BS EN 752 AND APPROVED DOCUMENT BUILDING REGULATIONS.
3. DO NOT SCALE FROM THIS DRAWING WORK TO DIMENSIONS OR COORDINATES PROVIDED. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
4. NO DEVIATION FROM THE CONTENT OF THIS DRAWING IS ALLOWED WITHOUT PERMISSION OF WSP.
5. ADEQUATE PROTECTION IS TO BE PROVIDED TO MAINTAIN INTEGRITY OF THE EXISTING SERVICES AND PROPOSED WORKS DURING CONSTRUCTION.
6. COVER LEVELS ARE BASED ON ARCHITECTURAL FFL'S.
7. REFER TO THE MANHOLE SCHEDULE FOR DETAILS OF ACCESS COVERS/INSPECTION CHAMBERS, BACKDROP & RAMPDROPS.
8. ALL PIPEWORK IS TO BE LAID SOFFIT TO SOFFIT UNLESS NOTED OTHERWISE.
9. THE CONTRACTOR MUST INSTALL THE DRAIN RUNS TO THE INVERTS INDICATED ON THE DRAWINGS. NO DEVIATION IS PERMITTED WITHOUT AUTHORISATION FROM WSP BUILDINGS.
10. THE CONTRACTOR SHALL ALLOW FOR 2No 135° BENDS FOR EACH BRANCH CONNECTION PRIOR TO CONNECTING TO MANHOLES, WHERE LEVELS EXCEED 1M AN EXTERNAL BACKDROP SHOULD BE ALLOWED.
11. ALL MANHOLE COVERS WITHIN BASEMENT AREAS TO BE DOUBLE SEAL TYPE.
12. BELOW SLAB DRAINAGE INSTALLATION TO BE SAINT GOBAIN CAST IRON TIMESAVER SYSTEM AS SPECIFICATION.
13. SETTING OUT TO BE PROVIDED BY ARCHITECT/MEP CONSULTANT PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES ANY WORK CARRIED OUT ON SITE BY THE CONTRACTOR SHALL BE DONE AT THEIR OWN RISK.
14. REFER TO DRAWING 0542–WSP–XX–DT–PH–001 AND 0542–WSP–XX–DT–PH–003 FOR DRAINAGE DETAILS.
15. REFER TO DRAWING 0542–WSP–XX–DT–PH–004 FOR MANHOLE INFORMATION.

DESIGN NOTES (SURFACE WATER)

1. IN LINE WITH THE WSP DRAINAGE STRATEGY REPORT THE DISCHARGE WILL BE RESTRICTED TO 5.0 L/s AND THE REQUIRED ATTENUATION TANK WILL BE APPROXIMATELY 235m³. THIS WILL BE BASED ON VERIFYING EXISTING CONNECTIONS FROM THE SITE.
2. ALL ACCESS COVERS WILL BE FULLY SEALED TO ALLOW FOR THE SURCHARGE OF THE STORMWATER ATTENUATION TANK.
3. ALL PODIUM LEVEL CAR PARK AREAS ARE CALCULATED USING 75MM/HR RAINFALL INTENSITY.
4. ALL LANDSCAPE AREAS ARE CALCULATED USING 183MM/HR RAINFALL INTENSITY.
5. ALL CAR PARK DRAINS TO BE ROUTED THROUGH OIL SEPARATOR.

DESIGN NOTES (FOUL WATER)

1. BASED ON CALCULATED PEAK FOUL WATER DISCHARGE FIGURES OF 30 L/s (PEAK DOMESTIC) & 12 L/s (SWIMMING POOL BACKWASH) THE FOUL WATER OUTFALL PIPE WILL NEED TO BE 225ø BASED ON PEAK DOMESTIC DISCHARGING DURING NORMAL PEAK HOURS AND SWIMMING POOL BACKWASH DISCHARGING DURING OFF–PEAK HOURS THEN IT IS PROPOSED TO DISCHARGE TO CHAMBER 0101 INTO THE EXISTING 225ø SEWER.
2. IF UNITED UTILITIES DO NOT ACCEPT THIS POINT OF DISCHARGE THEN A NEW CHAMBER/CONNECTION MAY NEED TO BE CONSTRUCTED ONTO THE 1500ø SEWER IN STORE STREET.
3. FWMH03A WILL BE CONSTRUCTED COMPLETE WITH A FLAP VALVE TO PROTECT THE BUILDING FROM THE EFFECTS OF SEWER SURCHARGE. THE FLAP VALVE TO BE MANUFACTURED BY ALTHON TIDEFLEX CHECKMATE IN–LINE VALVE.

SEWER/CULVERT NOTES:
1. THE EXISTING SEWER & CULVERT INFORMATION INDICATED ON THIS DRAWING HAS BEEN TAKEN FROM UNITED UTILITIES SEWER RECORDS.
2. WHERE INVERT LEVELS ARE NOT AVAILABLE ON THE UNITED UTILITIES SEWER RECORDS THE LANES FOR DRAINS SURVEY HAS BEEN USED.
3. PRIOR TO MAKING ANY NEW CONNECTIONS ONTO THE PUBLIC SEWER NETWORK THE CONTRACTOR SHALL VALIDATE THE INVERT LEVEL AT POINT OF CONNECTION AND WHERE THIS DIFFERS FROM THAT INDICATED THEY SHALL INFORM THE CONSULTANT IMMEDIATELY SO THAT THE IMPACT CAN BE ASSESSED.

POOL DRAINAGE AMENDED TO, SETTING OUT DI
ADDED TO MANHOLES AND DRAIN POINTS MOVE
SUIT ARCHITECTS DRAWING 05393_B1_02_292
DRAINAGE ROUTE ADJUSTED TO SUIT ARCHITECT

REV	DATE	BY	DESCRIPTION	CHK	APP
C02	07.11.18	JG	STAGE 5 CONSTRUCTION ISSUE WITH AMENDMENTS	MT	MT
C01	19.09.18	JG	STAGE 5 CONSTRUCTION ISSUE	MT	MT
P11	04.09.18	JG	SCHEME UPDATED TO SUIT RFI: 0006/0023	MT	RM
P10	20.08.18	JG	SCHEME UPDATED TO SUIT RFI: 0006/0023	MT	RM
P9	20.07.18	JG	UPDATED DRAINAGE	MT	RM
P8	18.07.18	JG	UPDATED DRAINAGE	MT	RM
P7	13.07.18	JG	UPDATED DRAINAGE	RM	RM
P6	06.07.18	RM	UPDATED DRAINAGE	RM	RM
P5	15.06.18	RM	UPDATED DRAINAGE	RM	RM
P4	11/06/18	JG	UPDATED SW DRAINAGE	RM	RM
P3	01/06/18	MT	STAGE 3 ISSUE	RM	RM
P2	01/05/17	CT	STAGE 4 ISSUE	CH	CH
P1	22/07/16	CT	FOR INFORMATION ONLY	CH	CH

DRAWING STATUS:
STAGE 5

wsp
The Victoria, 150-182 The Quays, Salford, Manchester, M50 3SP
Tel: +44 (0)161 886 2400 Fax: +44 (0)161 886 2401
www.wsp.com

CLIENT:
RUSSELL CONSTRUCTION

ARCHITECT:
5PLUS ARCHITECTS

PROJECT:
STORE STREET
MANCHESTER

TITLE:
PUBLIC HEALTH SERVICES
BELOW GROUND DRAINAGE
TOWER 3
BASEMENT LEVEL

SCALE @ A0:	CHECKED:		APPROVED:
1:100	CT		CH
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70010542	CT	CAD	APR'17
DRAWING No:			REV:
0542-WSP-B1-PL-PH-001			C02

© WSP Group Ltd