

Our Reference: 3887

January 2024

Virtus,

London 14,

SURFACE WATER DRAINAGE SYSTEM EXECUTIVE SUMMARY

Planning Application Ref: 18399/APP/2022/411

Condition 5:

Prior to the commencement of the development hereby approved, a surface water drainage scheme shall be submitted to, and approved in writing by, the Local Planning Authority.

The scheme shall set out the current drainage arrangements including the discharge rates in a 1:100 (plus 40% allowance for climate change).

The scheme shall then demonstrate how the development will impact on the current arrangements.

The development shall demonstrate a reduction in a discharge rates from the site in a 1:100 year (plus 40% allowance for climate change) through the use of sustainable drainage systems in accordance with the drainage hierarchy set out in Policy SI 13 of the London Plan.

The scheme shall also demonstrate that the necessary energy infrastructure (i.e. generators and substations) are at least 300mm above the modelled 1:100 (plus 40% allowance for climate change) fluvial and/or surface water event, whichever is higher and that they are not to be impacted by any water run-off routes from the site.

The development must be carried out in accordance with the approved scheme.

As required by Planning Condition 5 further calculations have now been carried out to check the impact of a 1 in 100 year event plus a 40% climate change allowance.

The existing low lying area under the gantry has been utilised to accommodate some minor surface flooding.

The results demonstrate this excess to be approximately 35mm deep at the deepest point 1.190m clear below the gantry floor level where the generators are housed and is demonstrated on the attached Layout and Section at the end of this summary and there is no increase in the discharge rate as all surface water discharges to soakaways.

This Site which was formerly a Logistics Depot is being redeveloped as a Data Centre with some changes to the layout which requires the existing drainage and other services to be re-configured to suit.

The Site's existing surface water drainage system currently consists of six soakaways which are all interlinked by connecting drainage lines which allows them to act as one large soakaway. Refer attached Drainage Layout TRC – 2607 – 51 for details.

There is no increase in the overall impermeable area but the existing soakaways require to be re-configured to suit the new layout.

This requires Soakaways 3, 5 and 6 to be removed and part of Soakaway 1 – 2 to be removed.

The volume lost of in these soakaways has been replaced in a new soakaway and has been interlinked to existing soakaways as per the existing surface water system.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE INFORMATION NORMALLY ASSOCIATED WITH THE TYPES OF WORK STATED IN THIS DRAWING, THE FOLLOWING NOTES APPLY:

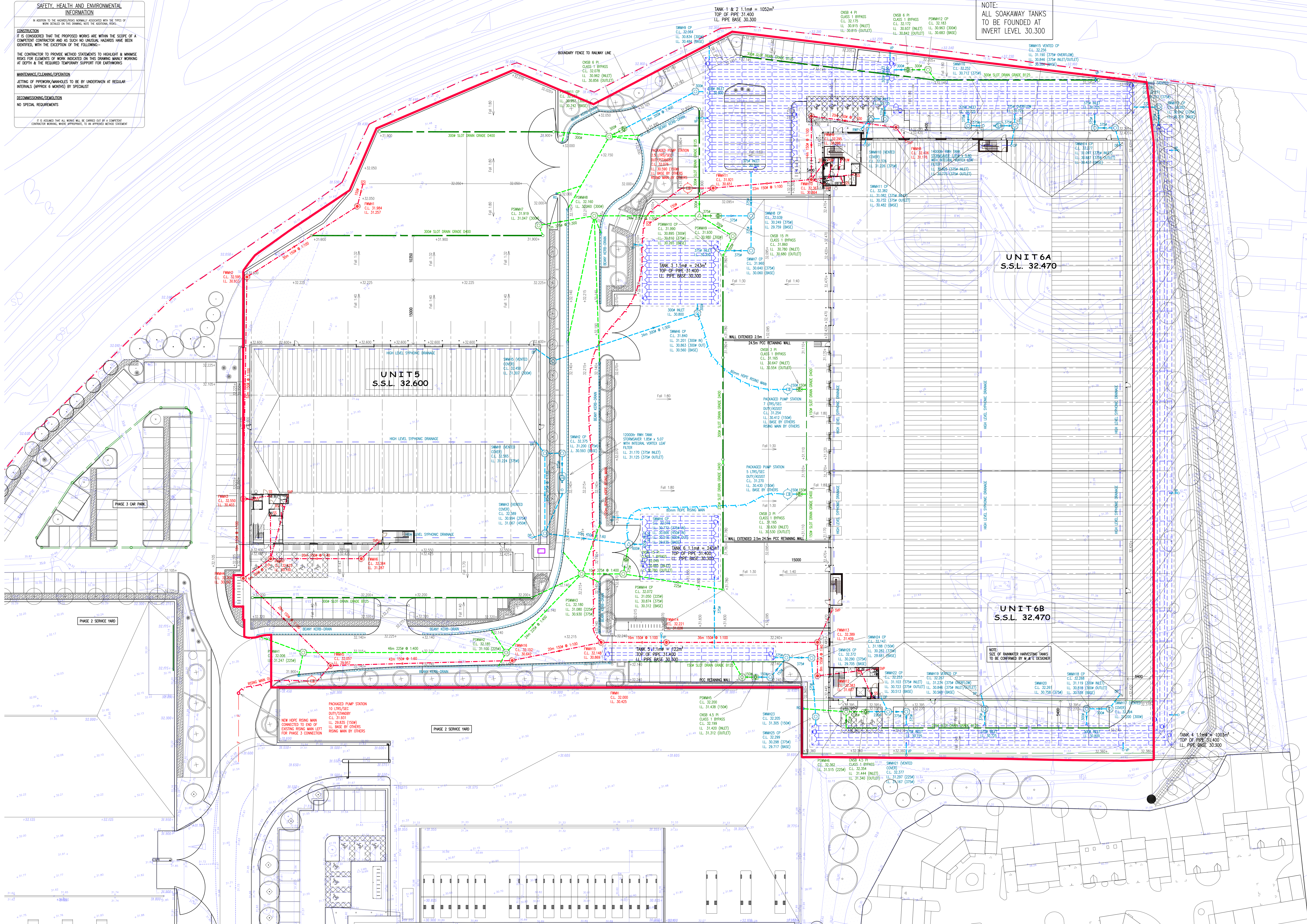
CONSTRUCTION
IT IS CONSIDERED THAT THE PROPOSED WORKS ARE WITHIN THE SCOPE OF A COMPETENT CONTRACTOR AND AS SUCH NO UNUSUAL HAZARDS HAVE BEEN IDENTIFIED, WITH THE EXCEPTION OF THE FOLLOWING:

THE CONTRACTOR TO PROVIDE METHOD STATEMENTS TO HIGHLIGHT & MANAGE RISKS FOR ELEMENTS OF WORK INDICATED ON THIS DRAWING, MAINLY WORKING AT DEPTH & THE REQUIRED TEMPORARY SUPPORT FOR EARTHWORKS.

MAINTENANCE/CLEANING/OBSERVATION
JETTING OF PIPEWORK/MANHOLES TO BE BY UNDERGROUNDS AT REGULAR INTERVALS (APPROX 6 MONTHS) BY SPECIALIST.

DECOMMISSIONING/DEMOLITION
NO SPECIAL REQUIREMENTS.

IT IS ASSURED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR, HAVING BEEN APPROPRIATE TO AN APPROVED METHOD STATEMENT.



NOTE:
ALL SOAKAWAY TANKS
TO BE FOUNDED AT
INVERT LEVEL 30.300

DRAINAGE NOTES

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
- ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH BS 8301, BS 8005 AND THE BUILDING REGULATIONS.
- ALL PIPES ARE TO HAVE SURROUND IN ACCORDANCE WITH THE BUILDING REGULATIONS.
- FOR EXACT LOCATION OF RAIN WATER AND FOUL WATER OUTLETS, REFER TO ARCHITECTS DRAWINGS.
- SURFACE WATER DRAINS SHALL BE EITHER H.D.P.E. RIGID DRAIN TWIN WALL CARRIER PIPE BY 'POLYPIPE PLC' (OR SIMILAR APPROVED) TO B.S. EN 1401-1 (OR P.C.P. PIPES TO B.S. 5911 (PART 100) OR VITRIFIED CLAY TO B.S. 65.
- FOUL WATER DRAINS SHALL BE EITHER P.V.C. PIPEWORK BY 'POLYPIPE PLC' (OR SIMILAR APPROVED) TO B.S. EN 1401-1 OR VITRIFIED CLAY TO B.S. EN 295.
- ALL GRP UNDERGROUND TANKS ARE TO BE BEDDED ON AND ENCASED IN 250mm GEN 3 20mm AGG. CONCRETE STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS.
- ROAD GULLY OUTLET & KERBDRAIN PIPE INVERT LEVELS TO BE 600mm BELOW TOP OF GRATING LEVEL.
- ALL MANHOLE AND INSPECTION CHAMBER COVERS, FRAMES AND SLOTTYPE DRAINS IN TRAFFICED AREAS SHALL COMPLY TO EITHER B.S. 497 : PART 1 HEAVY DUTY COVERS TO W400, OR B.S. EN 124 GRADE D400 (11.5 TONNE WHEEL LOADING) SYNTACTIC DRAINAGE TO HAVE VENTED COVERS.
- FOR DRAINAGE CONSTRUCTION AND PIPE BED DETAILS REFER TO DRAWING No. 11.
- ALL DRAINAGE BRANCHES TO BE 100mm FOR FOUL WATER & 150mm FOR SURFACE WATER UNLESS MARKED OTHERWISE.
- ALL SOIL & VENT STACKS TO HAVE READABLE ACCESS 150mm ABOVE GROUND FLOOR SLAB LEVEL WITH REMOVABLE ACCESS PLATES.
- ALL DRAINAGE CHANNELS TO HAVE ACCESS CHAMBER AT ENDS OF RUNS & EVERY 30m THEREAFTER.
- ALL KERB DRAINAGE TO HAVE SUMP UNITS AT OUTLETS OF RUNS & HAVE RODDING ACCESS POINTS EVERY 30m THEREAFTER.
- ALL SHALLOW DRAINAGE (<900mm COVER) AND DRAINAGE BELOW SLAB TO BE INCASED IN MIN 150mm CONCRETE SURROUND.
- ALL CONCRETE SURROUNDS FOR THE DRAINAGE TO BE CLASS DCAZ (SULPHATE RESISTING).

LEGEND

- 1200mm MANHOLE & DRAIN RUN
FOUL WATER - RED
CLEAN SURFACE WATER - BLUE
DIRTY SURFACE WATER - GREEN
- 1500mm MANHOLE & DRAIN RUN
CLEAN SURFACE WATER - BLUE
DIRTY SURFACE WATER - GREEN
- 1800mm MANHOLE & DRAIN RUN
CLEAN SURFACE WATER - BLUE
DIRTY SURFACE WATER - GREEN
- EXISTING FOUL WATER DRAINAGE RUN & MANHOLE
- EXISTING CLEAN SURFACE WATER DRAINAGE RUN & MANHOLE
- HIGH LEVEL SYNTACTIC DRAINAGE
PRIMARY/SECONDARY SYSTEM
- PACKAGED PUMP STATION
WITH RISING MAIN
- GATE SLOTDRAIN D400 OR SIMILAR
(200mm C40 CONCRETE SURROUND)
- ACCESS CHAMBER/OUTLET
- BEANY TYPE KERB DRAIN
(150mm C20 BED & MANHOLE)
- ROADABLE TRAPPED FLOOR GULLY
- SOIL & VENT PIPE
- SOIL STACK INCL. MV
- PRESSURISED SYNTACTIC COMPMP
- GRAVITY DRAINAGE DOWNPIPE
- CONCRETE CLASS 1 BY-PASS
PETROL INTERCEPTION
- PROPOSED NEW SURFACE LEVELS
- EXISTING SURFACE LEVELS



AS BUILT

AB 08.12.14	AS BUILT ISSUE.	TC JC
J 13.10.14	REVISED TO SUIT LATEST ARCHITECTS SITE PLAN.	TC DOB
H 08.09.14	SPRINKLER TANKS DELETED	TC KD
G 01.08.14	R.W.H.T. DETAIL UPDATED. COVER LEVELS TO INTERCEPTORS & PUMP STATIONS AMENDED	TC DOB
F 28.07.14	MANHOLES SW6 & PSW10 REV'D	TC DOB
E 18.07.14	ATTENTION TANKS 3 & 6 MOVED WITH MH'S TO SUIT.	TC DOB
D 02.07.14	MANHOLES MOVED TO SUIT TREE LOCATIONS.	TC DOB
C 09.06.14	MANHOLE REFERENCES ADDED.	TC DOB
B 06.06.14	UPDATED LAYOUT/SOAKAWAYS	TC CE
A 13.05.14	ISSUED FOR CONSTRUCTION	TC CE
T3 10.12.13	DRAINAGE AMENDED TO SUIT SPRINKLER TANKS AND VEHICLE WASH AREAS.	TC DOB
T2 31.10.13	UNIT C REVISED	TC DOB
T1 28.10.13	ISSUED FOR TENDER	TC DOB
P2 02.09.13	FOUL DRAINAGE AMENDED TO SUIT OFFICE LAYOUT.	TC MD
P1 18.12.12	PRELIMINARY ISSUE	TC CE
REV	DATE	DESCRIPTION
CHK	CHK	DRN

NOTE: Where a 'P' revision applies, this drawing is NOT to be used for construction.

T. R. COLLIER & ASSOCIATES.
CONSULTING ENGINEERS



PROJECT
PHASE 3
PROLOGIS PARK, HAYES

TITLE
DRAINAGE LAYOUT
UNITS 5, 6A & 6B

ARCHITECT
MICHAEL SPARKS Associates

DRAWN	DESIGNED	CHECKED
CE	TC	TC
DATE	SCALE	STATUS
Mar 2010	1:300	AS BUILT

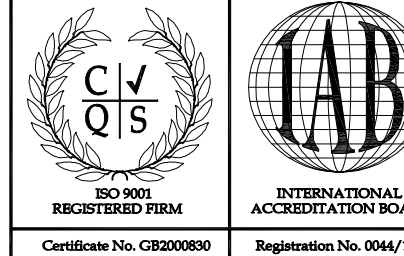
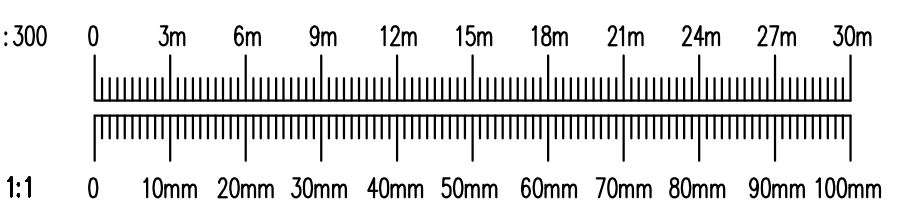
TRC - 2607 - 51

AB

SURFACE WATER DESIGN CRITERIA
On - Site Soakaways
designed for 1:100 year returns storm
+ 20% climate change
using an Infiltration Rate of 4.2×10^{-6}

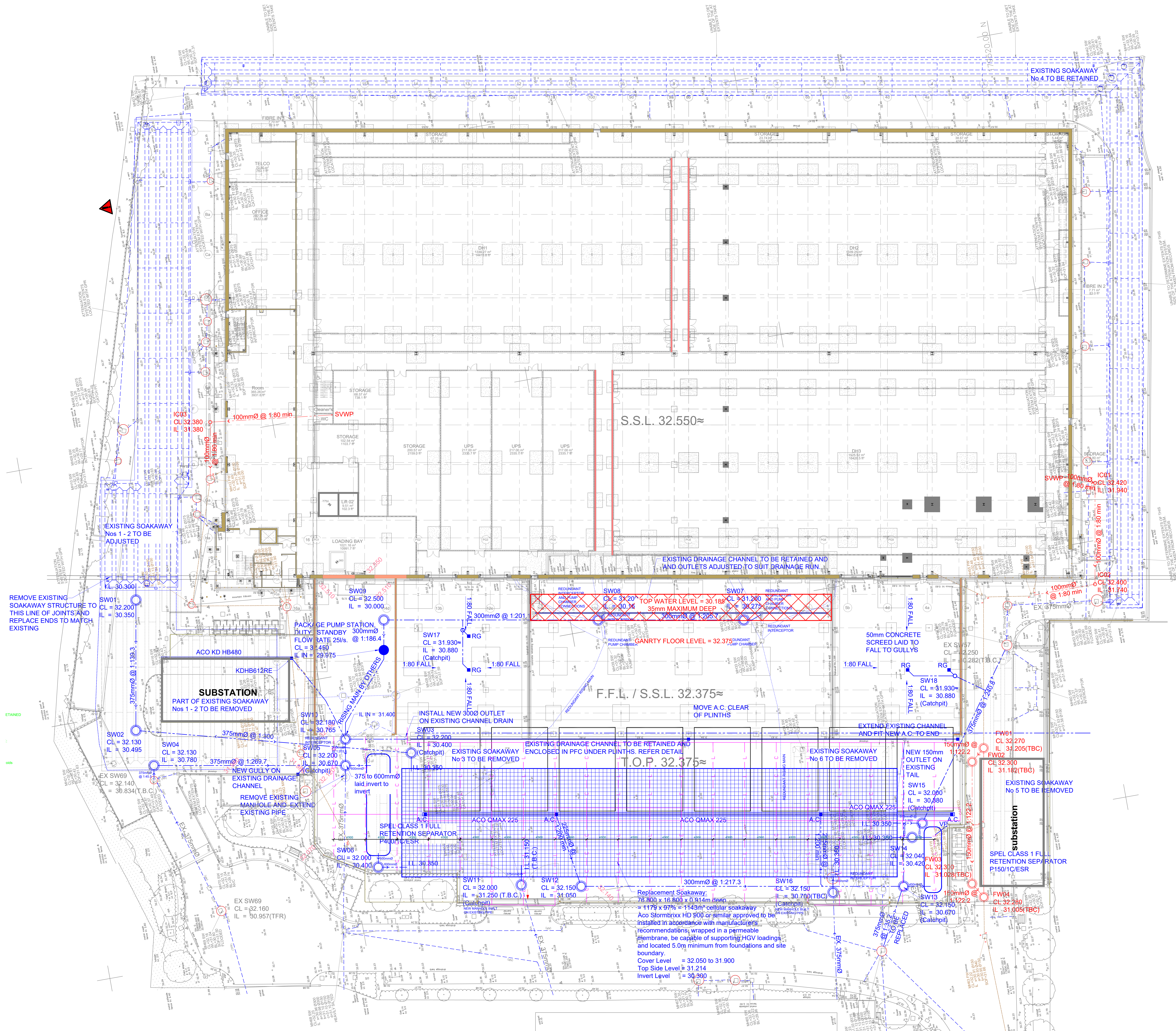
NOTE:
ALL SOAKAWAY TANKS
TO BE FOUNDED AT
INVERT LEVEL 30.300

DRAINAGE LAYOUT
Scale 1:300



- 1) This drawing is to be read in conjunction with all relevant Architects and Engineers drawings and specifications.
- 2) Any discrepancies in dimensions or details, or between these drawings should be drawn to the attention of the Architect and/or the Engineer in writing for clarification.
- 3) The contractor is to verify locations, invert levels and diameter of existing drainage at tie-in points prior to the commencement of any site works.
- 4) All drainage works are to be installed in accordance with BS.8301/BS.EN.752.
- 5) Reference is to be made to the specification documents for materials and installation details.
- 6) This drawing is to be used for drainage information only.
- 7) Refer to Architects drawings for building and drainage setting out.
- 8) For foundation details see drawing number 3887/--- & ---.
- 9) Refer to site investigation report for ground conditions.
- 10) All excavations in excess of one metre deep are to have trench supports.
- 11) Trench excavations to be kept dry at all times.
- 12) For manhole and drainage installation details see standard drawing numbers SD/5-- etc.
- 13) All foul water drainage to be 100Ø @ 1:40 min. unless noted otherwise. All surface water drainage to be 150Ø @ 1:150 min. unless noted otherwise.
- 14) All foul and surface water drainage is to be laid with level soffits unless noted otherwise.
- 15) All drainage with less than 1.2m cover is to be fitted with a concrete surround.
- 16) All invert levels are to the outgoing pipe unless noted otherwise.
- 17) Full Retention Separators are to be Class 1, alarmed (mains) and fitted with oil level sensor / float. The separator is to be vented and installed in accordance with the manufacturer's installation details. For position of separator panel and vent stack refer to the Architect's drawings. For electrical supply refer to M & E drawings.
- 18) All redundant drainage is to be grubbed-up or sealed to the satisfaction of the local authority.
- 19) All drainage is to be fitted with access points immediately above finish floor / ground level.
- 20) The contractor is to carry out a survey of the existing sewers / drains to be abandoned up to the start / head of the run which may extend beyond the site boundary to establish that there are no live incoming connections prior to commencement of any site works.
- 21) Soakaway is to be Aco Storm-Brix HD or similar approved, be capable of supporting HGV loadings, wrapped in a permeable membrane and to be installed in accordance with the manufacturer's details and recommendations.
Soakaways are to be located a minimum of 5m from roads, building foundations and site boundary.
- 22) All channel and kerb drains to be roddable and fitted with silt traps and removable silt buckets.

- | | |
|---|--|
| | Proposed Foul Water drainage network |
|  | Existing Foul Water drainage network |
|  | Existing Foul Water drainage network to be grubbed-up. See Note 19. |
|  | Proposed Surface Water drainage network |
|  | Existing Surface Water drainage network |
|  | Existing Surface Water drainage network to be grubbed-up. See Note 19. |

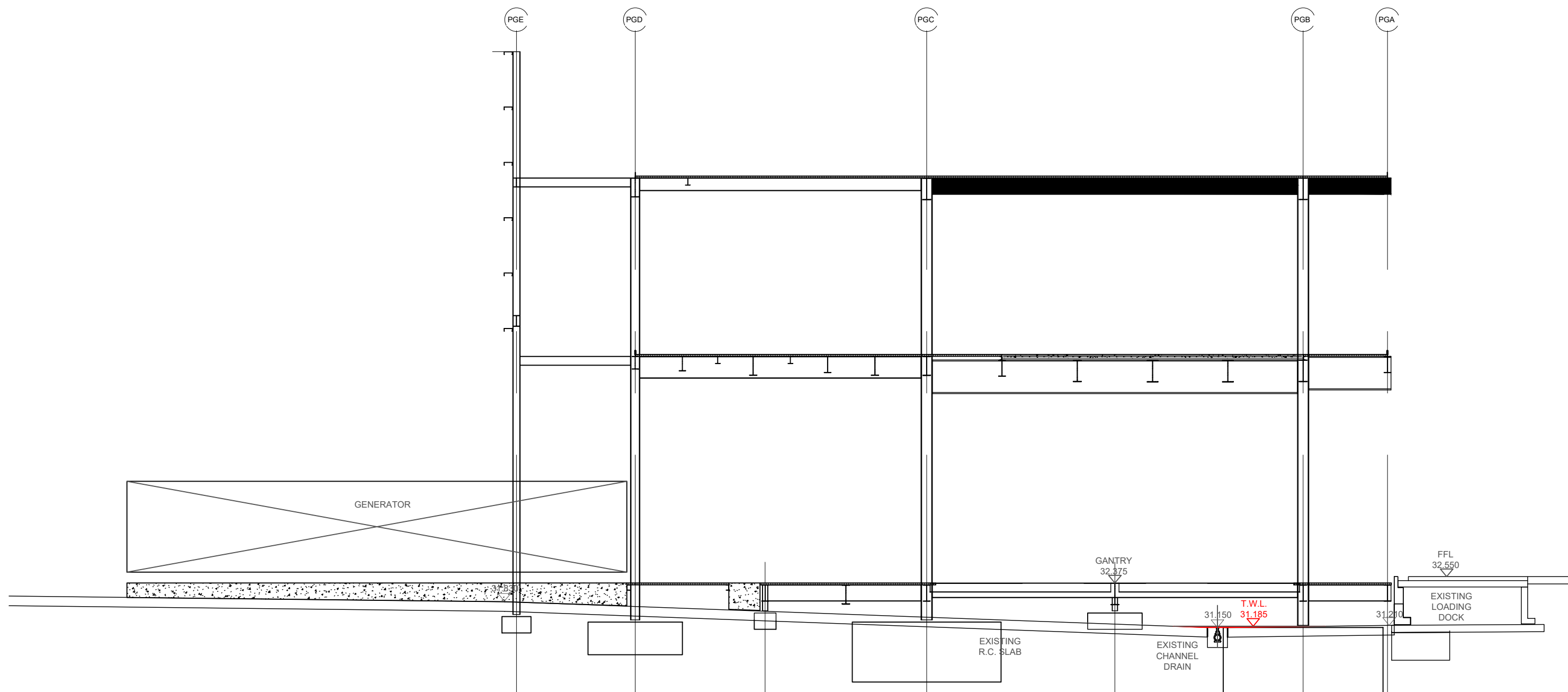


REV	AMENDMENTS	DATE
		DATE Oct 2022
Virtus London 14 Proposed Data Centre		SCALE 1:200 @ A0
		DRAWN BY <i>SM</i>
External Works Proposed Drainage Layout		DRG No 3887 / 601

JOHN TOOKE & PARTNERS

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SECTION THROUGH GANTRY