LEGEND

- Existing Storm Sewer - Public
- Existing Foul Sewer - Public
- Proposed Foul Sewer - Adoptable (DCWW S104)
- Foul drain - 100Ø unless show otherwise (Private)
- Foul drain - 100Ø unless show otherwise (Adoptable)
- Foul inspection chamber (private) - with invert level
- Foul inspection chamber (adoptable) 700mm deep unless noted otherwise <3m deep with restricted access depths >1.2m
- Storm drain - 100Ø unless show otherwise (Private)
- Storm drain - 100Ø unless show otherwise (SAB Adoptable)
- Surface water inspection chamber (private) - with invert level
- Surface water inspection chamber (SAB adoptable) <3m deep with restricted access depths over 1.2m.
- Hydrobrake Flow Control - (SAB Adoptable)
- Catchpit Chamber - (SAB Adoptable)
- Rodding eye (450mm deep unless noted otherwise)
- Channel drain (ACO or similar)
- Orifice Control Chamber
- "Bio-retention /Raingarden Area with overflows & perforated underdrain, Invert & Areas shown - Lined
- RWP Discharging to Bio-retention Area via channel drain (ACO MD shallow M100D No. 075)
- Permeable Paving Area Reference Noting area (m²), base level (mAOD) & min. sub-base depth (mm)
- Soft Landscaping - For full extent refer to Landscape GA

- Permeable Paved parking area (Lined) - (Private) 60mm Pavers, 50mm Bedding. Sub-base as noted 100mm Channel drain provided as exceedance overflow Bays delineated with impermeable membrane /baffle
- Permeable Paved parking area (Lined) - (SAB Adoptable) 80mm Pavers, 50mm Bedding, 100mm AC32. Sub-base as noted 100mm Channel drain provided as exceedance overflow
- RWP discharging to permeable sub-base via catchpit & diffuser units
- Permavoid Diffuser Unit as outlet from permeable sub-base (Private)
- SuDS Planter Small 600x800mm - (Private)
- Wheolite attenuation tank - (SAB Adoptable)
- Highway Gully & 150dia. Gully drain
- ACO Swale Inlet
- Headwall as Inlet - Geogrow Headwall System or similar approved
- Basin Outlet via SuDS filter basket system to minimise blockage
- Attenuation Tank /Cellular Storage
- Rain Water Butt - with overflow
- Detention Basin /Swale Max. 1:3 Side slopes
- Building FFL Level
- Proposed Finished Ground Level
- Additional Underbuild (below d.p.c. as shown)
- Retaining Wall - (Indicates retained height).
- Steps (to be Part M Compliant)

Attenuation Tank Details

Tank Ref.	Dimensions (m) (LxWxD)	Volume (m³)	Base Level	Min. Cover depth (mm)
A	49x4x0.8	149	7.735	465
B	83x3.5x0.8	221	7.350	950
C	29x4.5x1.2	149	7.000	900
D	23x6x1.2	157	7.970	780

Attenuation tank type WAVIN AQUACELL or similar approved - All levels are mAOD

Basin /Swale Details

Basin Ref.	Top of Bank Level	Base Level	Top Area (m²)	Base Area (m²)	Freeboard Level (m)	Volume to freeboard level (m³)	Outlet Dia. (mm)
A	9.900	8.000	238	39	9.700	179	225
B	9.900	9.000	567	226	9.700	237	150
C	9.800	9.100	673	235	9.600	176	150
D	10.050	9.100	226	32	9.850	74	100

All basins are designed with 1:3 side slopes & min. 200mm Freeboard

*Private bioretention areas consist of 100mm depression (below external ground level), min. 500mm engineered soil 200mm clean stone drainage layer with 100mm perforated underdrain. Engineered soil depth increased to 900mm if planted with trees.

DESIGN EVALUATION NOTES

1. Development site area 33258m² (3.3258Ha).
2. Total contributing areas from within site boundary 21226m² (2.12Ha.)
3. Overall contributing areas to outfall - 37764m² (3.3764Ha)
6. Drainage system to prevent first 5mm of rainfall from leaving the site for majority of rainfall events (interception), where possible.
7. All storm water to be communicate with DCWW storm network and ultimately discharge to River Usk.

OVERALL OFFSITE FLOWS TO BE LIMITED TO A MAXIMUM PEAK RATE OF 22.5L/s

Design Criteria
- FEH 2022 Rainfall Data
- Climate change allowance 40%
- Urban Creep allowance 10% (Of measured roof areas only)

Basin outlet via SuDS filter basket to minimise blockage risk and reduce debris inflow to gravity drains

High level 225dia. overflow from Basin A into Basin B to balance flows & maximise storage /attenuation potential of Basin B. Outlet from Basin A 9.300m Inlet to Basin B 9.100m

OFFLINE ATTENUATION TANK A - (BASIN B)
49x4x0.8m - 149m³ VOLUME
Base Level - 7.735m
Placed beneath basin 465mm min. Cover

LINED BASIN /SWALE-A
TOP OF BANK MIN.: 9.900m
BASE LEVEL 8.000m

LINED BASIN /SWALE-B
TOP OF BANK MIN.: 9.900m
BASE LEVEL 9.000m

OFFLINE ATTENUATION TANK B - (BASIN C)
83x3.5x0.8m - 221m³ VOLUME
Base Level - 7.350m
Placed beneath basin 950mm min. Cover

LINED BASIN /SWALE-C
TOP OF BANK MIN.: 9.800m
BASE LEVEL 9.100m

600Ø @ 1:XXX

GENERAL NOTES

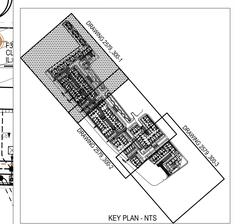
1. The contractor is to check and verify all buildings and site dimensions and levels, including existing sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
2. Positions of existing services/statutory undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
3. This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specifications and any structural, geotechnical or other specialist document provided.
4. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.
5. Where trees adjacent to the highway are proposed, root barriers of an approved type are required to prevent future structural damage to the highway.
6. Any anomaly or contradictions between any of the above is to be reported immediately to PHG Consulting Engineers.

ROAD AND SEWER ADOPTIONS

1. All works for adoption under a Section 38 agreement shall be carried out to the Highway Authority Specification for Road Construction in Residential Areas and to the approval of the Area Highway Authority.
2. All works for adoption under a Section 104 agreement shall be carried out to the National Water Council guide "Sewers for Adoption" 7th Edition and shall be in accordance with the Drainage Authority's additions and amendments.
3. All surface water drainage works subject to SAB approval. No work to commence prior to agreement from the SAB Authority.
4. Any works carried out on site prior to confirmation of technical approval for Section 104 and Section 38 Agreements (including street lighting approval) are entirely at the developers risk.
5. Street lighting positions to be pegged on site and agreed by the Local Authority PRIOR to erection commencing.
6. A clause is to be included within the Section 38 Agreement requiring that, prior to adoption, the developer is to process a Traffic Regulation Order covering whatever restrictions may be determined to be necessary in relation to on-street parking restrictions within the site roads. The situation will be monitored once all new dwellings are occupied.
7. A clause is to be included within the Section 38 Agreement requiring that additional speed reducing measures are to be implemented if judged necessary by the Highway Authority in the event that excessive vehicle speeds become evident prior to adoption of the works.

DRAINAGE NOTES

1. All private drainage shall be in accordance with BS8301 and relevant sections of Approved Document H of the Building Regulations.
2. The contractor is to check the level of existing sewers being used as outfalls or crossing proposed drainage runs PRIOR to laying any pipes. Any discrepancies are to be reported to PHG Consulting Engineers.
3. Position of soil pipes, stubstacks, WC outlets, rainwater downpipes, etc., positions are to be checked against the housetype working drawings.
4. Private house drainage will be flexibly jointed plastic or clay pipework. Diameter 100mm unless shown otherwise.
5. All connections for House Drainage shall be 100mm unless noted otherwise and must extend 500mm behind the back of footway/homezone road. All connections when laid shall be plugged, protected as necessary and marked with a stake for future use.
6. For private drains where cover to pipes is less than 900mm in vehicular areas or 500mm in other areas protection in the form of a 100mm thick concrete pad shall be provided over the pipe granular surround.
7. Where pipes pass through screen walls, footings or retaining walls, lintels are to be provided over. Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the invert of the pipe.
8. Where drains do not exceed 600mm deep, plastic or clay access fittings minimum diameter 225mm shall be used. Elsewhere proprietary plastic or precast concrete inspection chambers shall be used. Unless shown otherwise FW inspection chambers are to be 750mm below dpc level and SW chambers and rodding eyes to be 600mm below dpc.
9. All gullies and rainwater downpipes connected directly to drains are to be noddable.
10. House levels shown are dpc and adjacent garage floors are to be 150mm lower unless shown otherwise. Levels at drainage access points are inverts.
11. Drainage runs should be laid at a minimum of 5.0m from the rear of properties where practical to allow for future extensions.
12. All drainage shall be laid upstream and each run between manholes shall be laid complete prior to backfilling. Where this is not practical trial holes or other means of identifying the line and level of services shall be carried out prior to works commencing.
13. All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.
14. All low spots on hardstanding areas to have yard gullies unlessspreeable paving is used.
15. The developer must self-vet and certify that the design criteria, material standards and workmanship specifications for the proposed adoptable sewers are in accordance with those set out in "Sewers for Adoption" 7th Edition, A Section 106 application to connect must be made to the water authority, the developer shall give 21 days' notice prior to connection, and the works may only be undertaken by a SSIP accredited contractor.
16. The foul sewers must achieve a minimum flow velocity of 0.75 m/s at one third design flow or when the sewer has a nominal internal diameter of 100mm or where 10 properties or less are connected the sewer must be laid at minimum of 1:80. Where the sewer has a nominal internal diameter of 150mm and at least 10 dwelling units are connected the sewer will be laid at a minimum gradient of 1:150. The maximum gradient a sewer can be laid is 1:5.
17. The surface water sewers must achieve a minimum flow velocity of 1 m/s at pipe full flow or when the sewer has a nominal internal diameter of 100mm the sewer must be laid at minimum of 1:100. Where the sewer has a nominal internal diameter of 150mm or greater the sewer will be laid at a minimum gradient of 1:150. The maximum gradient a sewer can be laid is 1:5.
18. All inspection chamber and manhole covers should adhere to BS EN 124 and be suitable for where the chambers and manholes are situated.
19. Where sewers are located in proximity or between buildings refer to Figures B.1 and B.2.



KEY PLAN - NTS

THE SPECIFICATION IN ALL RESPECTS SHALL BE IN ACCORDANCE WITH THE CURRENT NEWPORT CITY COUNCIL SAB AND HIGHWAYS DEPARTMENTS SPECIFICATION AND CONSTRUCTION PUBLICATION IN FORCE IN THE COUNTY AT THE TIME OF CONSTRUCTION

SCALE 1:200 (A1)
SCALE 1:400 (A3)
0 5 10 20 METRES

Rev.	Date	Details	By	Chk.
A	23.01.26	20orm gradients & hatching turned off for clarity	DRW	SJD
-	07.01.26	First Issue	MP	SJD

AMENDMENTS

CLIENT: newport city homes — first for people, places and partnerships

phg CONSULTING ENGINEERS
PHG CONSULTING LTD
107 CYFARTHFA ROAD EAST
CARDIFF. CF11 9AG
T. +44(0)29 2036 2921
E. enquiries@phg-consulting.com
W. www.phg-consulting.com
@PHG_consulting
www.linkedin.com/company/phg-consulting-engineers

PROJECT: Old Town Dock

DRAWING TITLE: Section 104 Agreement Plan Sheet 1 of 3

DRAWN:	CHK:	STATUS:	SCALE AT A0:
MP	SJD	PRELIMINARY	1:200

DATE:	JOB NO:	DWG NO:	REV:
07.01.26	2579	300-1	A