

SUDS MAINTENANCE & MANAGEMENT PLAN

**DEVELOPMENT AT
LAND SOUTH WANDLEYS LANE
EASTERGATE
CHICHESTER
WEST SUSSEX
PO20 3SE**

**FOR
IMPERIAL HOMES**

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Appendix A – Design Drawings

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Appendix C – Annual SuDS Maintenance Schedule

1. SuDS Maintenance & Management

- 1.1. This document has been prepared by Cowan Consultancy Limited (CCL) on behalf of Imperial Homes Ltd for the development at Land South of Wandleys Lane, Eastergate, Chichester, West Sussex.
- 1.2. This document sets out the principles for the long-term management and maintenance of the proposed surface water Sustainable Drainage Systems (SuDS) installed at the residential development.
- 1.3. The purpose of this document is to ensure that the Management Company and/or homeowner entrusted with the inspection and maintenance of the SuDS will adopt the measures and programme set in this document to ensure the optimum operation of the surface water drainage network. The SuDS are to be continuously maintained over the lifetime of the development to prevent the increased risk of flooding and pollution both on and off site.
- 1.4. The guidance notes here provided have been comprised of and are directly referenced from the latest technical SuDS guidance within the CIRIA C753 Report *The SuDS Manual* (2015) and other applicable guidance. This document sets out specific sections applicable to the relevant SuDS type itemising:
- A description of the SuDS component and its use;
 - The maintenance requirements and frequencies; and
 - The inspection requirements and frequencies.
- 1.5. The activities listed are generic to the relative SuDS types and represent the minimum maintenance and inspection requirements, however additional tasks or varied maintenance frequency may be instructed by the maintenance company as required. Rubbish and debris removal is also an integral part of SuDS maintenance, especially with regards to surface features and the reduction of the risks of inlet and outlet blockages.
- 1.6. Specific maintenance needs of the SuDS elements should be monitored, and maintenance schedules adjusted to suit requirements.
- 1.7. All those responsible for maintenance should follow relevant health and safety legislation for all activities listed within this report (including lone working, if relevant) and risk assessments should always be undertaken. The CDM risk associated with the maintenance of the drainage system is not considered to have any residual CDM risks beyond that which a competent contractor should be able to manage effectively.
- 1.8. This report is to read in conjunction with CCL drawings 476988-501, 476988-911 & 476988-912, see Appendix A
- 1.9. There are three categories of maintenance activities referred to in this report:

- **Regular maintenance** (including inspections and monitoring) – consisting of basic tasks done on a frequent and predictable schedule, including inspections and monitoring, silt or oil removal if required more frequently than once per year, vegetation management, rubbish and debris removal, and sweeping of surfaces. Regular maintenance/inspections of SuDS will help to:

- determine optimum future maintenance;
- establish ongoing hydraulic, water quality, amenity and biodiversity performance of the system; and
- allow for the identification of potential performance failures, such as blockage, reduced infiltration and poor water quality resulting from lack of maintenance.

- **Occasional maintenance** – comprising tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks such as sediment management/removal; and

- **Remedial maintenance** – comprising of intermittent tasks that may be required to rectify faults associated with the system, although the likelihood of faults can be minimised by regular and adequate maintenance activities. Remedial maintenance is likely to comprise of activities such as:

- erosion repairs which can include inlets and outlets;
- reinstatement or realignment of edgings, barriers, rip-rap or other erosion control;
- infiltration surface rehabilitation;
- replacement of blocked filter materials/fabrics;
- construction stage sediment removal (although this activity should have been undertaken before the start of the maintenance contract); and
- system rehabilitation (although unlikely) immediately following a pollution event.

Remedial activities are not expected to be required for all systems, however, for the purpose of estimating whole life maintenance costs, a contingency sum of 15–20% should be added to the annual regular and occasional maintenance costs to cover the risk of these activities being required. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events, and as such timings are difficult to predict.

1.10. A full inspection of the drainage system is to be completed by the contractor prior to handover. This should include;

- As-built survey of the drainage confirming position, levels and diameters of all installed drainage features, for comparison to the scheme design.
- CCTV survey of the drainage system to ensure all pipes are undamaged and free from debris.
- The inspection should include all manholes, channel drains, soakaways and permeable surfaces.

1.11. Upon completion of the development, a Management Company will be formed, with residents of the development comprising the board of directors. The Management Company will appoint a managing agent who will be responsible for maintaining all communal aspects of the development, including SuDS. The obligations of the Management Company will be funded by an annual contribution from the residents of the development. This manual will form part of the brief

provided to the management agents, who will use it to calculate fees which will be paid by residents.

- 1.12. During the first year of operation inspections should usually be carried out at least monthly to all types of SuDS, and after significant storm events, to ensure that the system is functioning as designed and that no damage is evident.
- 1.13. All arisings from maintenance, including green waste and silt, are to be appropriately disposed of. Any waste taken off site is to be disposed of at a licensed facility. Where possible, green waste is to be mulched and reused on site, without compromising the performance of any of the SuDS features.
- 1.14. Record keeping of maintenance activities shall be adhered to, as part of the ongoing maintenance regime. An example template for record keeping is shown below:

Date	Location	Action	Notes	Next Inspection

- 1.15. At the end of the manufacturer's recommended design life for all SuDSs components, they shall be replaced at the Management Company's expense to the satisfaction of the Planning Authority.
- 1.16. Any future alterations to the drainage regime should be checked by a suitably qualified civil engineering designer prior to implementation on site.
- 1.17. Accidental spillages that would occur on residential developments are typically of compounds that do not pose a serious risk to the environment if they enter the drainage in a slow and controlled manner, with time available for natural breakdown in a treatment system. Therefore, small spillages of oil, milk or other known organic substances should be removed where possible using soak mats as recommended by the Environment Agency, with residual spillage allowed to bio-remediate in the drainage system. In the event of a serious spillage, either by volume or of unknown toxic compounds, then the spillage is to be isolated with soil, turf or fabric and any outlet pipes from downstream chambers to be blocked. The Environment Agency should then be contacted immediately.

2. SuDS Layout and Design

- 2.1. SuDS are an environmentally friendly approach to managing rainfall through the use of landscape features to conceal the surface water and its surroundings. The use of SuDS aims to: control the flow, volume and frequency of water leaving a development area; prevent pollution by intercepting silt and cleaning runoff from hard surfaces; provide attractive surroundings for the community, and; create, whenever possible, opportunities for wildlife.
- 2.2. The SuDS at the Land South of Wandleys Lane, have been designed to prevent flooding within the proposed development and surrounding areas, and control discharge via underground drainage systems. Due to the nature of the proposed development site, special attention must be paid to the proposed drainage strategy to manage the quality of the site runoff and prevent pollution as much as reasonably practicable.
- 2.3. Thus, the proposed surface water drainage allows for the attenuation and discharge of the run-off event of a 1-in-100 year storm for the site (plus a 10% allowance for urban creep and a 45% allowance for climate change).
- 2.4. The new areas of permeable Access Road / Driveway are to have a graded aggregate Type 3 sub-base. The voids within the sub-base will provide attenuation to storm water whilst it infiltrates into the ground below.
- 2.5. As well as providing storm water storage, the permeable build-up has been incorporated into the design to ensure the water quality entering the underlying soil is acceptable.
- 2.6. Run-off from the roofs is drained direct to the domestic drainage system within each curtilage and is piped into the granular sub-base of the Access Road areas via diffuser units / pipes. Proceeding each connection into the sub-base attenuation, is a silt trap inspection chamber with minimum 300mm sump.
- 2.7. The surface water from the impermeable property Driveways is to be collected by channel drains and shall discharge into the granular sub-base of the Access Road.
- 2.8. The permeable Access Road areas are to be maintained by the management company, refer to paragraph 1.11.
- 2.9. The impermeable property Driveways are to be the responsibility of the individual property owners.
- 2.10. All domestic drainage services the roof run-off within the individual property curtilage is to be the responsibility of the individual property owners.

- 2.11. Refer to the Drainage Maintenance Responsibility Plan with Appendix B of this document.

3. SuDS Maintenance Schedule

3.1. Permeable Paving

- 3.1.1. Regular inspection and maintenance are required to maintain the effective operation permeable paving requires and to ensure continuing operation to design performance standards.
- 3.1.2. After construction, before hand over to the client, the pavement should be inspected for clogging, litter, weeds and water ponding.
- 3.1.3. After the handover the pavement should be inspected on regular basis, particularly during and after heavy rainfall to ascertain the effective operation and to identify any performance issues.
- 3.1.4. Silt and sediments removal should be carried out regularly to preserve and maintain pavement infiltration capacity.
- 3.1.5. Brushing and suction cleaning should be used for regular sweeping. Care should be taken whilst vacuuming to avoid the removal of jointing material.
- 3.1.6. In case of any blockage or clogging of the paving surface a specialist sweeper with water jetting and oscillating and rotating brushes may be required.
- 3.1.7. Table 3.1 provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive and some actions may not always be required.
- 3.1.8. Specific maintenance needs for permeable paving should be monitored, and maintenance schedules adjusted to suit site requirements.
- 3.1.9. Maintenance responsibility for systems should be placed with a responsible organisation such as a management company.

Table 3.1 – Permeable Paving - Key operation and Maintenance Requirements

Maintenance Schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Annually, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial actions	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

3.2. Silt Traps & Catchpits / Gulleys

3.2.1. Silt traps and catchpits are circular or rectangular manholes and /or chambers with a sump in them to collect suspended solids.

3.2.2. Some chambers have removeable silt buckets to assist with the removal of accumulated silt deposits. Catchpits are usually concrete ring or segment structures and silt traps preformed plastic chambers.

3.2.3. Regular inspection and maintenance is required to ensure the effective long-term operation of below ground silt traps and catchpits systems.

3.2.4. Maintenance responsibility for systems should be placed with a responsible organisation.

3.2.5. Maintenance requirements are described in the table below.

3.2.6. Specific maintenance needs of the system should be monitored, and maintenance schedules adjusted to suit requirements.

Table 3.2 – Silt Traps & Catchpits - Key operation and Maintenance Requirements

Maintenance Schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then 6 monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove sediment and oil deposits from all sumps	Annually, or as required
Remedial actions	Repair / rehabilitation of inlets, outlets, overflows and vents	As required
Monitoring	Inspect / check all inlets, outlets, overflows and vents to ensure that they are in good condition and operating as designed	Annually and after large storm events

3.3. Channel Drains

3.3.1. Channel drains are proprietary open linear drainage features that collect and convey surface water.

3.3.2. Some channel drains have removeable silt buckets to assist with the removal of accumulated silt deposits.

3.3.3. The top of the channel drains are covered with an open grate, to allow surface water to fall through.

3.3.4. Regular inspection and maintenance is required to ensure the effective long-term operation of the channel drain system.

3.3.5. Maintenance responsibility for systems should be placed with a responsible organisation.

3.3.6. Maintenance requirements are described in the table below.

3.3.7. Specific maintenance needs of the system should be monitored, and maintenance schedules adjusted to suit requirements.

Table 3.3 – Channel Drains - Key operation and Maintenance Requirements

Maintenance Schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then 6 monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove grates, clear silt and flush channel	Bi-annually, or as required
Remedial actions	Repair / rehabilitation of inlets, outlets, grates and silt buckets	As required
Monitoring	Inspect / check all inlets, outlets, grates and silt buckets to ensure that they are in good condition and operating as designed	Annually and after large storm events

3.4. Rain Gardens

3.4.1. A rain garden is a bioretention system, it is a shallow planted area that is designed to capture rainwater runoff from the roofs.

3.4.2. The planting within the rain garden has been carefully specified as there is a requirement for the planting to be able to tolerate temporary waterlogging and times of drought. Therefore, if any planting is to be replaced within the rain gardens, then a specialist landscape designer and / or drainage engineer is to be consulted.

3.4.3. Due to the close proximity to buildings, the rain gardens at Land South Wandleys development are impermeable lined, this prevents any concentrated water discharges directly into ground that may have an adverse effect on the building foundations.

3.4.4. The rainwater within the rain garden soaks into the soil medium / planting and evaporates into the atmosphere (evapotranspiration). Any excess water, in larger storm events, is attenuated within a voided sub-base below the growing medium and collected / discharged into the main surface water drainage system by a perforated pipe.

3.4.5. Specific maintenance of the rain garden is required to ensure it operates effectively. The key maintenance tasks are noted within Table 3.4.

Table 3.4 – Bioretention Systems - Key operation and Maintenance Requirements

Maintenance Schedule	Required action	Typical frequency
Regular maintenance	Remove litter and surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace any plants, to maintain planting density	As required
	Remove sediment, litter and debris build-up from around inlets	Quarterly to biannually
Occasional maintenance	Infill any holes or scour in the filter medium, improve erosion protection if required	As required
	Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch	As required
Remedial actions	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years
Monitoring	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary	Quarterly
	Check operation of underdrains by inspection of flows after rain	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace as necessary	Quarterly
	Inspect inlets and outlets for blockage	Quarterly

3.5. Pipe Networks

3.5.1. The SuDS systems within the development are connected via various piped networks, these networks require minimal maintenance since the system is designed to filter and capture sediments to reduce the risk of blockages.

3.5.2. All pipework has minimum diameter of 100mm and the gradients have been selected to provide self-cleansing velocity.

3.5.3. The maintenance schedule for the piped networks should be linked in with the catchpit manhole inspections, and in particular after extreme weather events, when the system should be checked for siltation.

3.5.4. The design life for the proposed pipe networks is 50 years, however, the Water Research Foundation reported that 100 years is a conservative estimate for a properly designed and installed PVC pipe. Dig-up studies on PVC pipe materials around the world report no degradation after decades of operational service.

4 Foul Drainage

- 4.1. Foul water drainage refers to grey water and sewage and potentially wash-down water from plant rooms and bin stores or waste storage areas. The foul drainage system at 75-77 Church Road comprises a piped network that discharges by gravity into the existing public foul sewer within Church Road.
- 4.2. The foul drainage system has been designed in accordance with the relevant codes of practise and should achieve self-cleansing velocity with the anticipated foul water flows. Maintenance of the system should therefore be minimal, but blockages may occur with improper use, such as inappropriate objects being flushed down toilets, in which case rodding or jetting may be required. This work should be carried out on an ad-hoc basis by a specialist contractor.
- 4.3. Foul drainage within each property curtilage is to be maintained by the individual property owners. The foul drainage within public areas is to be maintained by the Management Company, see paragraph 1.11.
- 4.4. It is not the intention for the foul system to be adopted by Southern Water.

5 References

- 5.1. References used within this report are listed below
 - The National Standards for SuDS
 - CIRIA C753 Report *The SuDS Manual* (2015) RP992 ISBN: 978-0-86017-759-3
 - Sustainable Drainage System (C609), CIRIA publication
 - Arun District Council Surface Water Drainage Guidance

In the event of concern over any matter with regards to the management and maintenance of the drainage systems please contact:

Company:

Tel:

Who is responsible for the post development Maintenance and Management Regime of the Development.

APPENDIX A

DESIGN DRAWINGS

Storm Water Design

The following storm water design criteria has been taken from the planning support Proposed Drainage drawing and design, which has also been used in this detailed design.

The general storm water disposal philosophy is based upon source control with infiltration to the ground through a standard piped network conveying the water to permeable paving areas within the access roads to drain through granular material before discharging to lower sandy/gravelly superficial deposits below.

The designs and drawings are based upon the following:-

1. Site Specific geotechnical investigation demonstrates infiltration is viable. Groundwater levels are confirmed to be low thus infiltration is viable.
2. Infiltration testing undertaken in January 2025 (BRE365 testing) of pits concludes variable rates from 2.17x10⁻⁵m/sec in TPA being slowest to about ten times greater in TP-D at 2.6x10⁻⁴ m/sec. The worst case rate of 2.17x10⁻⁵ m/sec has been used for design.
3. A full winter season has been recorded at 3 locations at approx 2.5mbgl WS1, 1.5mbgl WS2 and 2.0mbgl WS3. A worst case peak of 1.3m has been considered for freeboard.
4. The surface water drainage strategy has been designed to accommodate a 1-in-100-year storm event, inclusive of an allowance for climate change (45%) and urban creep (10%).

! CDM 2015 - RESIDUAL RISKS !

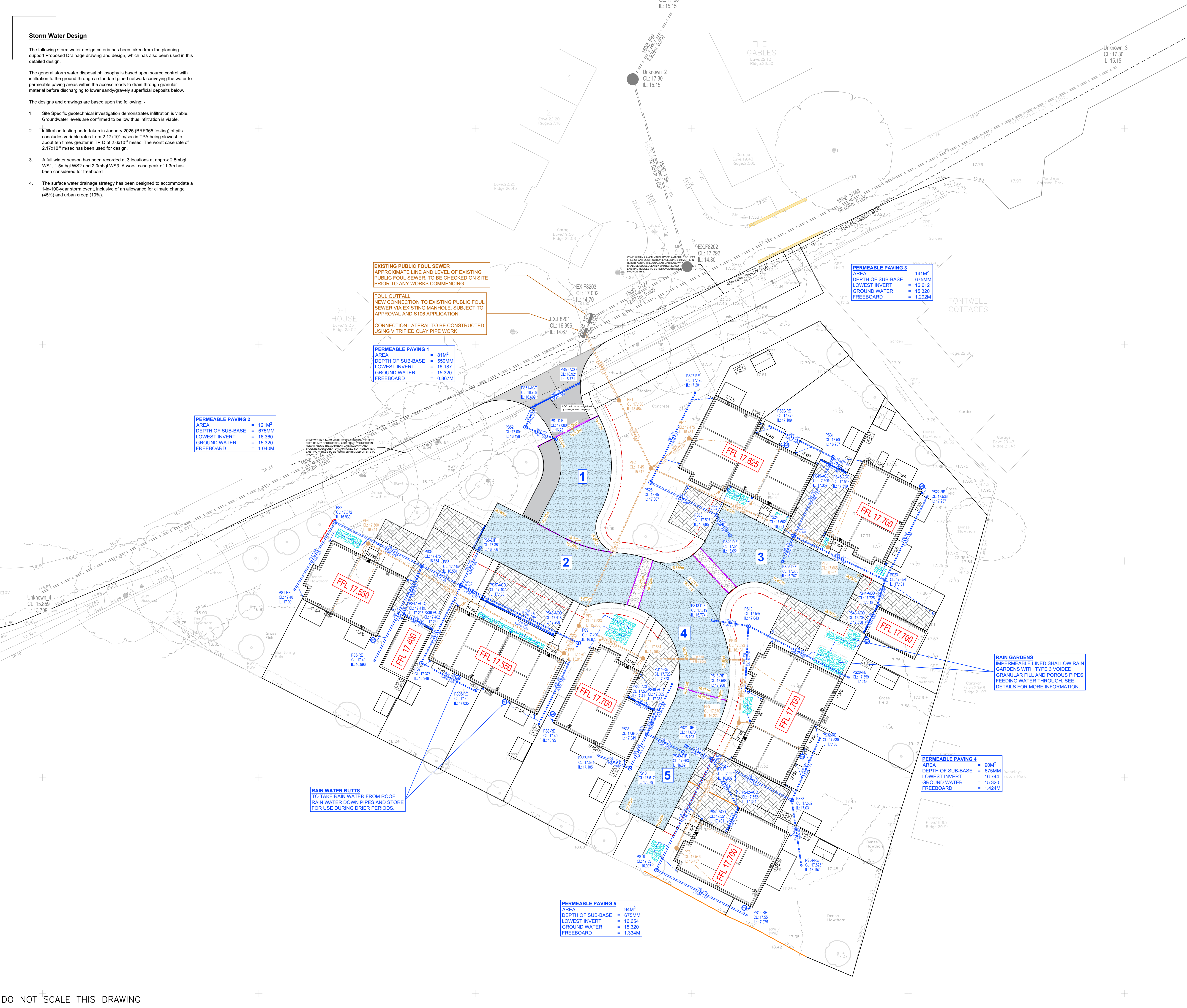
In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

NOTE: Residual risks are defined as those risks arising from identified hazards which cannot be designed-out, and which a competent and experienced building contractor is unlikely to encounter during normal construction activities. Ordinary risks arising from normal construction operations have not been included.

Where hazards have been identified, the risks from which it has not been possible to eliminate during the design process, these are indicated on the drawing. It will be the responsibility of the Principal Contractor to develop Safe Systems of Work and/or Method Statements to minimise any risks associated with such hazards.

Drainage Legend

- Existing Public SW Sewer
- Existing Public FW Sewer
- Private Storm Drainage
- Private Foul Drainage
- Porous Btmac Outlet/Diffuser
- Porous Bitmac
- Proposed Linear Drainage Channel
- Proposed private road gullies
- Impermeable Lined Rain Gardens with porous pipes
- Rain Water Butts
- Porous Bitmac Check Dams/Split in Catchments
- Proprietary Drainage Root Protection Barrier
- Sub-base/formation level
- Services Corridor



04.08.26	SWF	DRAINAGE AMENDED OUT OF SERVICE MARGINS WHERE POSSIBLE. SERVICE MARGIN ADJUSTED AND SERVICE CROSSING POINTS ADDED. DIFFUSERS RELOCATED 5M MIN AWAY FROM HOUSE FOUNDATIONS.	EG	TB	P05
17.06.26	SWF	UPDATED FOLLOWING LLFA COMMENTS.	EG	TB	P04
17.04.26	SWF	UPDATED FOLLOWING LLFA COMMENTS.	EG	TB	P03
13.03.26	SWF	FOUL DRAINAGE CONNECTION NOTE ADDED.	EG	TB	P02
09.02.26	SWF	FIRST ISSUE.	EG	TB	P01

Date	By	Revision	QA'd	Chk'd	Ref
Status					
PRELIMINARY					
Cowan Consultancy STRUCTURAL, CIVIL AND BUILDING CONSULTANTS 3 Turnberry House 4400 Parkway Whiteley Fareham Hampshire PO15 7FJ Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk					
Client	IMPERIAL HOMES				
Project	WANDLEYS LANE, EASTERGATE, CHICHESTER				
Title	DRAINAGE LAYOUT				
Date	02.02.26	Scale	1:200 @ A1	Drg. No.	
Drawn	SWF	Chk'd	TB	QA'd	TB
				476988/501 P05	

! CDM 2015 - RESIDUAL RISKS !

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SURFACE FINISHES LEGEND

Key:

- Access Road - Permeable Asphalt
- Access Road - Impermeable Asphalt
- Parking Bays - Standard Asphalt
- Private Drive - Blockwork Paving
- Private Paving - Riven slabs (size & colour to clients requirements)
- Private Garden (Front) - To landscape architects design
- Private Garden (Rear) - To landscape architects design
- Pedestrian and Cycle Link - Waterbound Breendon gravel
- HB2 Kerb - (125mm Upstand)
- BN1 Kerb - (25mm Upstand standard)
- (0mm Inverted @ crossings)
- TK1 Kerb
- Flat Top Edging - (flush)
- Marshalls Speedcheck Kerb

Table B	
Single sized aggregate sieve size (mm)	20mm OGCR & OGCG sub-base (% passing)
20	100
40	100
31.5	98-100
20	90-99
10	25-70
4	0-15
2	0-5

Table C	
Single sized aggregate sieve size (mm)	6mm laying course (% passing)
20	100
14	100
10	98-100
6.3	80-99
2	0-20
1	0-5
0.063	0-2

04.08.26	AWF	UPDATED TO INCLUDED APPROVED S278 WORKS, SERVICE MARGINS AND SERVICE CROSSINGS.	EG	TB	P06
09.04.26	AWF	UPDATED FOLLOWING LAYOUT CHANGES.	EG	TB	P05
27.04.26	AWF	FOOTPATH LINK ADDED.	EG	TB	P04
27.03.26	SWF	UPDATES TO PERMEABLE ASPHALT ACCESS DESIGN.	EG	TB	P03
11.03.26	SWF	UPDATES TO KERBING LAYOUT, AS WELL AS ACCESS ROAD, PARKING BAYS AND PRIVATE DRIVE. ADDITIONAL DETAILS ADDED.	EG	TB	P02
05.03.26	SWF	FIRST ISSUE.	EG	TB	P01
Date	By	Revision	QA'd	Chk'd	Ref

Status PRELIMINARY

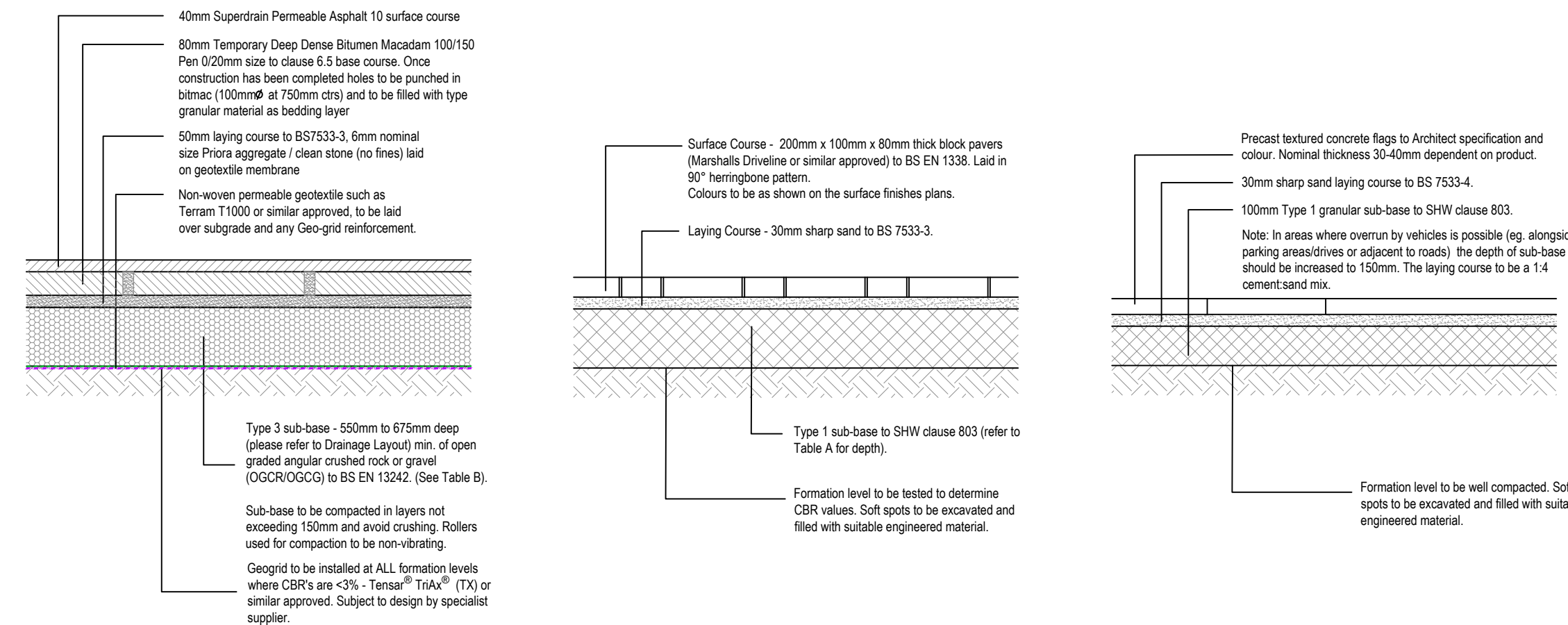
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Client IMPERIAL HOMES

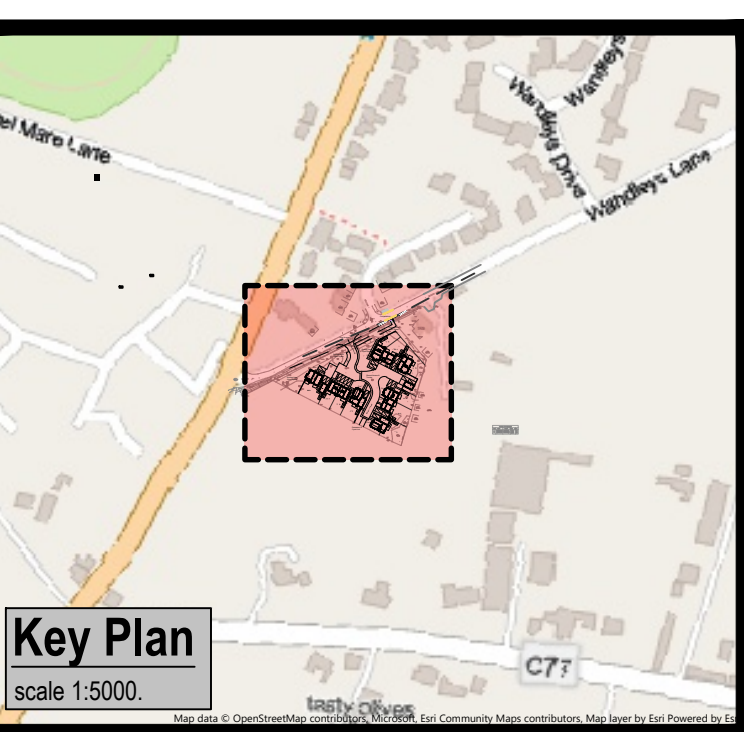
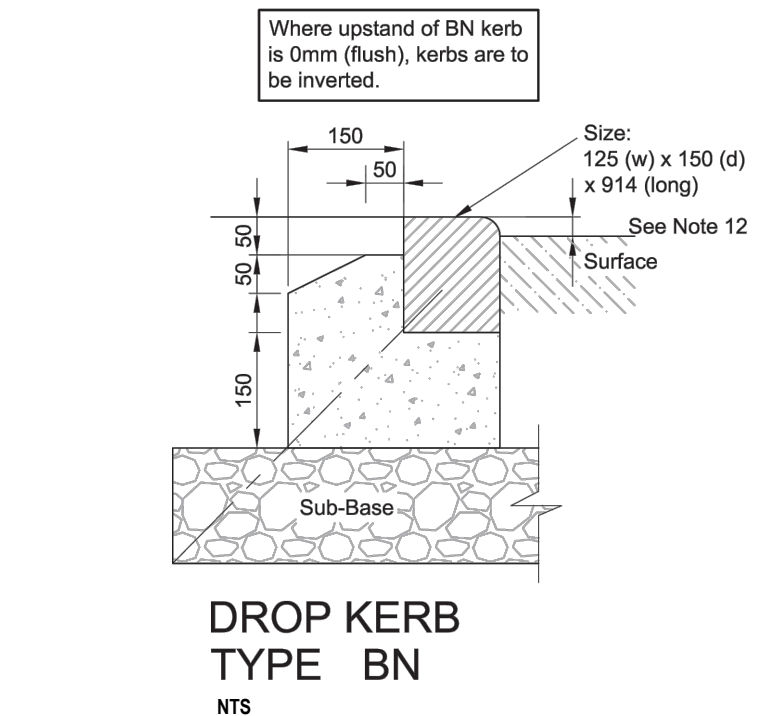
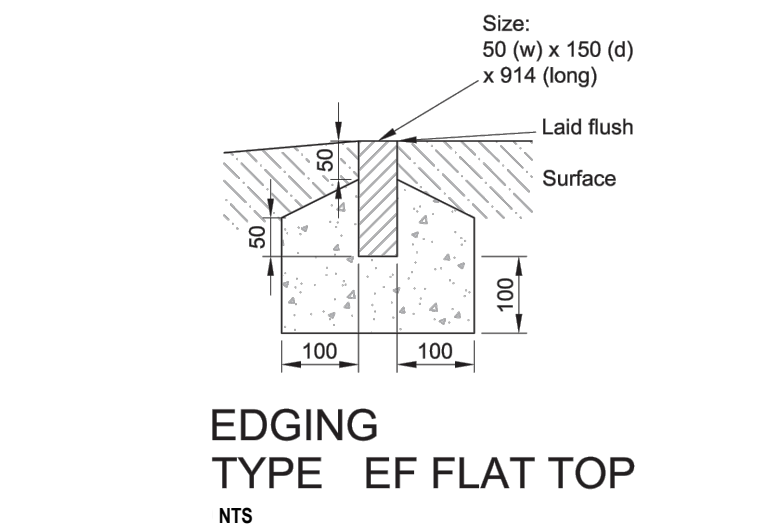
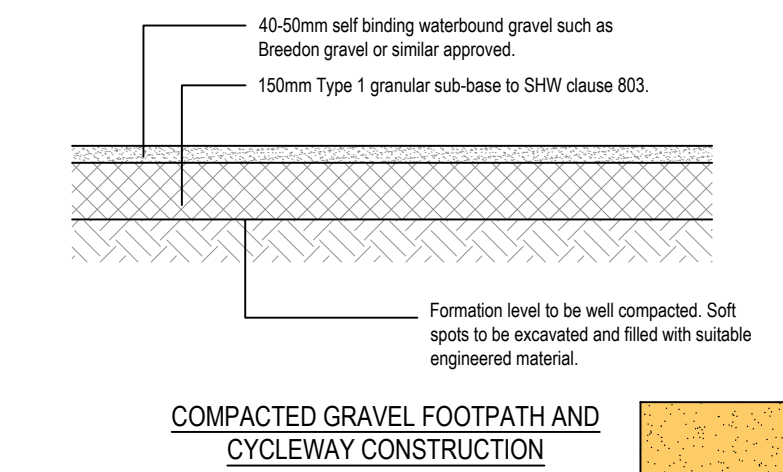
Project WANDLEYS LANE, EASTERGATE, CHICHESTER

Title SURFACE FINISHES

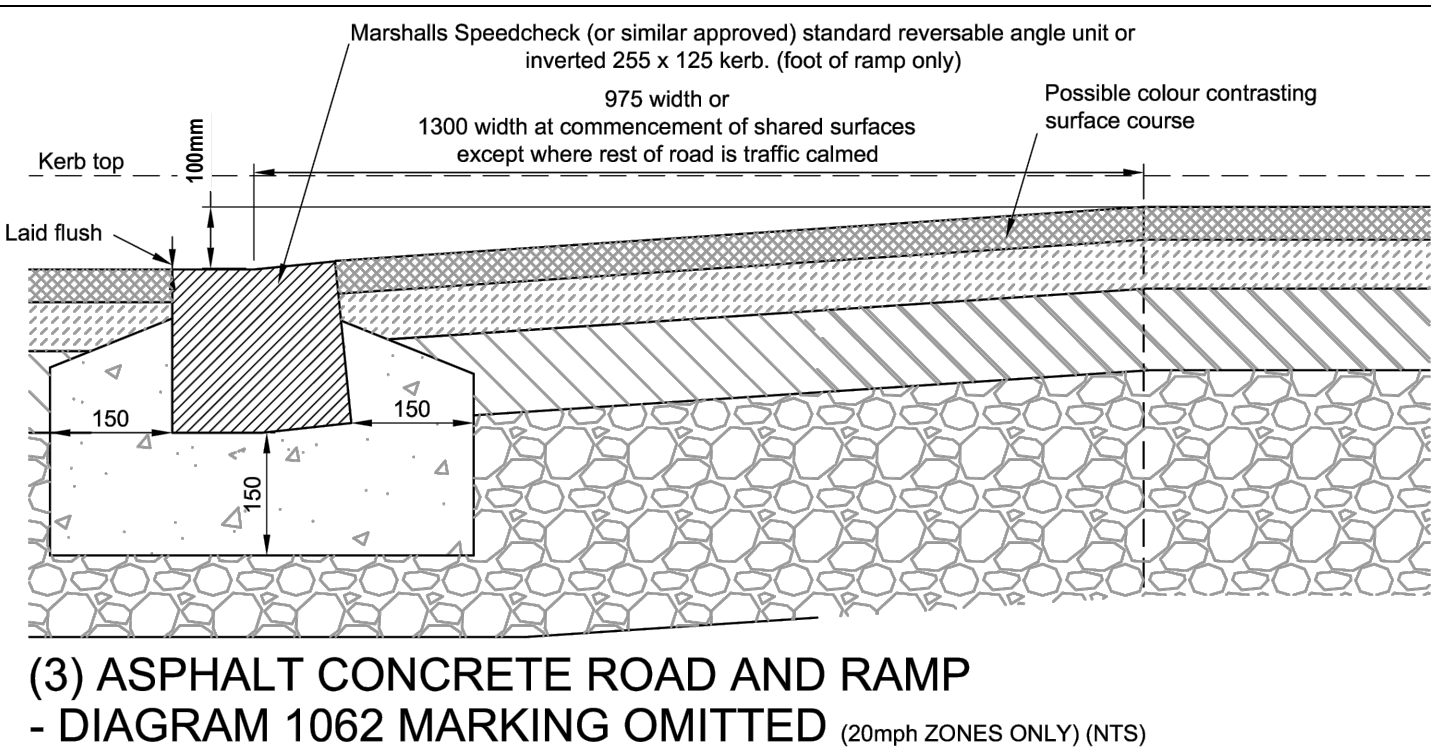
Date	05.03.26	Scale	1:200 @ A1	Drg. No.	
Drawn	SWF	Chk'd	TB	QA'd	TB
476988/211 P06					



PERMEABLE ASPHALT ACCESS
(for vehicular access to several properties or through routes or access required for refuse vehicles)



DO NOT SCALE THIS DRAWING



Storm Water Design

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- The surface water drainage strategy has been designed to accommodate a 1-in-100-year storm event, inclusive of an allowance for climate change (45%) and urban creep (10%).

Manhole No.	Pipe No.	Adoptable IMP	Adoptable UC	Private IMP	Private UC	Total IMP + UC
PS50-ACO	1.000	0.000	0.000	23.533	0.000	23.533
PS8-RE	1.000	0.000	0.000	45.962	4.556	50.518
PS22-RE	1.000	0.000	0.000	36.901	3.690	40.591
PS20-RE	1.000	0.000	0.000	22.999	0.000	22.999
PS15-RE	1.000	0.000	0.000	83.877	8.388	92.265
PS11-ACO	1.001	0.000	0.000	0.000	0.000	0.000
PS9	1.001	0.000	0.000	11.965	0.000	11.965
PS19	1.001	0.000	0.000	59.072	5.907	64.979
PS23	1.001	0.000	0.000	48.658	0.000	48.658
PS16	1.001	0.000	0.000	3.286	0.000	3.286
PS2	1.002	0.000	0.000	0.000	0.000	0.000
PS3	1.002	0.000	0.000	38.859	0.000	38.859
PS24	1.002	0.000	0.000	0.000	0.000	0.000
PS13-DIF	1.002	0.000	0.000	115.841	0.000	115.841
PS17	1.002	0.000	0.000	36.570	0.000	36.570
PS1-DIF	1.003	0.000	0.000	101.106	0.000	101.106
PS21-DIF	1.003	0.000	0.000	93.845	0.000	93.845
PS5-DIF	1.003	0.000	0.000	119.965	0.000	119.965
PS25-DIF	1.003	0.000	0.000	115.196	0.000	115.196
PS28-DIF	1.004	0.000	0.000	0.000	0.000	0.000
PS1-RE	2.000	0.000	0.000	75.667	7.567	83.233
PS43-ACO	2.000	0.000	0.000	10.768	0.000	10.768
PS32-RE	2.000	0.000	0.000	54.520	5.452	59.972
PS18-RE	2.000	0.000	0.000	3.302	0.000	3.302
PS2	2.001	0.000	0.000	2.654	0.000	2.654
PS44-ACO	2.001	0.000	0.000	0.000	0.000	0.000
PS33	2.001	0.000	0.000	0.000	0.000	0.000
PS34	2.002	0.000	0.000	0.000	0.000	0.000
PS8-RE	3.000	0.000	0.000	23.070	0.000	23.070
PS30-RE	3.000	0.000	0.000	54.519	5.452	59.970
PS34-RE	3.000	0.000	0.000	0.000	0.000	0.000
PS31	3.001	0.000	0.000	39.219	3.688	42.907
PS38-ACO	4.000	0.000	0.000	44.751	0.000	44.751
PS41-ACO	4.000	0.000	0.000	21.922	0.000	21.922
PS45-ACO	4.000	0.000	0.000	42.810	0.000	42.810
PS47-ACO	4.001	0.000	0.000	0.000	0.000	0.000
PS42-ACO	4.001	0.000	0.000	0.000	0.000	0.000
PS46-ACO	4.001	0.000	0.000	0.000	0.000	0.000
PS37-RE	5.000	0.000	0.000	0.000	0.000	0.000
PS38-RE	5.000	0.000	0.000	52.988	5.289	58.287
PS37-RE	5.000	0.000	0.000	59.072	5.907	64.979
PS7	5.001	0.000	0.000	0.000	0.000	0.000
PS10	5.001	0.000	0.000	83.877	8.388	92.265
PS28	5.001	0.000	0.000	23.037	0.000	23.037
PS35	5.002	0.000	0.000	0.000	0.000	0.000
PS53	5.002	0.000	0.000	0.000	0.000	0.000
PS48-DIF	5.003	0.000	0.000	0.000	0.000	0.000
PS11-RE	6.000	0.000	0.000	5.986	0.000	5.986
PS48-ACO	6.000	0.000	0.000	44.760	0.000	44.760
PS37-ACO	6.001	0.000	0.000	0.000	0.000	0.000
PS39-ACO	7.000	0.000	0.000	26.742	0.000	26.742
PS40-ACO	7.001	0.000	0.000	0.000	0.000	0.000
Totals		0.000	0.000	1626.900	54.293	1691.194

! CDM 2015 - RESIDUAL RISKS !

In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

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Legend

- Impermeable Areas
- Permeable Bitmac
- Services Corridor

PRELIMINARY



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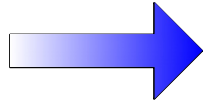
Client	IMPERIAL HOMES		
Project	WANDLEYS LANE, EASTERGATE, CHICHESTER		
Title	STORM CATCHMENT PLAN		
Date	02.02.26	Scale	1:200 @ A1
Drawn	SWF	Chk'd	TB
Drg. No.	476988/502 P03		

In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

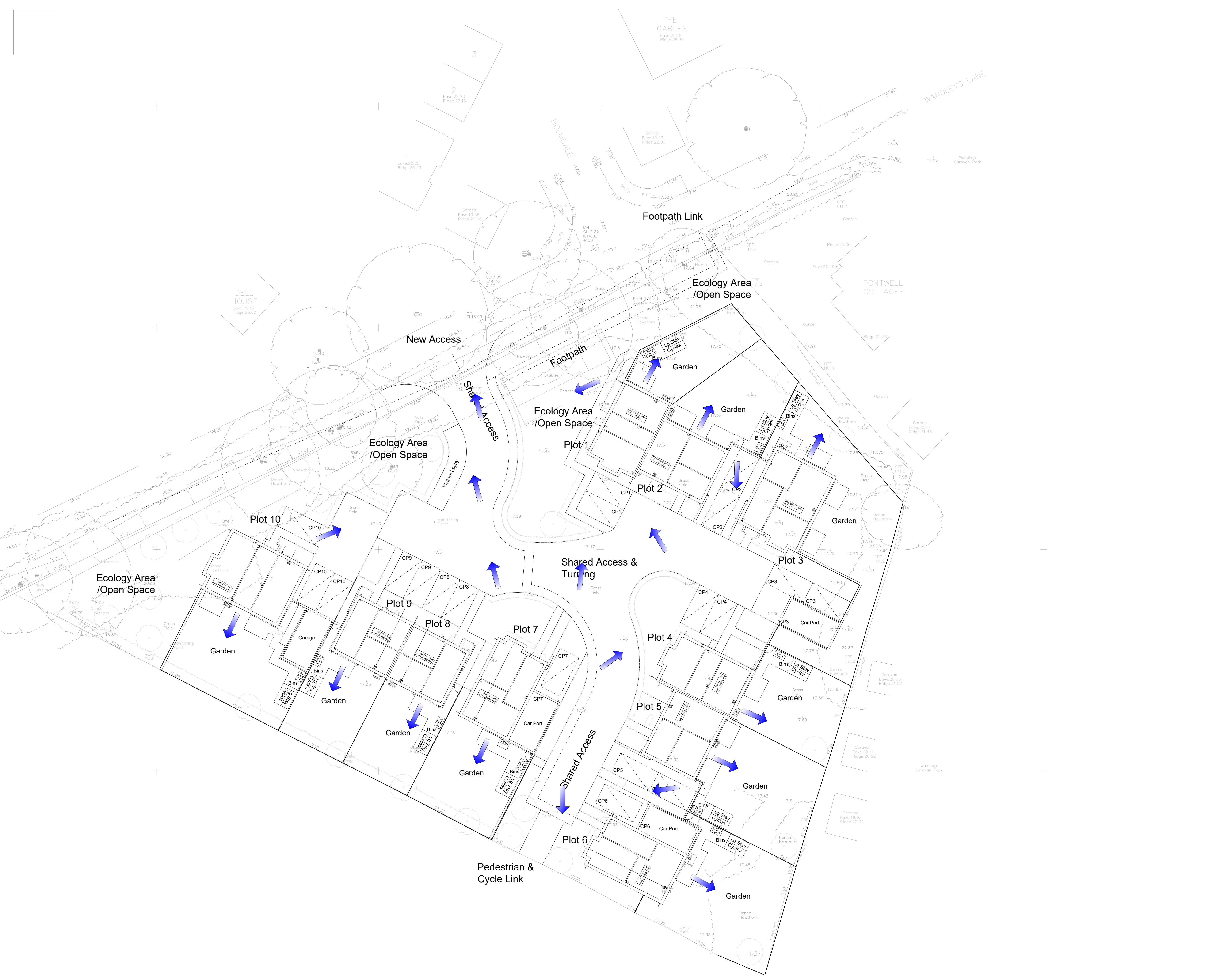
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Legend



Direction of exceedance flows



09.02.26	SWF	FIRST ISSUE.	EG	TB	P01
Date	By	Revision	QA'D	Chk'd	Ref
Status			PRELIMINARY		
 Cowan Consultancy STRUCTURAL, CIVIL AND BUILDING CONSULTANTS			Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB		
3 Turnberry House 4400 Parkway Whiteley Fareham Hampshire PO15 7FJ			Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk		
Client			IMPERIAL HOMES		
Project			WANDLEYS LANE, EASTERGATE, CHICHESTER		
Title			EXCEEDANCE FLOOD ROUTES		
Date	02.02.26	Scale	1:200 @ A1	Drg. No.	
Drawn	SWF	Chk'd	TB	QA'D	TB
					476988/503 P01

FOUL DRAINAGE

PHASE: 0 (PRIVATE)											
MH No.	DIAGRAM	CONDUIT INVERTS (m)	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	BASE LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PF1		A: 15.454 B: 15.454	4500	Type D	C250	17.168	15.454		1.564	494841.600	106268.565
PF2		A: 15.617 B: 15.617 C: 16.342 D: 15.617	4500	Type D	C250	17.450	15.617		1.733	494845.308	106260.719
PF3		A: 16.667	4500	Type D	C250	17.665	16.667		0.898	494865.736	106251.595
PF4		A: 16.411	4500	Type D	C250	17.500	16.411		0.990	494812.648	106252.018
PF5		A: 15.913 B: 15.913	4500	Type D	C250	17.470	15.913		1.457	494835.258	106239.343
PF6		A: 15.986 B: 15.986 C: 15.986	4500	Type D	C250	17.533	15.868		1.565	494836.947	106242.524
PF7		A: 15.985 B: 15.985	4500	Type D	C250	17.684	15.985		1.599	494844.367	106238.737
PF8		A: 16.437	4500	Type D	C250	17.546	16.437		1.009	494848.248	106216.826
PF9		A: 16.222 B: 16.222	4500	Type D	C250	17.670	16.222		1.348	494855.447	106231.292
PF10		A: 16.131 B: 16.131	4500	Type D	C250	17.593	16.131		1.362	494856.019	106238.559
PF11		A: 16.481	4500	Type D	C250	17.475	16.481		0.894	494849.705	106264.165

STORM DRAINAGE

PHASE: 1 (PRIVATE)											
MH No.	DIAGRAM	CONDUIT INVERTS (m)	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	BASE LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS2		A: 16.488	4500	Type D Catchpit	D400	17.000	16.498	16.198	0.402	494830.803	106265.461
		B: 16.498									
PS1-DIF		B: 16.26	300x300	Diffuser		17.000	16.260		0.719	494834.323	106264.062
PS50-ACO		A: 16.771	1800	Type E	D400	16.921	16.771		0.050	494836.990	106270.503
PS51-ACO		A: 16.609	1800	Type E	D400	16.759	16.609		0.050	494831.948	106267.976
		B: 16.609									

PHASE: 2 (PRIVATE)											
MH No.	DIAGRAM	CONDUIT INVERTS (m)	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	BASE LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS2		A 16.939 B 16.939	4500	Type E	C250	17.372	16.939		0.283	494808.804	106254.471
PS3		A 16.581 B 16.581 C 16.631 D 16.631	4500	Type D Catchpit	C250	17.445	16.581	16.281	0.714	494823.368	106247.169
PS7		A 16.946 B 16.946	4500	Type E	C250	17.376	16.946		0.330	494818.752	106238.193
PS9		A 16.820 B 16.820	4500	Type E	C250	17.490	16.820		0.569	494836.948	106240.499
PS34		A 16.864 B 16.914 C 16.864	4500	Type E	B125	17.475	16.864		0.461	494818.843	106249.438
PS1-RE		A 17.00	1800	Type E	B125	17.400	17.000		0.250	494804.113	106246.659
PS36-RE		A 17.035	1800	Type E	B125	17.400	17.035		0.265	494825.050	106234.946
PS37-ACO		A 17.155 B 17.155	1800	Type E	D400	17.407	17.155		0.152	494825.878	106245.581
PS38-ACO		A 17.252	1800	Type E	B125	17.402	17.252		0.050	494820.024	106242.175
PS47-ACO		A 17.205 B 17.205 C 17.205	1800	Type E	B125	17.419	17.205		0.114	494816.727	106243.872
PS48-ACO		A 17.268	1800	Type E	D400	17.418	17.268		0.050	494833.962	106241.568
PS5-DIF		B 16.506	300x300	Diffuser		17.351	16.506		0.844	494825.552	106251.549
PS6-RE		A 16.996	1800	Type E	B125	17.400	16.996		0.254	494813.359	106238.444
PS8-RE		A 16.95	1800	Type E	A15	17.400	16.950		0.350	494832.355	106231.185

PHASE: 3 (PRIVATE)											
MH No.	DIAGRAM	CONDUIT INVERTS (m)	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	BASE LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS23		A 17.101 B 17.101 C 17.101	4500	Type D	C250	17.654	17.101		0.453	494872.336	106247.805
PS24		A 16.831 B 16.831 C 16.881	4500	Type D Catchpit	C250	17.602	16.831	16.531	0.621	494861.775	106252.874
PS28		A 17.007 B 17.057	4500	Type D	C250	17.450	17.007		0.293	494845.242	106259.072
PS31		A 16.957 B 17.007 C 17.007	4500	Type D	C250	17.500	16.957		0.393	494866.333	106261.964
PS53		A 16.695 B 16.695	4500	Type D Catchpit	D400	17.507	16.695	16.395	0.862	494852.797	106255.310
PS22-RE		A 17.237	1800	Type E	B125	17.536	17.237		0.199	494877.237	106257.498
PS25-DIF		B 16.767	300x300	Diffuser		17.663	16.767		0.746	494860.522	106249.944
PS27-RE		A 17.201	1800	Type E	B125	17.475	17.201		0.174	494850.392	106269.391
PS29-DIF		B 16.651	300x300	Diffuser		17.546	16.651		0.894	494854.427	106252.948
PS30-RE		A 17.109	1800	Type E	B125	17.475	17.109		0.266	494858.977	106265.592
PS43-ACO		A 17.558	1800	Type E	B125	17.708	17.558		0.050	494868.919	106241.809
PS44-ACO		A 17.518 B 17.518	1800	Type E	B125	17.725	17.518		0.107	494871.366	106244.670
PS45-ACO		A 17.359	1800	Type E	B125	17.509	17.359		0.050	494864.975	106261.641
PS46-ACO		A 17.319 B 17.319	1800	Type E	B125	17.548	17.319		0.129	494867.768	106260.189

PHASE: 4 (PRIVATE)											
MH No.	DIAGRAM	CONDUIT INVERTS (m)	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	BASE LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS19		A: 17.043	4500	Type D Catchpit	C250	17.597	17.043	16.743	0.453	494856.547	106242.500
		B: 17.043									
		C: 17.043									
PS13-DIF		B: 16.774	300x300	Diffuser		17.619	16.774		0.844	494852.458	106243.140
PS18-RE		A: 17.260	1800	Type E	B125	17.566	17.260		0.207	494856.159	106234.940
		A: 17.215									
PS20-RE			1800	Type E	B125	17.559	17.215		0.244	494868.163	106236.526

PHASE: 5 (PRIVATE)											
MH No.	DIAGRAM	CONDUIT INVERTS (m)	MANHOLE DIMENSION (mm)	MANHOLE TYPE	COVER TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	BASE LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
PS10		A 17.079 B 17.079	4500	Type E	C250	17.617	17.079		0.389	494842.856	106226.035
PS16		A 16.997 B 16.997	4500	Type D	C250	17.550	16.997		0.403	494845.918	106214.285
PS17		A 16.902 B 16.902 C 16.902 D 16.902	4500	Type D Catchpit	C250	17.597	16.902	16.602	0.545	494852.392	106227.072
PS33		A 17.031 B 17.081 C 17.081	4500	Type D	C250	17.552	17.031		0.371	494861.562	106222.338
PS35		A 17.049 B 17.099 C 17.099 D 17.049	4500	Type D Catchpit	C250	17.640	17.049	16.749	0.441	494844.849	106230.006
PS11-RE		A 17.373	1800	Type D Catchpit	C250	17.723	17.373	17.073	0.250	494847.749	106235.781
PS15-RE		A 17.075	1800	Type E	C250	17.550	17.075		0.325	494856.335	106209.065
PS21-DIF		B 16.793	300x300	Diffuser		17.670	16.793		0.876	494849.351	106228.612
PS32-RE		A 17.188	1800	Type E	B125	17.530	17.188		0.242	494864.805	106229.492
PS34-RE		A 17.157	1800	Type E	B125	17.525	17.157		0.268	494862.669	106214.799
PS37-RE		A 17.105	1800	Type E	B125	17.534	17.105		0.278	494839.187	106227.517
PS38-ACO		A 17.411	1800	Type E	B125	17.561	17.411		0.050	494842.729	106234.277
PS40-ACO		A 17.368 B 17.368	1800	Type E	B125	17.585	17.368		0.117	494845.783	106232.719
PS41-ACO		A 17.461	1800	Type E	B125	17.551	17.461		0.050	494854.004	106218.814
PS42-ACO		A 17.364 B 17.364	1800	Type E	B125	17.552	17.364		0.088	494855.351	106221.453
PS49-DIF		B 16.89	300x300	Diffuser		17.663	16.890		0.623	494849.007	106227.955

! CDM 2015 - RESIDUAL RISKS !

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04.08.26	SWF	UPDATED FOLLOWING RECENT CHANGES.				EG	TB	P02
09.02.26	SWF	FIRST ISSUE.				EG	TB	P01
Date	By	Revision				QA'd	Chk'd	Ref
Status						PRELIMINARY		
 Cowan Consultancy STRUCTURAL, CIVIL AND BUILDING CONSULTANTS						Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB		
3 Turnberry House 4400 Parkway Whiteley Fareham Hampshire PO15 7FJ						Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk		
Client IMPERIAL HOMES								
Project WANDLEYS LANE, EASTERGATE, CHICHESTER								
Title MANHOLE SCHEDULES								
Date	02.02.26		Scale		N/A		Drg. No.	
Drawn	SWF		Chk'd		TB QA'd TB		476988/504 P02	

! CDM 2015 - RESIDUAL RISKS !

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Notes

- This drawing has been prepared in accordance with the scope of Cowan appointment with its client and is subject to the terms and conditions of that appointment. Cowan accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
- If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
- This drawing should be read in conjunction with all other relevant drawings and specifications.
- References to SHW refer to the Manual of Contract Documents for Highway Works "Specification for Highway Works" published by Highways England.
- Concrete mixes are to be designed mixes in accordance with BS 8500.
- Sealing grit is to be applied to all bituminous surfaces before use by traffic.
- Sand or mortar bed depths given are post compaction. In general the compacted depth of the laying course should be between 25-40mm for the laying of standard paving slabs or blocks.
- Kerbs are to be laid on 25mm designation (i) mortar bed to clause 2404 in SHW.
- All paved surfaces including grass verges are to be cambered at 1:40 towards road channels.
- Engineer is to be consulted where low CBR's (<3%) are measured and suitable measures to replace or improve the sub-grade agreed.
- Minimum 450mm depth of non-frost susceptible material is required on all carriageways.
- Geogrid to be installed at all trafficked formation levels, Tensar® InterAx® A-57311-L1 geogrid or similar approved. Subject to design by supplier and approval by the geotechnical engineers.
- Subgrade to be proof rolled with a minimum of three passes. Soft spots to be excavated and filled with suitable engineered material.
- Permeable Paving OGCR/OGCG sub-base to be graded to BS EN 12620 aggregate grading 4/20 in accordance with **Table B**.
- Permeable Paving laying course to be graded to BS EN 12620 aggregate grading 2/6.3 in accordance with **Table C**.
- All finished paving & kerbing materials and colours to be confirmed.

D400 captive hinged gully grate and frame (min. water way area 1000cm²) to BS EN124:1994.

2-4 courses of Class B engineering brickwork to BS3921 top of gully pot with sand/cement mortar, corbelled as necessary (max 25mm per course).

Precast concrete road gully, 4500 x 900 deep, with single 1500 trapped outlet, cleaning eye and stopper with chain to BS5911.

150 minimum concrete Grade ST2 bedding and surround, 20mm aggregate, sulphate restraint cement.

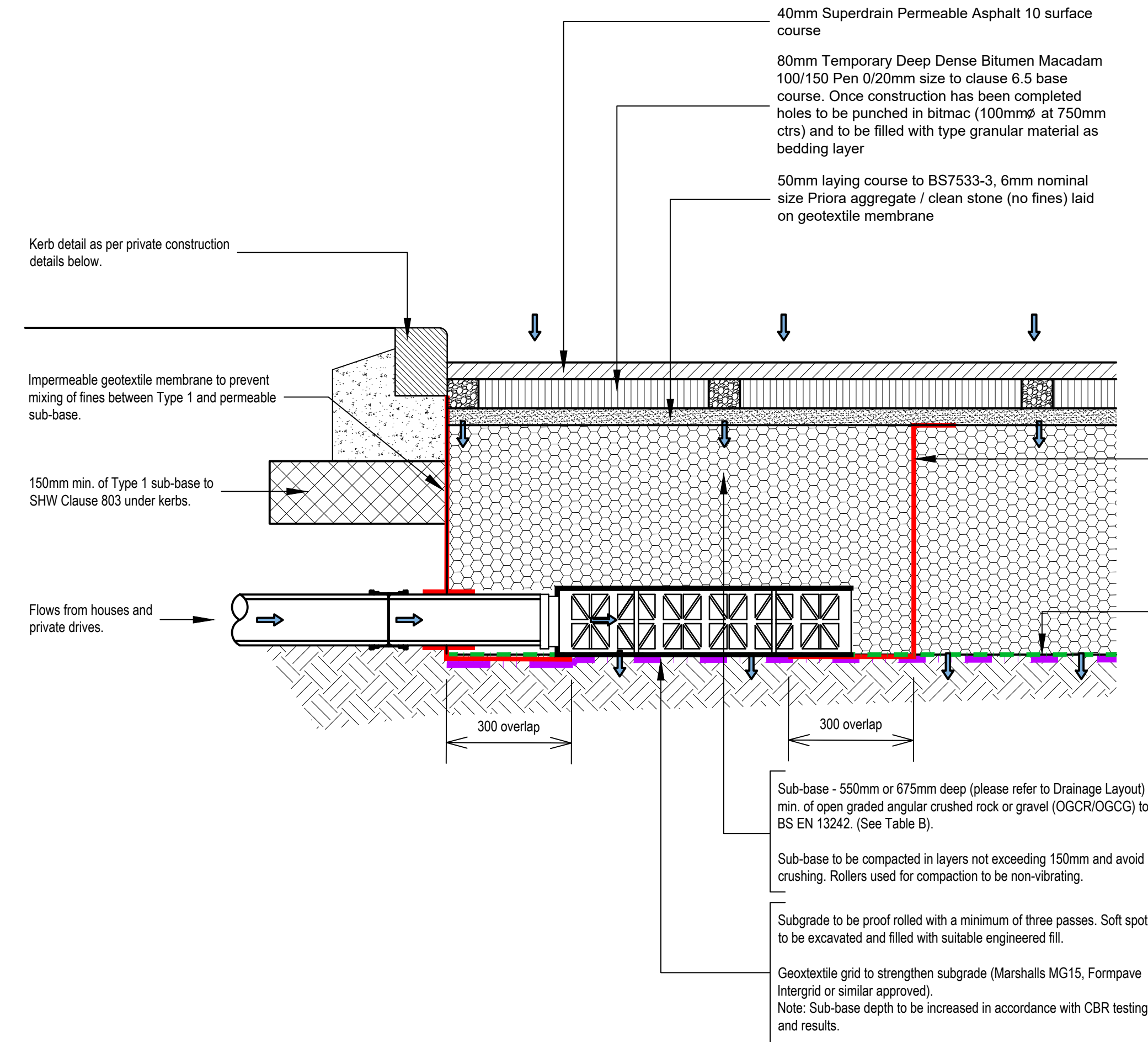
ADDITIONAL NOTES

The flexible board joint must extend beyond the concrete surround.

Gully grate and frame to be set 3mm lower than surrounding surface.

Gully connection gradient to be no flatter than 1:150.

Gully grate to be facing oncoming traffic.



Check dam/baffle to be formed using an impermeable geomembrane (Marshalls MM380 or similar approved) lapped 300mm.

MM380 membrane is first placed with the 500mm overlap at the base with 100mm OGCA stone placed over to hold in place. The vertical section is then held upright with temporary timber while the rest of the aggregate is placed to the underside of the sand laying course. The top overlap is then laid flat before the sharp sand is installed. Please refer to technical literature for more information.

Non-woven permeable geotextile such as Terram T1000 or similar approved, to be laid over subgrade and any Geo-grid reinforcement.

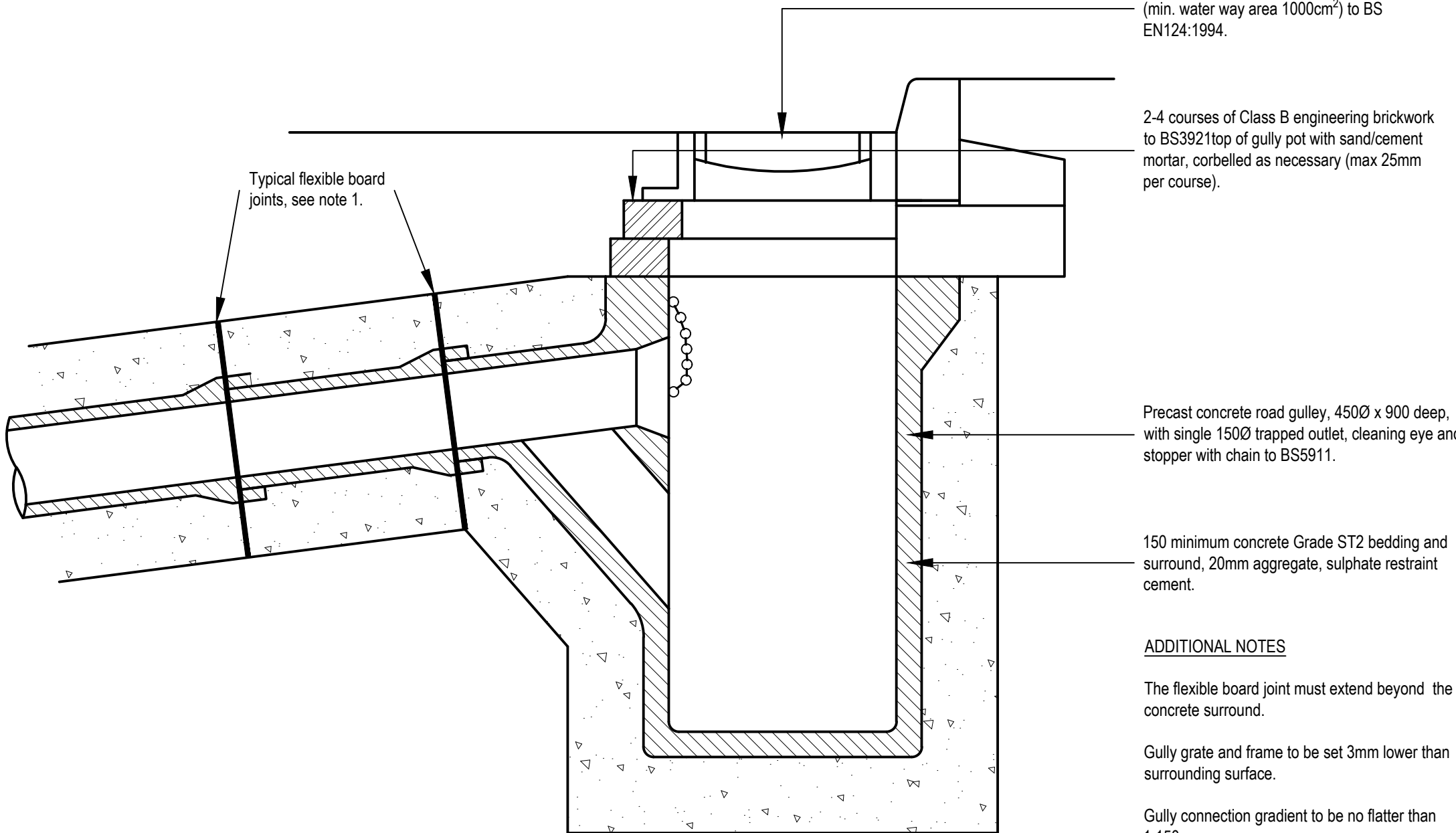
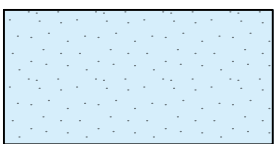
Sub-base - 550mm or 675mm deep (please refer to Drainage Layout) min. of open graded angular crushed rock or gravel (OGCR/OGCG) to BS EN 13242. (See Table B).

Sub-base to be compacted in layers not exceeding 150mm and avoid crushing. Rollers used for compaction to be non-vibrating.

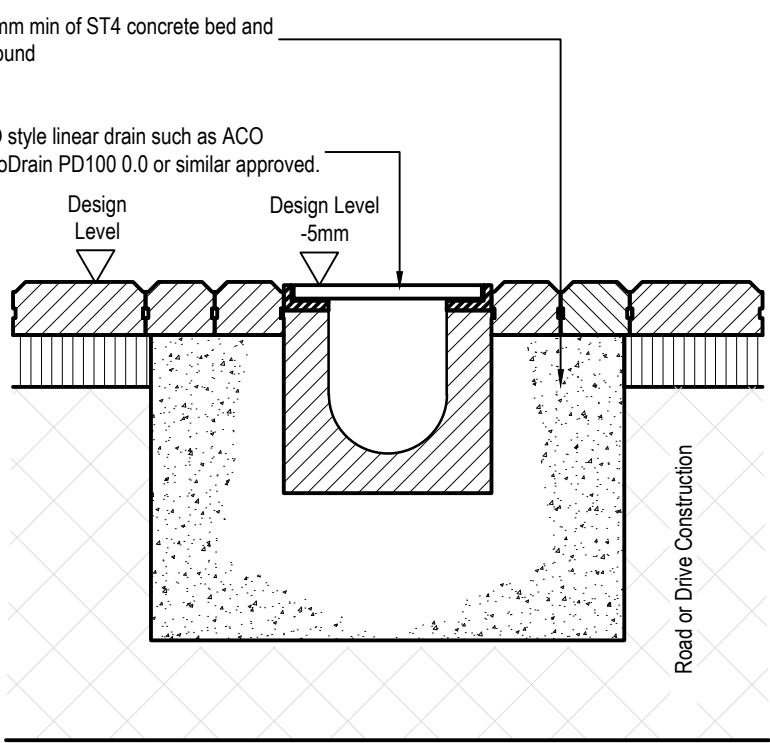
Subgrade to be proof rolled with a minimum of three passes. Soft spots to be excavated and filled with suitable engineered fill.

Geotextile grid to strengthen subgrade (Marshalls MG15, Formpave Intergrid or similar approved). Note: Sub-base depth to be increased in accordance with CBR testing and results.

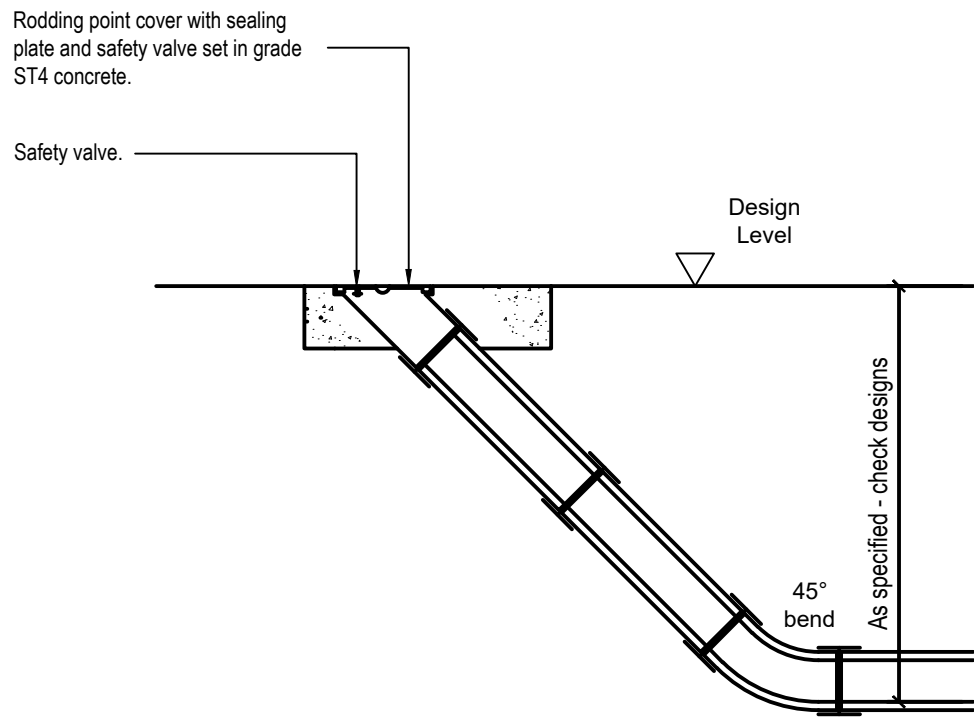
POROUS BITMAC PAVING CONSTRUCTION DETAIL
PRIVATE ACCESS ROADS



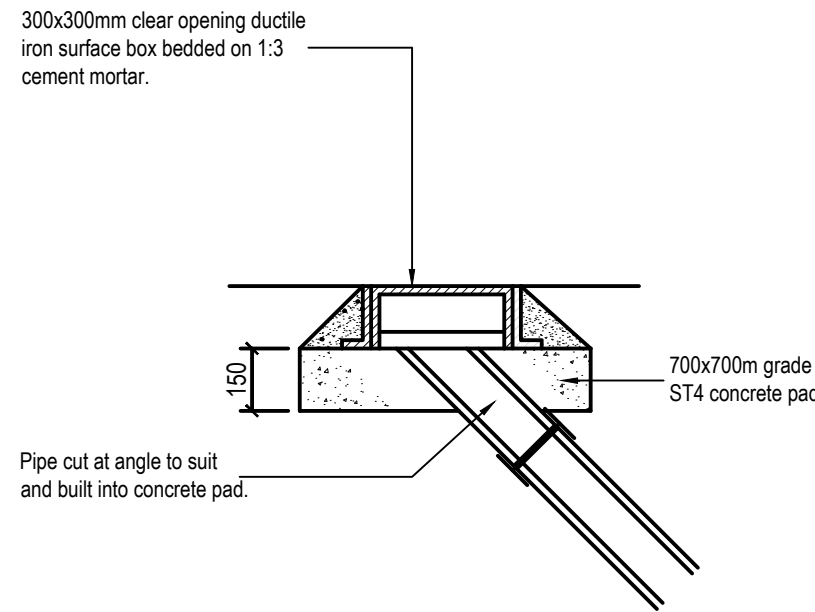
ROAD GULLY



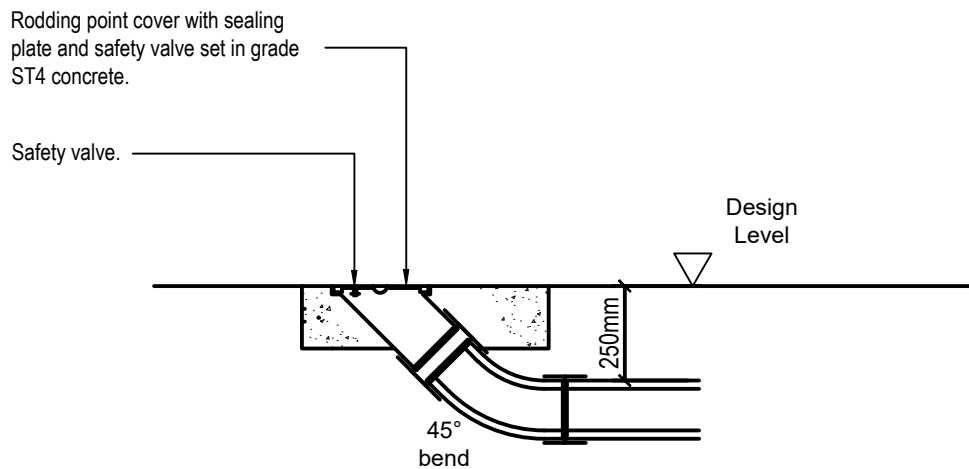
LINEAR DRAIN



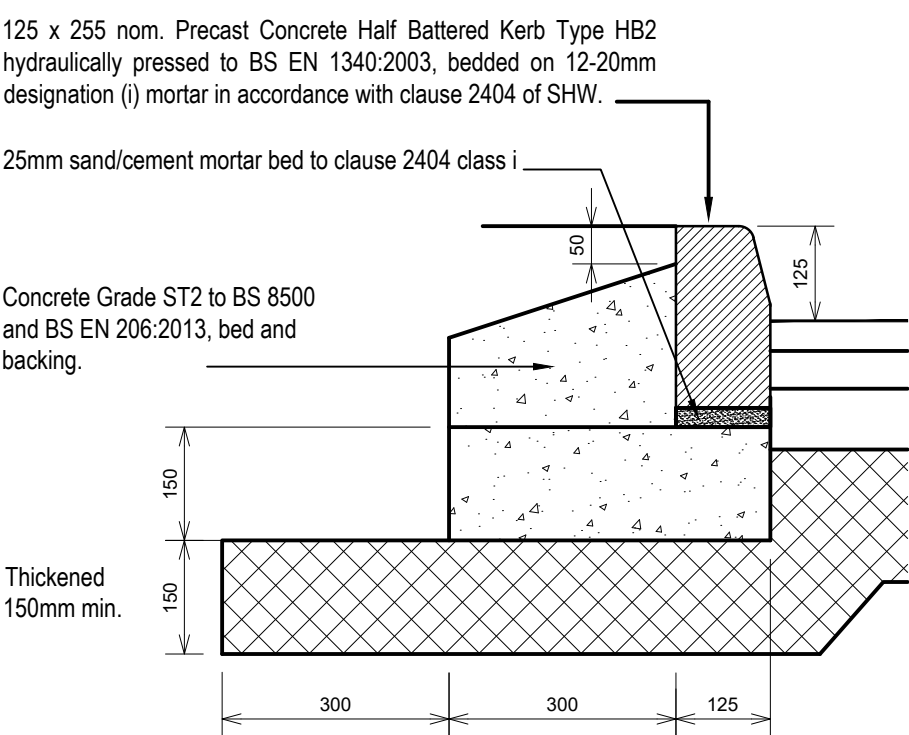
RODDING EYE -
STANDARD DEPTH



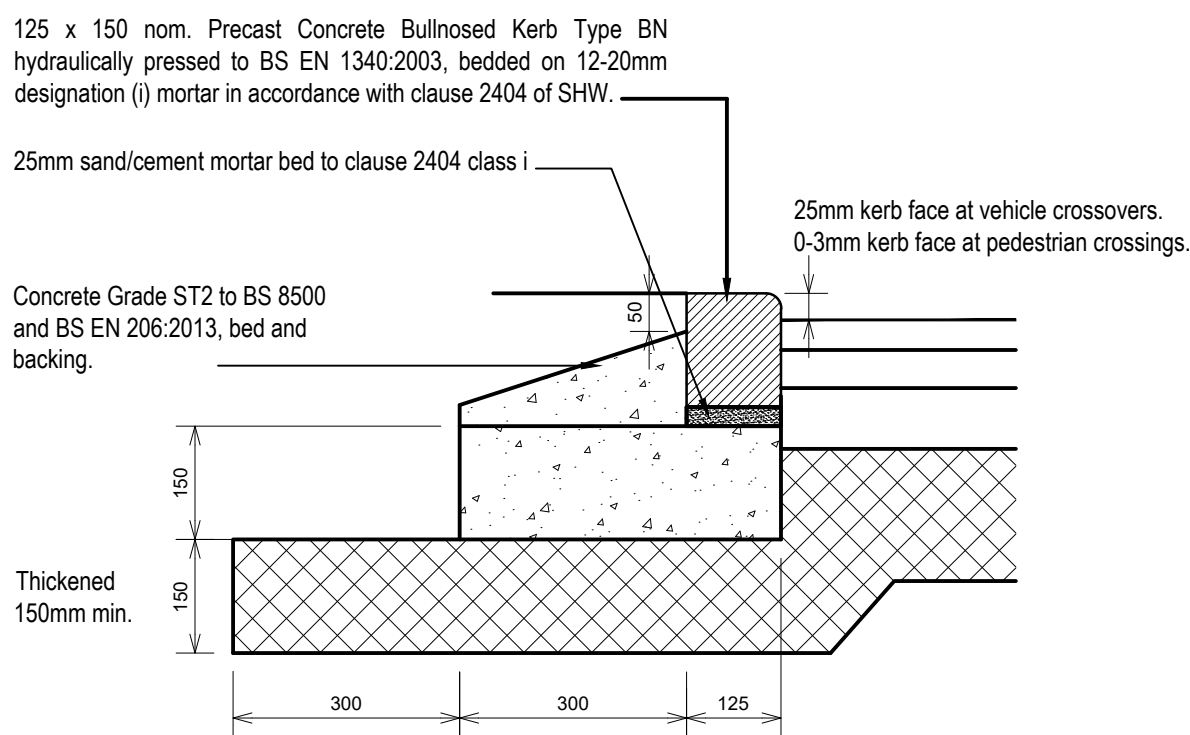
RODDING EYE
(alternative cover to be used in
areas accessible to vehicles)



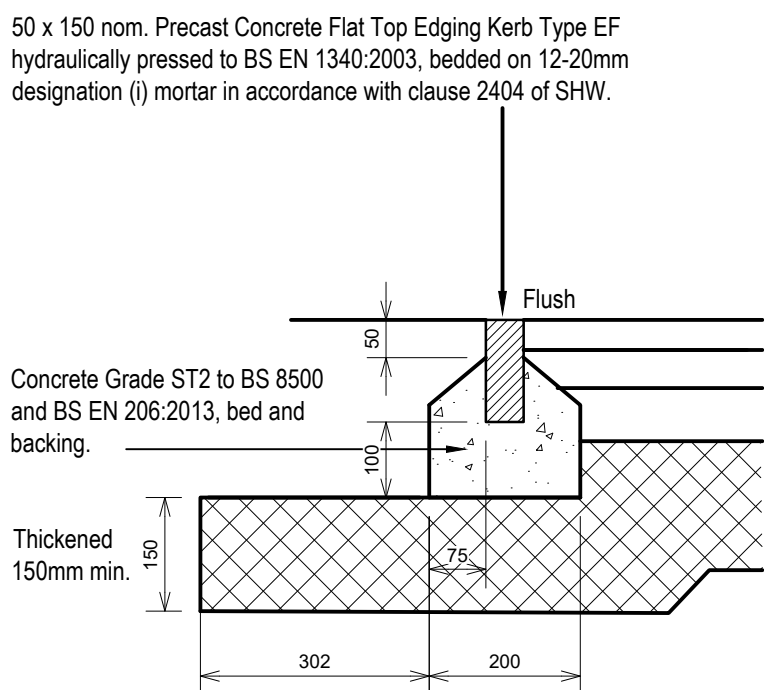
RODDING EYE -
SHALLOW DEPTH



HALF-BATTERED (TYPE HB2) KERB DETAIL



BULLNOSED (TYPE BN1) KERB DETAIL



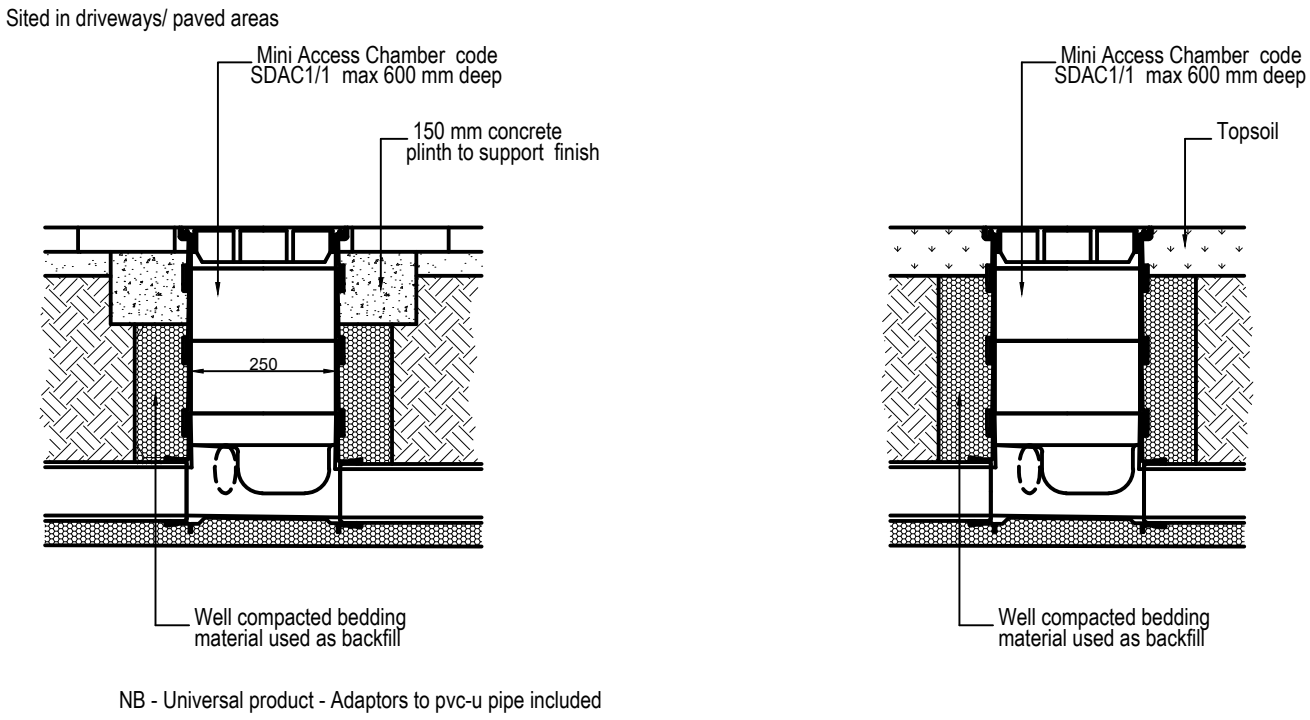
FLAT TOP EDGING (TYPE EF) KERB DETAIL

Table B	
Single sized aggregate sieve size (mm)	20mm OGCR & OGCG sub-base (% passing)
40	100
31.5	98-100
20	90-99
10	25-70
4	0-15
2	0-5

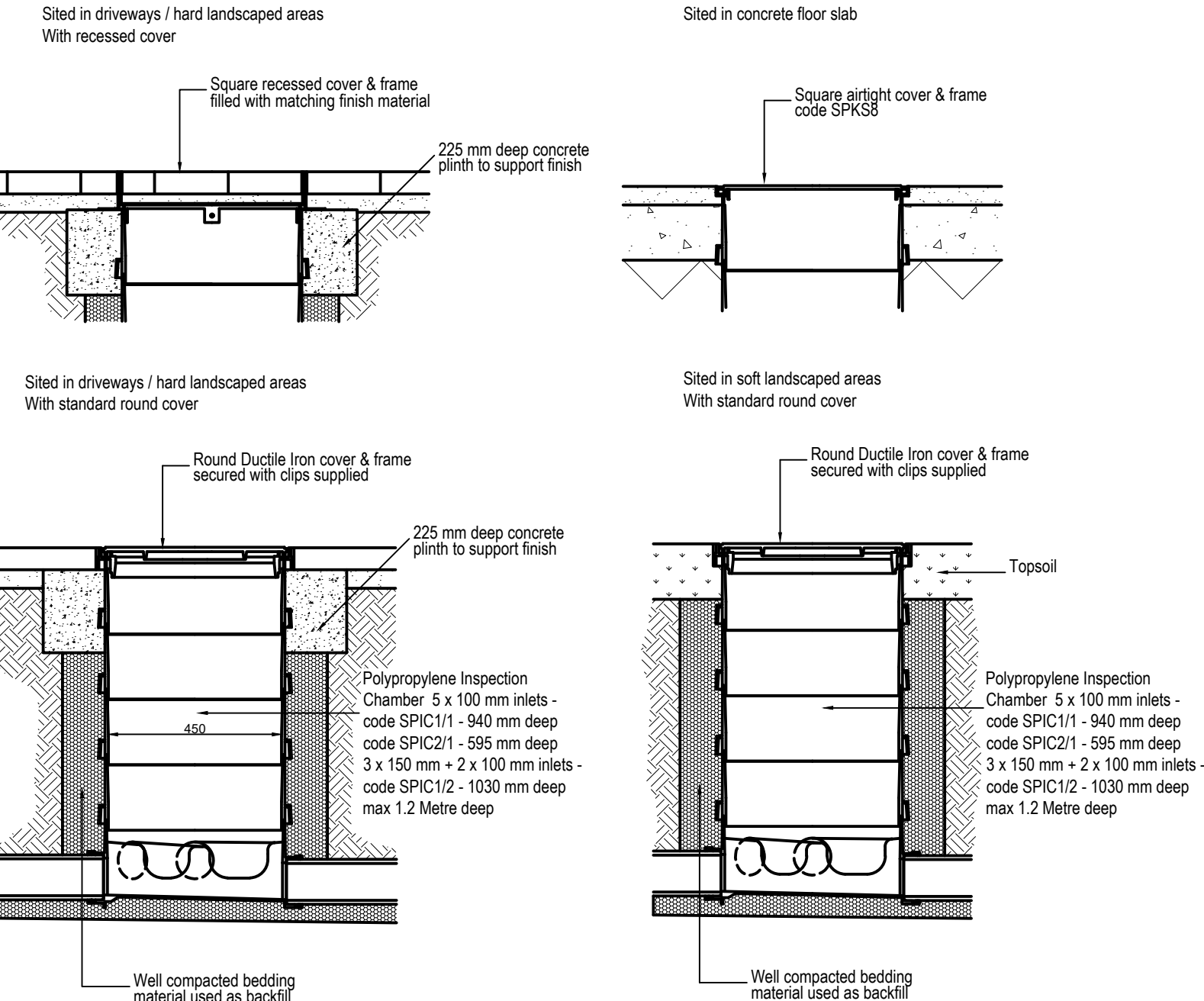
Table C	
Single sized aggregate sieve size (mm)	6mm laying course (% passing)
20	100
14	100
10	98-100
6.3	80-99
2	0-20
1	0-5
0.063	0-2

19.06.26	SWF	UPDATED FOLLOWING LLFA COMMENTS.	EG	TB	P03
20.04.26	SWF	UPDATED FOLLOWING LLFA COMMENTS.	EG	TB	P02
09.02.26	SWF	FIRST ISSUE.	EG	TB	P01
Date	By	Revision	QA'd	Chk'd	Ref
Status					
PRELIMINARY					
 Cowan Consultancy Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB 3 Turnberry House 4400 Parkway Whiteley Fareham Hampshire PO15 7FJ Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk					
Client					
IMPERIAL HOMES					
Project					
WANDLEYS LANE, EASTERGATE, CHICHESTER					
Title					
CONSTRUCTION DETAILS SHEET 1					
Date	09.02.26	Scale	1:10 & 1:20 @ A1	Dwg. No.	
Drawn	SWF	Chk'd	TB	QA'd	TB
					476988/911 P03

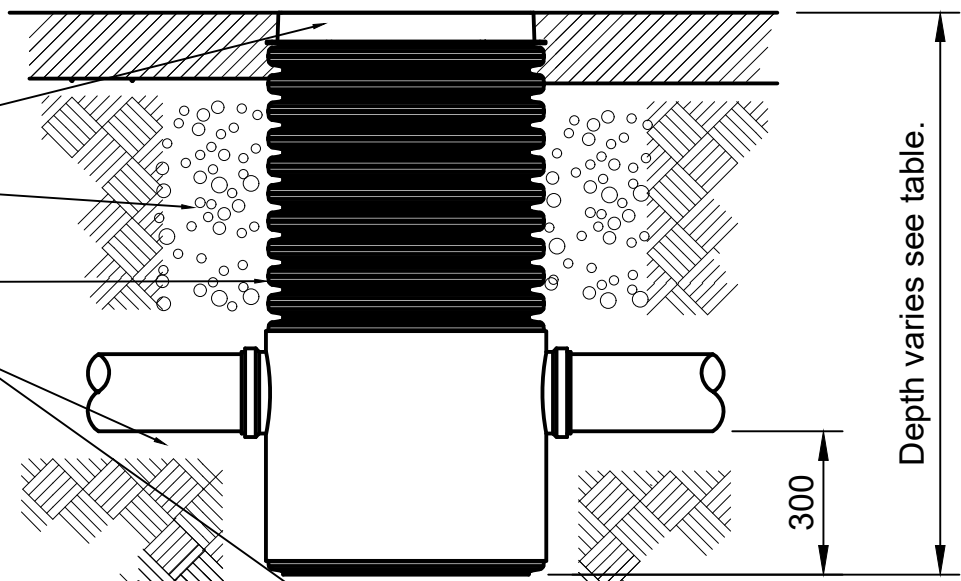
Type E - 180 IC Mini Access
Chamber 600mm depth max.



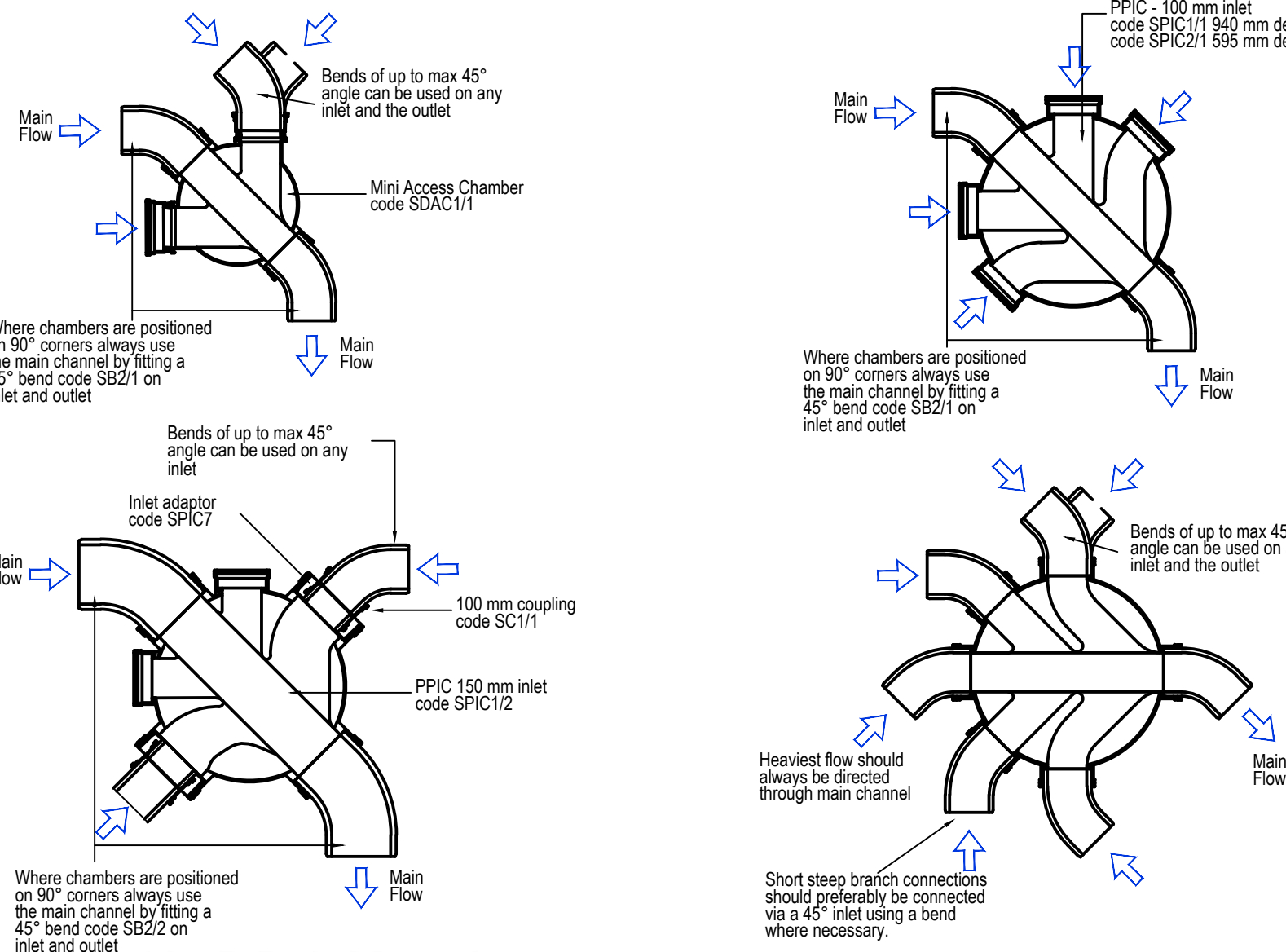
Type D - 450 IC Polypropylene
Inspection Chamber 1.2m depth max.



Type D - 450 IC Inspection Chamber -
General Connections Arrangements

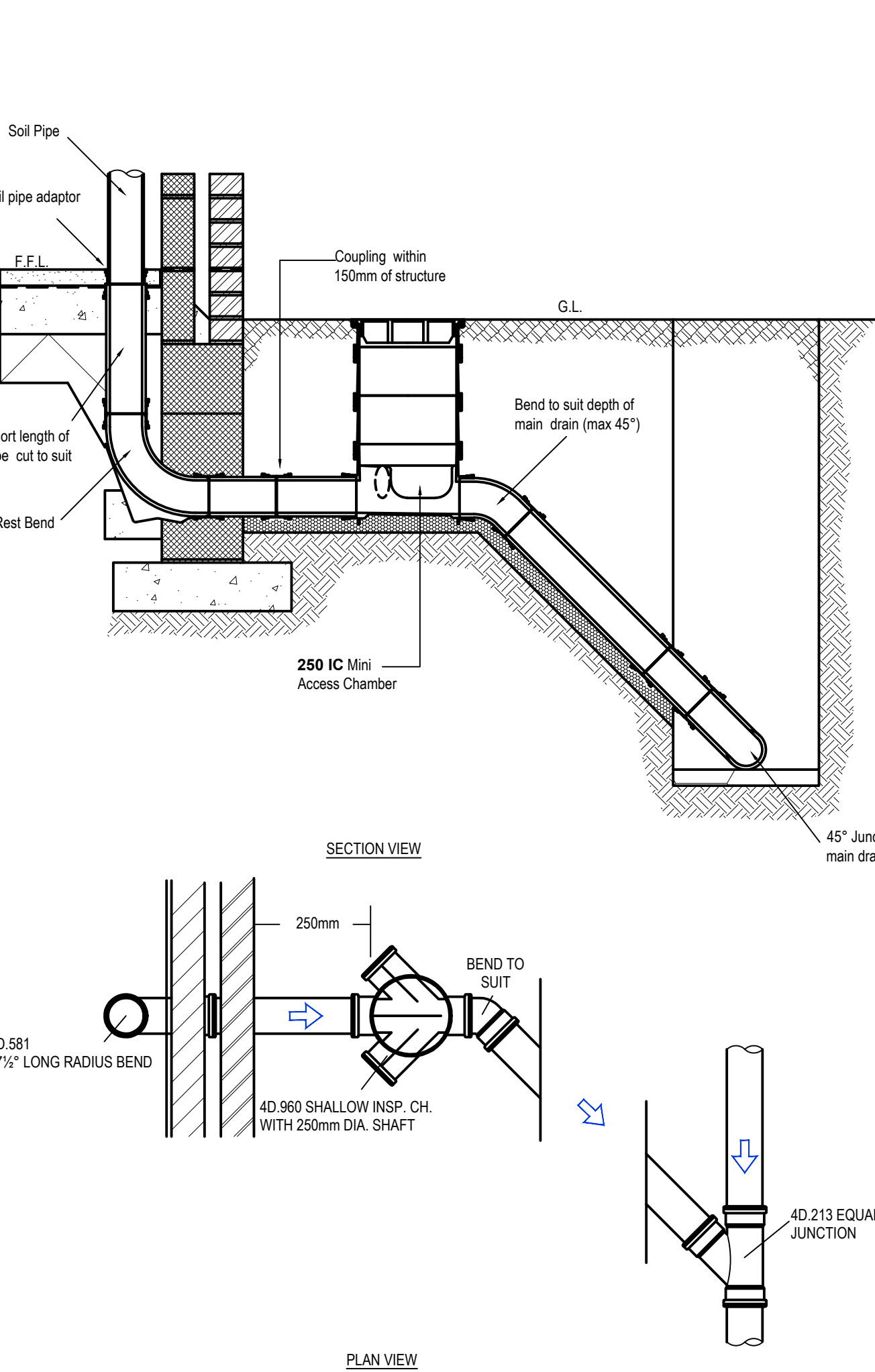


Type D - 450 IC Inspection Chamber
with 300mm Sump - General Arrangements

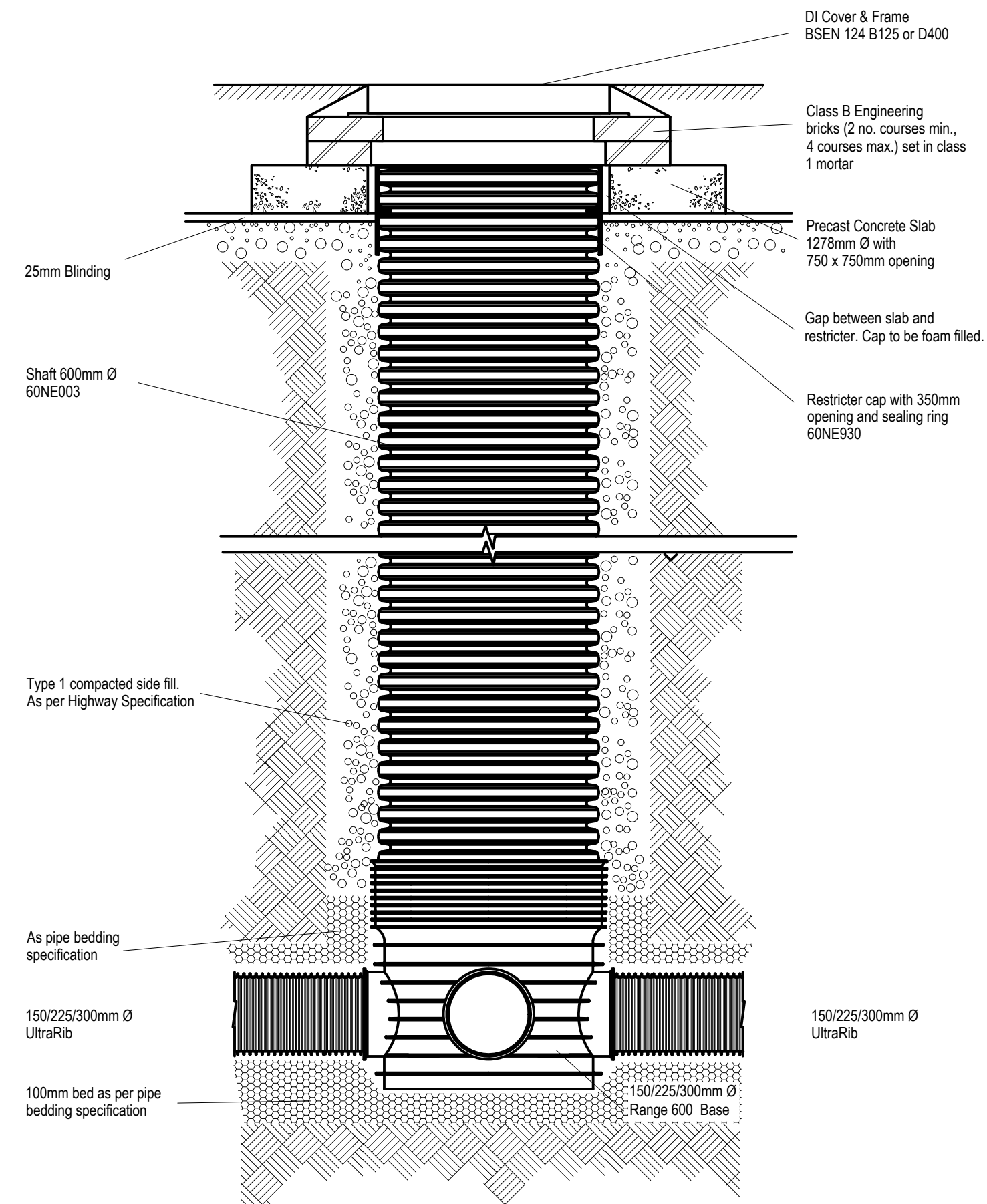


DO NOT SCALE THIS DRAWING

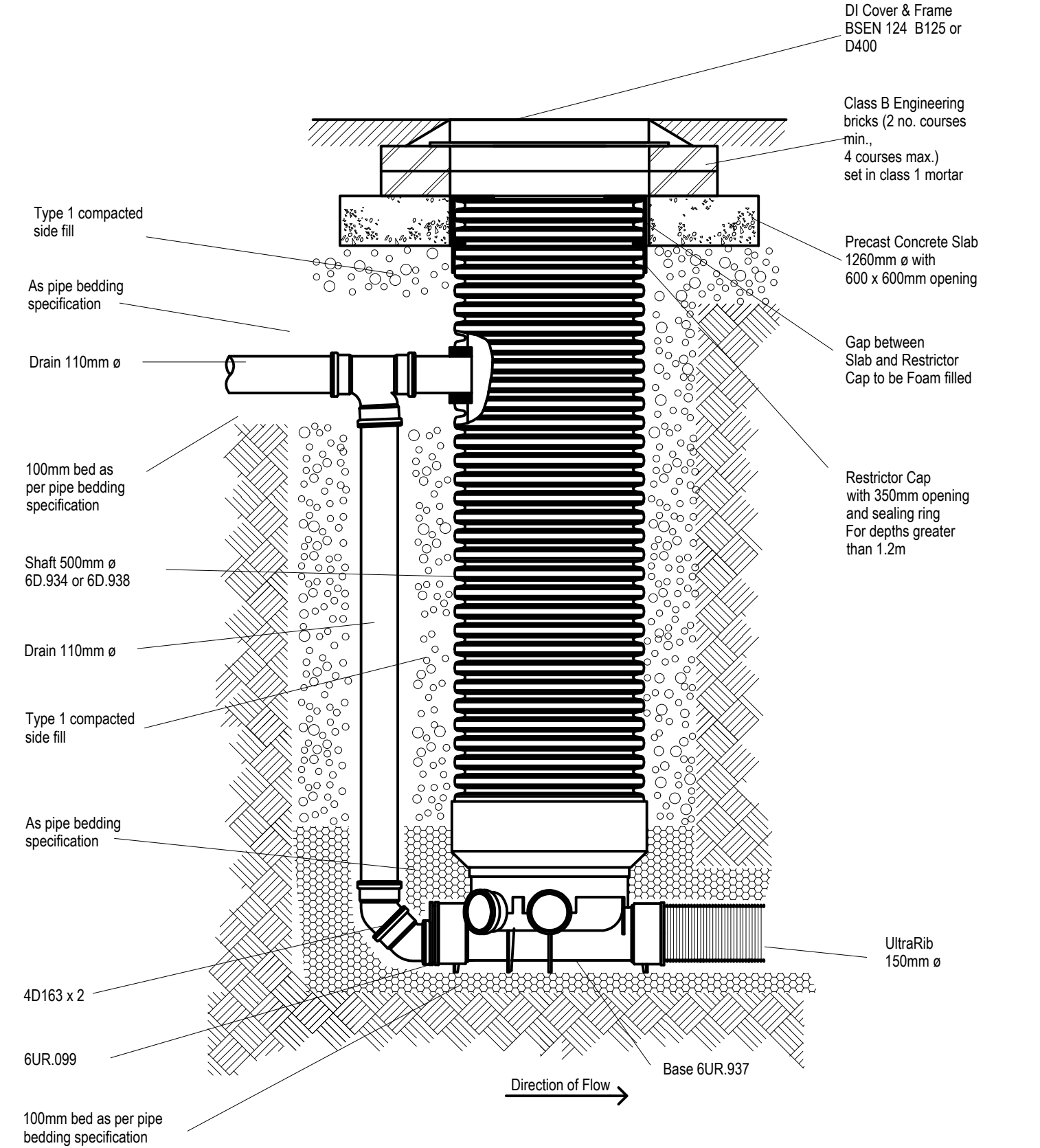
Type E - 180 IC Mini Access
Chamber positioned off main drain run



Type D - 600 IC Non-entry
Inspection Chamber



Type D - 600 IC Non-entry Inspection
Chamber - with 110mm back-drop



! CDM 2015 - RESIDUAL RISKS !

In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

NOTE: Residual risks are defined as those risks arising from identified hazards which cannot be designed-out, and which a competent and experienced building contractor is unlikely to encounter during normal construction activities. Ordinary risks arising from normal construction operations have not been included.

Where hazards have been identified, the risks from which it has not been possible to eliminate during the design process, these are indicated on the drawing. It will be the responsibility of the Principal Contractor to develop Safe Systems of Work and/or Method Statements to minimise any risks associated with such hazards.

GENERAL NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE MANUAL FOR CONTRACT DRAWINGS, VOLUME 1, SPECIFICATION FOR HIGHWAY WORKS, WEST SUSSEX COUNTY COUNCIL, SEWERS SECTOR GUIDANCE AND DESIGN AND CONSTRUCTION GUIDANCE - A DESIGN GUIDE FOR DEVELOPERS AND ALL OTHER RELATED DRAWINGS ISSUED.
- WORKS TO BE CARRIED OUT IN ACCORDANCE WITH SPECIFICATION FOR HIGHWAY WORKS (SHW) LATEST EDITION, APPROVED DOCUMENT H, WEST SUSSEX COUNTY COUNCIL SPECIFICATION FOR THE CONSTRUCTION OF NEW STREETS AND CURRENT BRITISH STANDARDS.
- MANHOLE CHANNEL INVERTS TO HAVE A GRADIENT NOT LESS THAN THAT OF THE OUTGOING PIPE.
- THE CENTERLINE OF THE MANHOLE IS NOT NECESSARILY COINCIDENTAL WITH THE CENTERLINE OF THE MAIN PIPE.
- POSITION OF MANHOLE COVER SLAB AND STEP RUNGS TO BE DIRECTED ON SITE.
- WHERE PIPES OF DIFFERENT DIAMETERS ARE BUILT INTO THE MANHOLE, THEY SHOULD BE LAID TO COMMON SOFFIT UNLESS OTHERWISE STATED.
- MINIMUM GULLY PIPE GRADIENT TO BE 1:80.
- WHERE A SEWER IS 150mmØ ALL CONNECTIONS AT MANHOLES TO BE MADE USING OBLIQUE (45°) CHANNEL JUNCTIONS WITH CHANNEL/CHANNEL ENLARGER BENDS AS NECESSARY.
- AT SIGNIFICANT CHANGES IN DIRECTION, THE LARGEST PRACTICAL RADIUS OF CHANNEL JUNCTIONS SHALL BE USED.
- ALL MORTAR TO BE CLASS 1 UNLESS NOTED OTHERWISE.
- BRICKS TO BE ENGINEERING CLASS B TO BS EN 771-1, LAID IN ENGLISH BOND ON CLASS (i) MORTAR TO CLAUSE 2404, SPECIFICATION FOR HIGHWAY WORKS. ANY OVER EXCAVATION TO BE MADE GOOD.
- CONNECTIONS TO CARRIER DRAINS TO BE BY MEANS OF 'Y' JUNCTIONS OR SADDLES, AS APPROPRIATE.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
- FINISH TO INTERNAL CONCRETE TO BE F1 ON FORMED SURFACES OR U2 ON UNFORMED SURFACES.
- ALL TESTING TO BE CARRIED OUT AT THE CONTRACTORS EXPENSE. ALL INSPECTION TO BE IN ACCORDANCE WITH SEWERS SECTOR GUIDANCE AND DESIGN AND CONSTRUCTION GUIDANCE.
- PERMITTED MATERIAL FOR PIPES IN ACCORDANCE WITH CURRENT SEWER SECTOR GUIDANCE.
- ALL CONCRETE AND CONCRETE PRODUCTS TO BE SULPHATE RESISTING.

19.06.26	SWF	UPDATED FOLLOWING LLFA COMMENTS.	EG	TB	P03
20.04.26	SWF	UPDATED FOLLOWING LLFA COMMENTS.	EG	TB	P02
09.02.26	SWF	FIRST ISSUE.	EG	TB	P01
Date	By	Revision	QA'd	Chk'd	Ref

Status **PRELIMINARY**

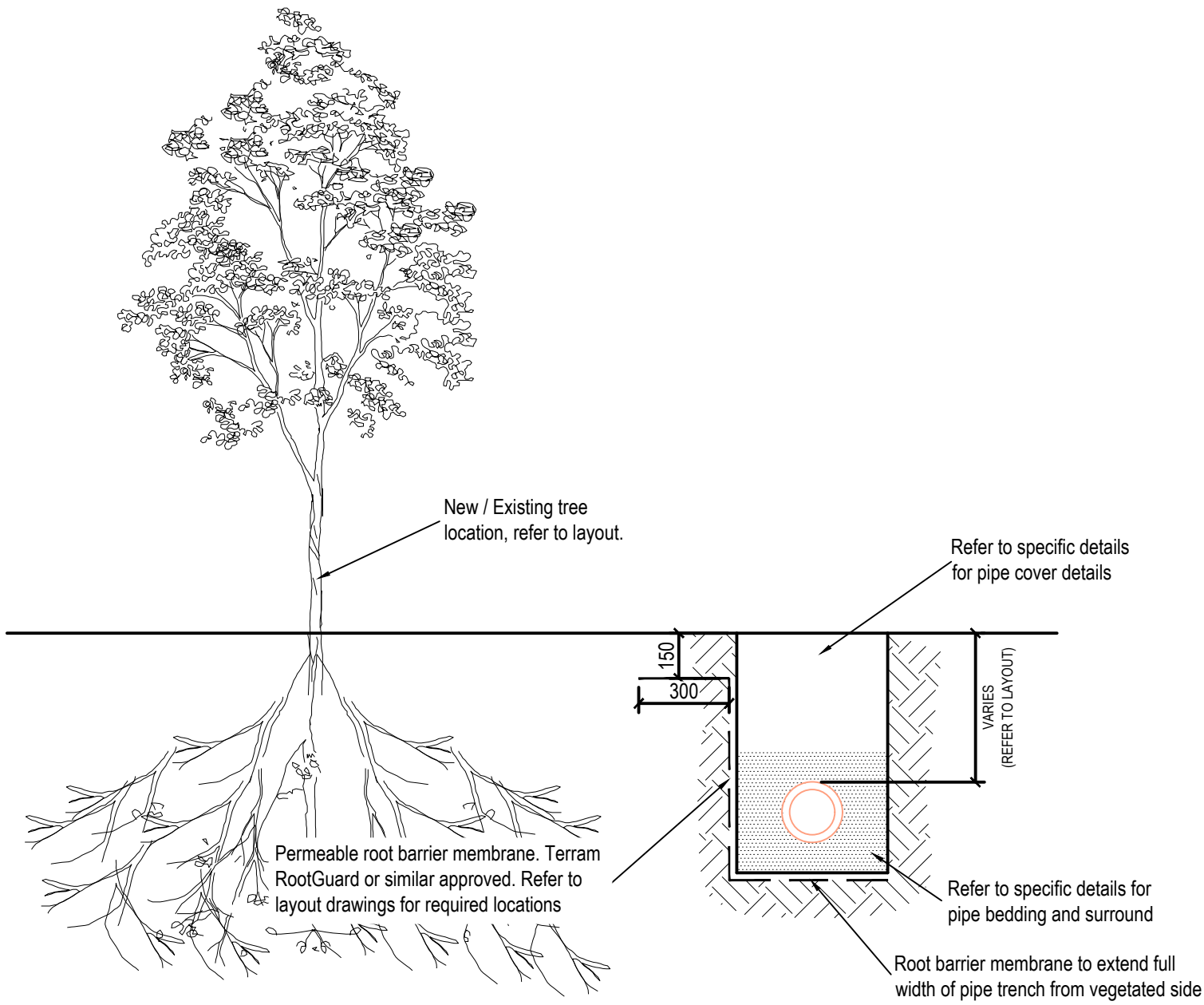
Cowan Consultancy
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www.cowanconsult.co.uk

Client **IMPERIAL HOMES**

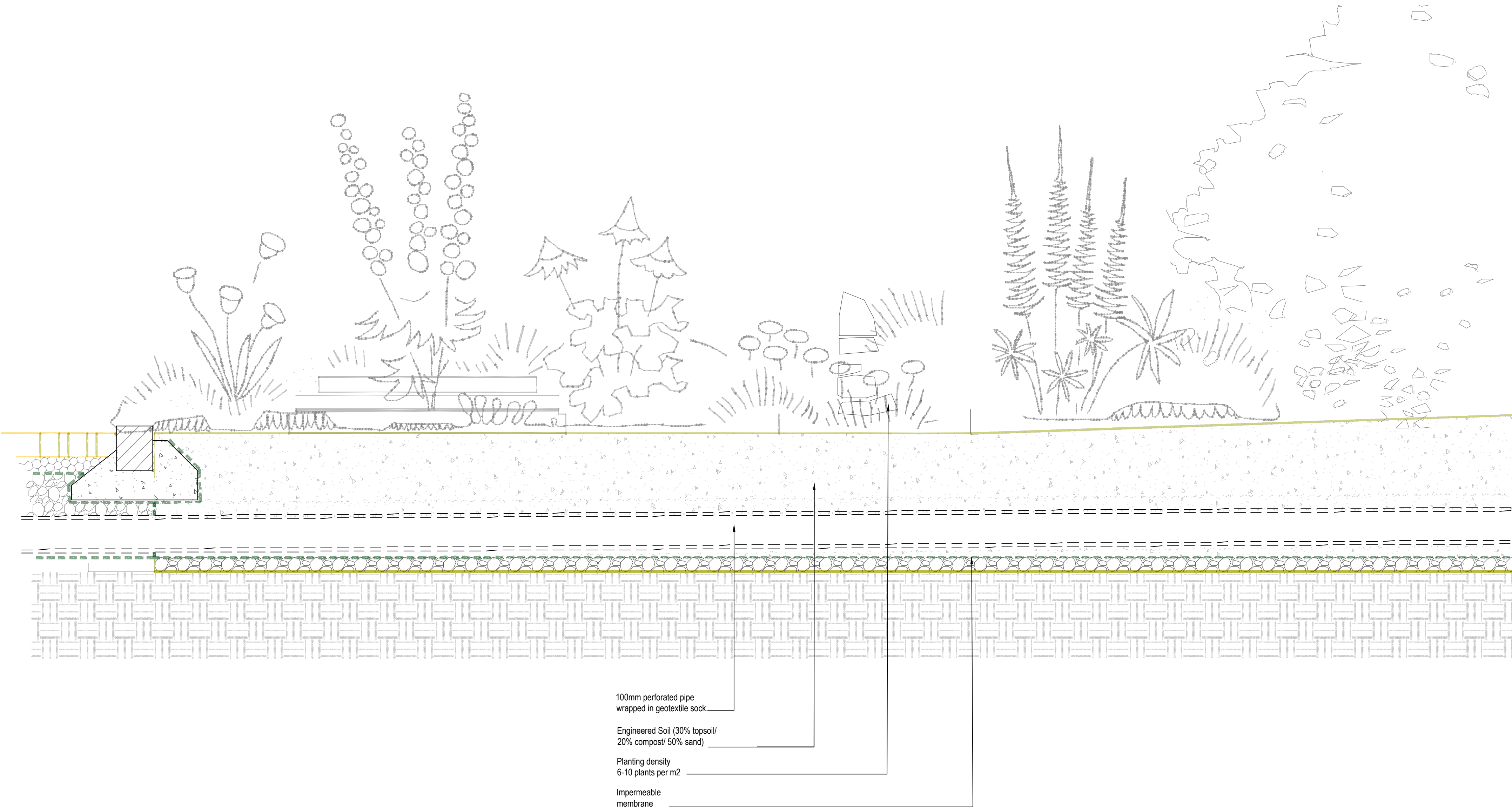
Project **WANDLEYS LANE, EASTERGATE, CHICHESTER**

Title **CONSTRUCTION DETAILS SHEET 2**

Date	09.02.26	Scale	1:10 @ A1	Dwg. No.	476988/912 P03
Drawn	SWF	Chk'd	TB	QA'd	TB



TREE ROOT PROTECTION BARRIER DETAIL
scale: 1/10



RAIN GARDEN
scale: 1/10

! CDM 2015 - RESIDUAL RISKS !

In preparing the designs illustrated by this drawing we have fulfilled our duties in the role of Designer as defined in the Construction Design and Management Regulations 2015. We have undertaken a full Hazard Identification and Risk Analysis and have designed out any special risks associated with the work, so that as far as possible there are no residual risks.

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Notes

1. This drawing has been prepared in accordance with the scope of Cowan appointment with its client and is subject to the terms and conditions of that appointment. Cowan accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. This drawing should be read in conjunction with all other relevant drawings and specifications.
4. References to SHW refer to the Manual of Contract Documents for Highway Works "Specification for Highway Works" published by Highways England.
5. Concrete mixes are to be designed mixes in accordance with BS 8500.
6. Sealing grit is to be applied to all bituminous surfaces before use by traffic.
7. Sand or mortar bed depths given are post compaction. In general the compacted depth of the laying course should be between 25-40mm for the laying of standard paving slabs or blocks.
8. Kerbs are to be laid on 25mm designation (i) mortar bed to clause 2404 in SHW.
9. All paved surfaces including grass verges are to be cambered at 1:40 towards road channels.
10. Engineer is to be consulted where low CBR's (<3%) are measured and suitable measures to replace or improve the sub-grade agreed.
11. Minimum 450mm depth of non-frost susceptible material is required on all carriageways.
12. Geogrid to be installed at all trafficked formation levels, Tensar® InterAx® A-57311-L1 geogrid or similar approved. Subject to design by supplier and approval by the geotechnical engineers.
13. Subgrade to be proof rolled with a minimum of three passes. Soft spots to be excavated and filled with suitable engineered material.
14. Permeable Paving OGCR/OGCG sub-base to be graded to BS EN 12620 aggregate grading 4/20 in accordance with **Table B**.
15. Permeable Paving laying course to be graded to BS EN 12620 aggregate grading 2/6.3 in accordance with **Table C**.
16. All finished paving & kerbing materials and colours to be confirmed.

Table B	
Single sized aggregate sieve size (mm)	20mm OGCR & OGCG sub-base (% passing)
40	100
31.5	98-100
20	90-99
10	25-70
4	0-15
2	0-5

Table C	
Single sized aggregate sieve size (mm)	6mm laying course (% passing)
20	100
14	100
10	98-100
6.3	80-99
2	0-20
1	0-5
0.063	0-2

19.06.26	SWF	FIRST ISSUE.			EG	TB	P01
Date	By	Revision			QA'D	Chk'd	Ref
Status							
PRELIMINARY							
 Cowan Consultancy STRUCTURAL, CIVIL AND BUILDING CONSULTANTS				Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk			
3 Turnberry House 4400 Parkway Whiteley Fareham Hampshire PO15 7FJ							
Client							
IMPERIAL HOMES							
Project							
WANDLEYS LANE, EASTERGATE, CHICHESTER							
Title							
CONSTRUCTION DETAILS SHEET 3							
Date	09.02.26	Scale	As	Noted	@	A1	Drg. No.
Drawn	SWF	Chk'd	TB	QA'D	TB	476988/914 P01	

APPENDIX B

DRAINAGE MAINTENANCE RESPONSIBILITY PLAN

Date	By	Revision	QA'D	Chk'd	Ref
Status					
INFORMATION					
 Cowan Consultancy STRUCTURAL, CIVIL AND BUILDING CONSULTANTS			Also at: Landguard Manor Landguard Manor Road Shanklin Isle of Wight PO37 7JB		
3 Turnberry House 4400 Parkway Whiteley Fareham Hampshire P015 7FJ			Tel: 01489 577488 Fax: 01489 579873 consultants@cowanconsult.co.uk www.cowanconsult.co.uk		
Client					
IMPERIAL HOMES					
Project					
WANDLEYS LANE, EASTERGATE CHICHESTER, WEST SUSSEX					
Title					
DRAINAGE MAINTENANCE PLAN					
Date	JUN 2026	Scale	As Shown @ A1	Dwg. No.	
Drawn	TB	Chk'd	EG	QA'd	
					476988--001

APPENDIX C

ANNUAL SUDS MAINTENANCE SCHEDULE

Annual SuDS Maintenance Schedule

Item	Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Permeable Paving	Brushing and vacuuming (standard cosmetic sweep over whole surface)												✓
Catchpits	Clean out by suction method												✓
Channel Drains	Removing grates, clearing silt and flushing channel				✓						✓		
Rain Gardens	Inspect infiltration surfaces for silting and ponding, record de-watering time and determine if maintenance is necessary		✓			✓			✓			✓	
	Check operation of underdrains by inspection of flows after storm event					✓							
	Remove sediment, litter and debris build-up around inlet		✓						✓				
All Catchment Areas to all Drainage Features	Check catchment surface for debris that may cause risk to performance of drainage feature. Remove debris as required	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All Landscaping Areas	Grass Cutting			✓		✓		✓		✓			
	Weeding			✓		✓		✓		✓			
	Tree & Hedge Trimming			✓		✓		✓		✓			