KING WILLIAM IV PUBLIC HOUSE

Drainage and Environmental Management Scheme

Existing hand car wash within the rear car park
Sipson Road, Sipson, London Borough of Hillingdon

SUBMISSION TO SUPPORT DISCHARGE OF CONDITION 3

Planning permission: 6928/APP/2026/576



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Executive Summary

This scheme sets out measures to collect, contain and treat wastewater from the existing hand car wash in the rear car park of the King William IV Public House. It responds to Condition 3 of planning permission 6928/APP/2026/576, particularly the requirement to prevent contaminated washwater and surface runoff from escaping onto adjoining land.

The site is asphalted and the three washing bays drain to an established common channel and underground collector. The proposal retains those existing features and intercepts the car-wash branch before it mixes with unrelated public-house sanitary drainage. A Class I full-retention SPEL Puraceptor P010/1C/SC is the preferred treatment unit, providing a rated treatment flow of 10 L/s, 1,000 L integral silt capacity and 100 L oil storage. The treated discharge will pass through a downstream sampling chamber and return to the reported combined-sewer route.

The preliminary design considers 0.75 L/s peak washing flow, 3.31 L/s illustrative rainfall runoff and 4.06 L/s simultaneous flow. Final equipment arrangement, pipe sizing, levels and containment will be confirmed through CCTV/dye tracing, level survey and SPEL's written duty confirmation. Consent from Thames Water is separately required before any trade-effluent discharge. The operator will maintain the channels, separator and access arrangements and implement an incident-response procedure.

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1. Purpose and Condition 3

1.1 Purpose

The purpose of this drainage and environmental management scheme is to define collection, containment, treatment, disposal, maintenance and monitoring of car-wash wastewater and contaminated runoff, including water from pressure-washing equipment. It is intended to preserve the established drainage system and avoid unnecessary reconstruction of the asphalted car park.

Public-house toilet, kitchen and other sanitary foul-water flows remain outside the proposed car-wash treatment train.

1.2 Condition 3 requirements and response

The planning decision requires a scheme covering foul and surface water associated with the use, including the collection, containment and treatment of runoff from car-wash operations, preventing contaminated water from discharging onto adjoining land or neighbouring properties, with approved provisions retained and maintained thereafter.

Condition requirement	Proposed provision
Collection	Existing asphalt gradients and common washing-bay channel retained; coarse debris capture added at the take-off if necessary.
Containment	Defined operational wash boundary, local sealing and a low-profile vehicle-exit containment threshold where surveys confirm its effectiveness.
Treatment	Class I SPEL P010/1C/SC full-retention separator with integral silt storage; supplementary pre-treatment if SPEL confirms this is needed.
Disposal	Dedicated post-treatment sampling chamber, then connection back to the existing private drainage route reported to serve the combined sewer.
Maintenance	Defined daily, weekly and periodic inspection, sludge removal, coalescer/closure-device servicing, records and incident response.

1.3 Relationship to approved development

The car wash remains subject to the planning controls governing the approved layout, maximum concurrent vehicle-processing activity, operating hours and overspray management. The approved site drawing is AR-111 Rev 05; drawing AR-111 Rev 06 is used here solely as later site-layout evidence and is not represented as an approved planning revision.

2 Site Description and Existing Drainage

2.1 Site and present use

The existing hand car wash occupies part of the asphalted rear car park of the Grade II listed King William IV Public House. The operational area contains three washing bays and associated vehicle-cleaning and storage functions. The operator estimates approximately 100 vehicles per day; this is not a metered wastewater discharge figure.



Figure 1. Site location and indicative land boundary (applicant-supplied plan extract).

The Council's delegated report identifies Flood Zone 1 with localised surface-water flood risk, and the rear car park lies in an Archaeological Priority Area. The proposed drainage works do not alter the listed building fabric.

2.2 Existing channels and underground route

All three washing bays drain into one existing cut-in drainage channel/gutter within the asphalt. The operator reports that the common collector discharges via buried pipework and inspection/rodding access points towards an existing combined sewer. Thames Water has indicated a combined public sewer; the precise private-drain connection requires tracing and levels verification.

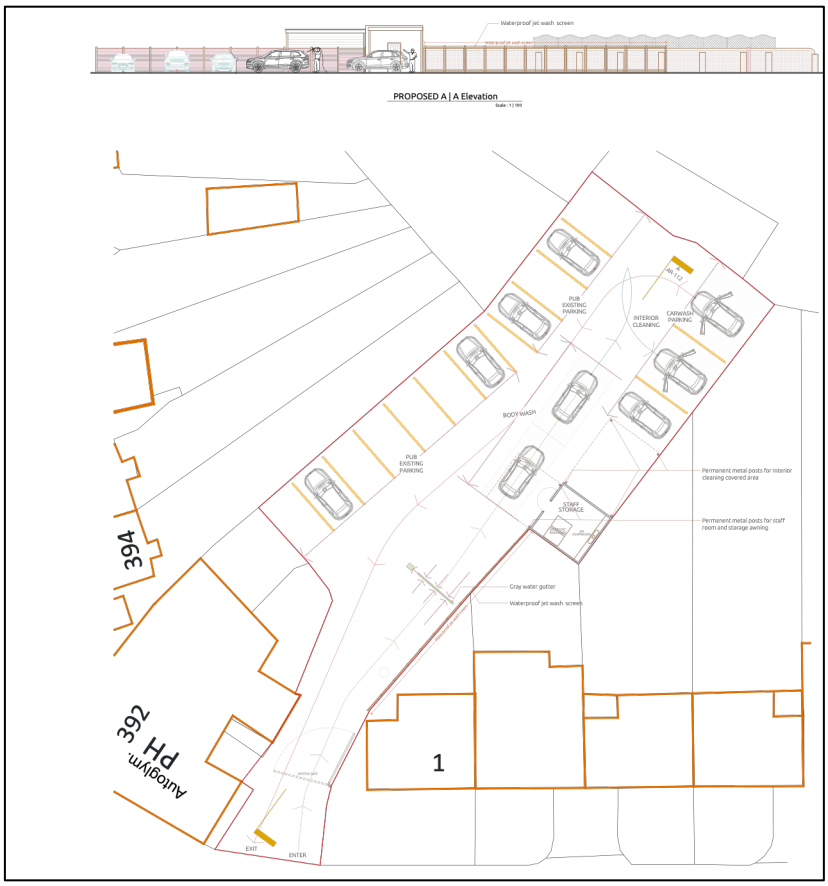
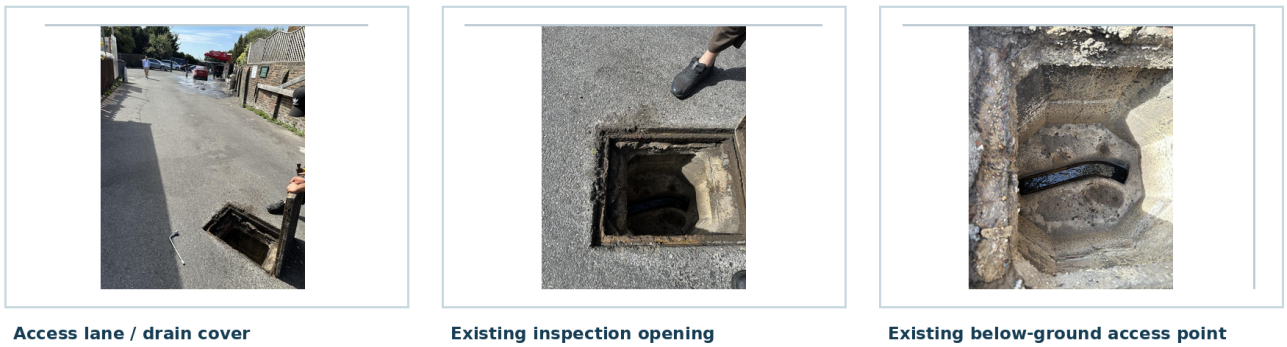


Figure 2. Applicant-supplied AR-111 Rev 06 site plan showing washing bays, channel and labelled access points; not an as-built drainage survey.

2.3 Retaining existing infrastructure

The scheme retains the existing asphalt surface and common washing-bay channel. It does not propose separate drains for each bay, whole-site resurfacing or diversion of the pub's foul drainage through the treatment unit. Works are limited to a take-off from the common car-wash branch, treatment, sampling, reconnection and localised containment and repairs. The actual interception location is subject to CCTV/dye tracing.



Access lane / drain cover | **Existing inspection opening** | **Existing below-ground access point**

Figure 3. Existing drainage and inspection/rodding evidence photographed on site.

3. Drainage Design Basis

3.1 Washing-water assumptions

Design input	Adopted preliminary value	Qualification
Wash bays / stages	3	Planning layout and operator information; does not prove three pressure washers operate simultaneously.
Vehicles processed	Approximately 100/day	Operator estimate.
Active water outlets	3 (assumed)	Conservative screening case; actual washer specifications not yet supplied.
Wash flow per outlet	15 L/min	Illustrative allowance.
Peak washing flow	0.75 L/s	3 × 15 / 60 = 0.75 L/s.
Water per vehicle	75 litres	Illustrative, not measured.
Process-water volume	7.5 m^3/day	100 × 75 L; excludes rainfall.
Receiving drainage	Existing private drain to combined sewer	Operator and Thames Water information; precise private connection unverified.

3.2 Contributing dirty-water catchment

Drawing AR-111 indicates an approximate core washing area of 23 m by 5.5 m (126.5 m^2). For initial sensitivity checking an assumed wider dirty-water catchment of 170 m^2 is used to allow for adjacent drip and edge runoff. Both values are provisional; the CCTV, falls and drainage survey must confirm which hardstanding actually feeds the common car-wash collector.

3.3 Hydraulic design flows

Normal car washing is assessed at 0.75 L/s. An illustrative rainfall intensity of 70 mm/hour, using a 50 mm/hour paved-area baseline plus an assumed 40% allowance, gives 3.31 L/s from 170 m^2 with a runoff coefficient of 1.0. Simultaneous washing and rainfall give a preliminary design-flow check of 4.06 L/s. This conservative overlap case is used for the preliminary hydraulic capacity check; compliance does not rely on the operator stopping washing during rain.

Operating case	Indicative flow	Design purpose
Washing only	0.75 L/s	Pollutant loading / process-water assessment
Heavy rainfall only	3.31 L/s	Dirty catchment hydraulic conveyance
Washing plus rainfall	4.06 L/s	Conservative separator and pipework hydraulic check

4. Proposed Collection and Treatment Scheme

4.1 Treatment sequence

The existing common channel will feed a dedicated treatment branch. Coarse grit and debris will be intercepted at the channel take-off where required; collected water will then pass through the full-retention separator. A sampling chamber downstream of treatment, before any pub sanitary drainage joins, will provide representative access. There will be no untreated bypass around the car-wash treatment system.

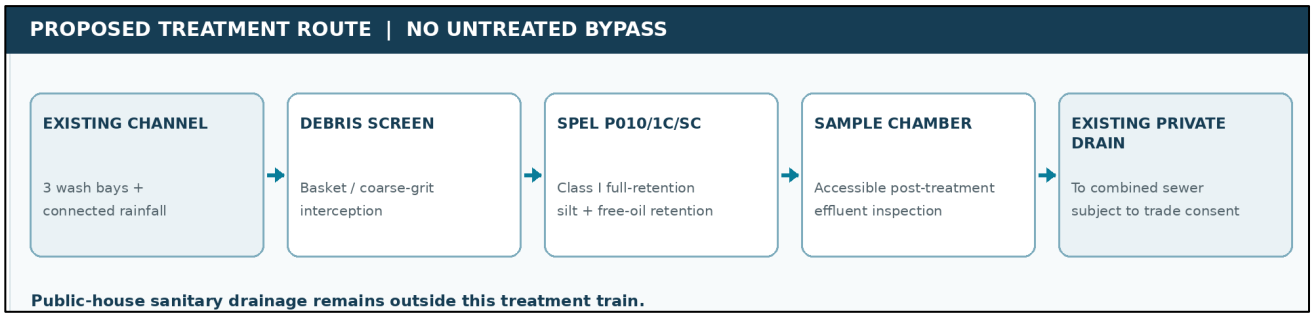


Figure 4. Proposed functional treatment train; one main separator plus a separate sampling chamber, not three buried treatment tanks.

4.2 Preferred Class I separator

Following discussion of the operating conditions with SPEL's technical engineer, the preferred equipment is the SPEL Puraceptor P010/1C/SC, a single-chamber Class I full-retention oil separator with integral silt capacity. SPEL advised that P004/1C/SC is rated at 4 L/s, but larger models are often preferable to reduce emptying frequency. The P010/1C/SC is the preferred candidate because it is rated at 10 L/s and has 1,000 L of silt storage.

Published / supplied technical parameter	P010/1C/SC (200 Series)	Design interpretation
Separator class / duty	Class I, full retention	Passes total connected flow within rated treatment duty; no untreated bypass.
Rated treatment flow	10 L/s	Above preliminary 4.06 L/s peak check; not proof of performance with detergents.
Integral silt storage	1,000 L	Sediment storage, not tank liquid working volume.
Free-oil storage	100 L	For separable free oil; not dissolved / emulsified detergent contaminants.
Overall dimensions	Length 3,410 mm; diameter 1,225 mm	Allow clearance, excavation and vehicle-loading slab.
Inlet / outlet	160 mm PVC-U connections	Pipe transitions and gravity head to be designed.
Inlet-to-outlet fall	60 mm	Does not prove a gravity connection to the receiving drain.
Access	Nominal 750 mm access shaft shown on supplied drawing	Final access and covers must meet traffic / maintenance requirements.
Safety	Automatic closure device; alarm optional in supplier drawing	Provide appropriate alarm/monitoring in final specification.

Manufacturer source: SPEL Products Data Manual, Section 3, Puraceptor Class I full-retention product table (p. 3.12); P010/1C/SC customer drawing. The manufacturer drawing is not reproduced here because it carries a restriction on onward copying.

4.3 Comparison with smaller and two-chamber alternatives

Candidate	Rated flow	Integral silt	Overall length	Design status
P004/1C/SC (single chamber)	4 L/s	400 L	1,720 mm	Below 4.06 L/s assumed combined flow: not the preferred selection.
P010/1C/SC (single chamber)	10 L/s	1,000 L	3,410 mm	Preferred candidate based on SPEL engineer's advice.
P010/2C/SC (two chambers)	10 L/s	1,000 L	4,690 mm	Optional alternative if SPEL recommends improved coalescer protection for high sediment load.

The two-chamber option contains a baffle to protect the coalescing filter from bulk silt, but requires a longer excavation. The final choice will be made using manufacturer duty confirmation and the available site geometry. A supplementary upstream silt trap is not assumed to be necessary unless SPEL's final assessment of 100 cars per day indicates otherwise.

4.4 Oil, detergents and treatment limitations

The Class I rating relates to free/light hydrocarbons under BS EN 858 test conditions. The system is expected to retain settleable grit and separable free-floating oil, but a gravity/coalescing separator does not reliably remove stable oil emulsions, dissolved detergents or all suspended solids arising from chemical car washing. Only compatible automotive cleaning products will be used, with no engine or solvent degreasing. Further treatment, if required by the actual Thames Water trade-effluent conditions, must be provided before discharge. Manufacturer cutaway illustrations are reproduced in Appendix C (Section C.3); the diagram is illustrative of the Puraceptor range, not a unit-specific fabrication drawing.

4.5 Siting, access and connection

The preferred tank location is near the existing common collector and before its connection with unrelated pub drainage. A separate downstream sample chamber will connect the treated flow to the existing private drain. The proposed positions shown on Figure 5 are indicative only; the actual take-off, unit alignment, concrete cover, pipe size and receiving invert must be fixed after surveying.

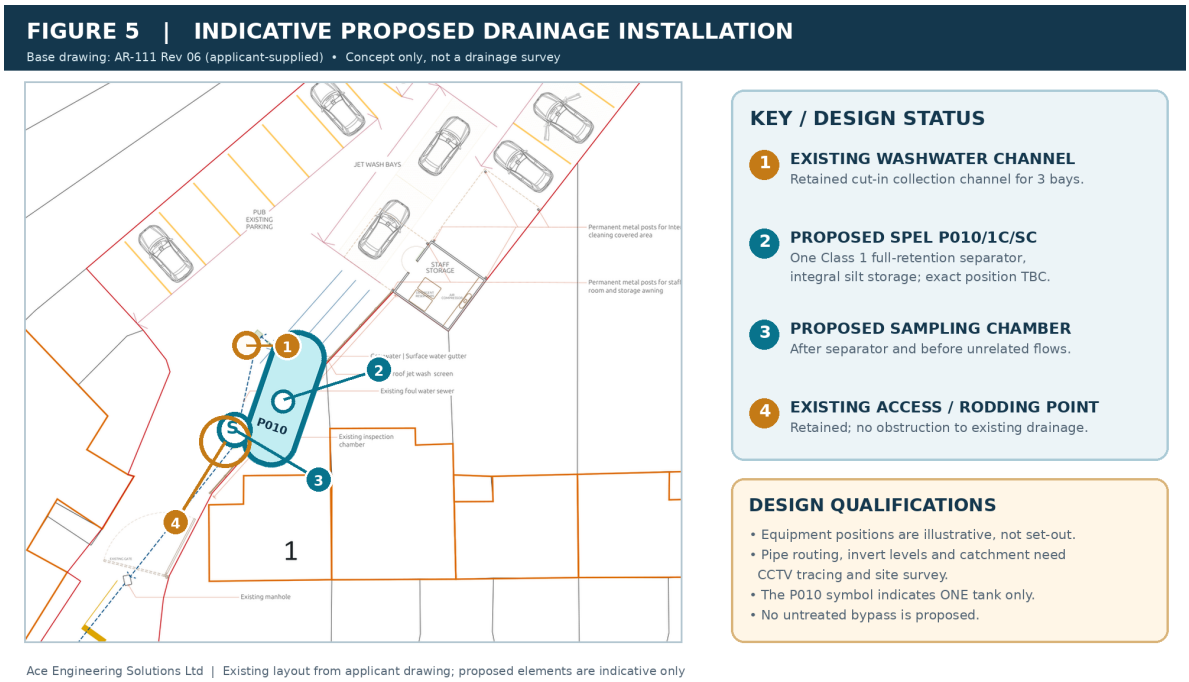


Figure 5. Indicative SPEL P010/1C/SC and downstream sampling-chamber positions on applicant layout AR-111 Rev 06. Equipment locations and connecting pipe route require survey confirmation; not an as-built drawing.

The 160 mm tank spigots must be connected to suitably sized pipework using approved joints/transitions. Reported receiving access-chamber depth does not establish the receiving pipe invert, so gravity operation remains to be verified. If adequate fall cannot be achieved, any pumped alternative must be submitted for review with pump capacity, high-level alarm, duty/standby resilience if needed and wash-stop procedure.

5 Hydraulic Capacity, Rainfall and Surcharge

5.1 Preliminary capacity check

The assumed design flow for checking the entire car-wash treatment route is 4.06 L/s, comprising 0.75 L/s washing and 3.31 L/s rainfall runoff. The proposed P010 full-retention separator has a published treatment-flow rating of 10 L/s, giving nominal hydraulic headroom on that provisional design basis. The rating is not a substitute for proving the entire pipe route or treatment performance for this wastewater.

A hypothetical 100 mm internal-diameter gravity drain at 1:80 can carry approximately 5.8–6.8 L/s at full bore using typical Manning roughness assumptions. This is a screening calculation only; the connected pipe may have a different diameter, slope, condition or downstream hydraulic grade line. Pipe transitions from the tank's 160 mm ports must be assessed with the actual site levels.

5.2 Sediment capacity and retention time

The P010/1C/SC has a manufacturer-listed 1,000 L silt-storage capacity and 100 L oil-storage capacity. These quantities are pollutant-storage provisions and must not be described as 3.0 m^3 of effective working liquid volume. Because the manufacturer's effective hydraulic liquid volume under operating conditions has not been established, this report does not calculate or claim a verified 67-minute retention time. Suitability for 100 vehicles/day is based on SPEL's advice, subject to written duty and maintenance confirmation.

5.3 Surface-water runoff and detention

Using Q = C i A, the 170 m^2 provisional catchment and assumed 70 mm/hour rainfall give Q = 170 × 70 / 3,600 = 3.31 L/s. The scheme adds no new impermeable area. No separate attenuation tank is currently specified, subject to the survey confirming the contributing catchment, the present receiving route and adequate conveyance under the agreed design criteria. Any altered drainage path or identified hydraulic deficiency will require a revised design and agreement before installation.

5.4 Surcharge and separator automatic closure

The Class I Puraceptor includes an automatic closure device that can stop outflow when stored free oil reaches its maximum allowance. A blocked outlet, a closed device or a downstream combined-sewer surcharge can therefore cause water levels to rise despite the unit's 10 L/s nominal flow rating. Stopping washing removes process inflow, but does not stop rainfall entering the channel.

Before installation the designer will confirm safe surface falls and available temporary containment at the channel/exit boundary, and the effects of downstream surcharge and automatic closure. If positive containment is not demonstrated, additional sealed holding capacity, high-level monitoring or another approved protective measure will be specified. The separator's operating water volume will not be counted as spare emergency storage. No unapproved overflow or untreated bypass to neighbouring land is proposed.

5.5 Design-verification hold points

Before installation	Evidence required
Drainage route	CCTV/dye trace and record of collector, inspection/rodding access points and point of connection to receiving sewer.
Hydraulic levels	Surveyed channel, proposed tank, sampling chamber and final receiving invert levels and pipe gradients.
Dirty-water catchment	Site falls / wetted-area confirmation, including other hardstanding entering the collector.
Product duty	SPEL confirmation for 100 vehicles/day, actual detergents, 4.06 L/s assumed peak and appropriate silt maintenance.
Pollution control / overflow	Confirmed surface containment and response to blocked drain, ACD shutoff and combined-sewer surcharge.
Discharge authorisation	Applicable Thames Water trade-effluent consent before discharge.

6. Combined-Sewer Discharge and Trade Effluent

6.1 Receiving route

Treated washwater will pass from the separator through an accessible sampling chamber and rejoin the existing private foul/combined drainage route reported to discharge to the Thames Water combined sewer. There is no proposed washwater discharge to a surface-water-only sewer, highway gully, ground, watercourse or adjoining property. Private-drain tracing will establish this route before installation.

6.2 Separate discharge authorisation

Commercial car-wash wastewater constitutes trade effluent. The operator must obtain and comply with the necessary Thames Water trade-effluent consent, normally arranged through the wastewater retailer, before discharging trade effluent into the public sewer. This report does not assert that consent has been applied for, granted or assigned an application reference.

The consent submission should identify estimated and measured water use, likely peak discharge, detergent and cleaning-product inventory, safety data sheets, silt/oil treatment, downstream sampling arrangements and disposal route. This scheme does not invent numerical consent limits for pH, COD, suspended solids or oil; any conditions imposed must be incorporated into operating arrangements and, where necessary, treatment design.

6.3 Separation from the pub and absence of consent

Unrelated public-house kitchen, toilet and sanitary effluent will remain on its original route and must not be diverted through the car-wash separator. If the required trade-effluent consent is absent, operation generating trade wastewater must not discharge to the public sewer unless a lawful alternative involving sealed collection and authorised off-site removal has been agreed and implemented.

7 Environmental Management Measures

7.1 Operational controls

- Car washing and rinsing will occur only inside the designated drained operational area; pressure washers will be directed inward/downward.
- Existing overspray screens will be maintained; washing stops if spraying causes escape across a boundary.
- Only approved/controlled car-cleaning products will be used at manufacturer dilutions; engine washing, solvent degreasing and chemical dumping to drains are excluded.
- Chemicals will be kept in covered, secure secondary containment; spill kits and temporary drain protection will remain on site.
- Drainage channels, coarse screens/baskets and the separator access chamber will remain unobstructed.
- Washing will cease immediately on blockage, abnormal ponding, oil alarm, ACD operation or risk of water escape; no restart before investigation and safe restoration.
- Rainfall does not automatically trigger cessation for hydraulic sizing purposes, but washing may be curtailed during severe rain, surcharge or inadequate drainage performance.

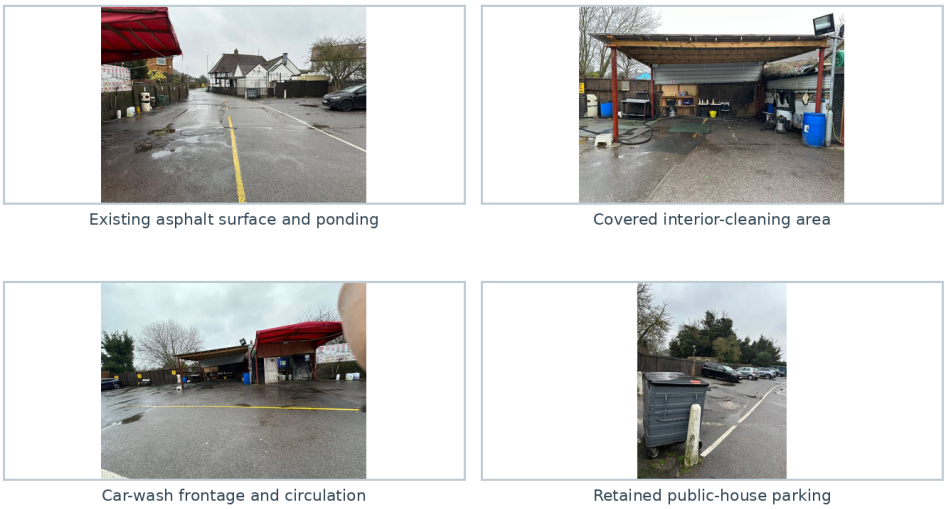


Figure 7. Existing asphalt access, wash/cleaning operations and retained public-house parking.

7.2 Risk control schedule

Risk	Control / contingency
Sand, grit and sediment	Coarse debris screening and integral 1,000 L silt storage; daily channel cleaning, monitoring and scheduled desludging.
Free oils	Class I coalescing separator, ACD, oil monitoring/alarm and appropriate contractor removal.
Detergents and emulsified oils	Product restrictions, no solvent/degreasing use, trade-effluent consent limits and additional process treatment if required.
Escape at access lane	Survey-verified positive falls/low-profile threshold; stop washing and recover retained water when necessary.
Blocked drain or sewer surcharge	Stop process water; maintain surface containment, inspect system and arrange lawful recovery of trapped contaminated water.
Tank leak / structural load	Watertight installation, appropriate reinforced traffic-loading cover slab, tested joints and commissioning.
Uncontrolled discharge	No untreated bypass; sampled effluent to verified foul/combined route only.

7.3 Spill and incident response

Where a spill, separator alarm, blockage, surcharge or contaminated runoff escape occurs, the duty operator will stop washing and prevent further process-water entry. Drain covers and absorbents will be deployed only where safe. Retained contaminated liquid and sludge will be recovered by an authorised contractor; corrective actions, notifications and waste documentation will be recorded. Any reportable pollution incident will be notified through the relevant authority's incident-reporting arrangements.

7.4 Interim measures

Before permanent installation, the existing channel will be kept clean, washing operations controlled to prevent run-off down the access lane, temporary portable containment used where suitable for vehicle movements, and the required trade-effluent authorisation respected.

Interim arrangements are not a substitute for the permanent treatment system or a discharge consent.

8. Operation and Maintenance

The car-wash operator will nominate a responsible person and deputy, maintain the site drainage record and ensure that separator access, alarms and emergency control measures are available. SPEL's final operation-and-maintenance manual and any trade-effluent consent requirements take precedence where they require a more frequent inspection or service.

Frequency / trigger	Action	Responsible person
Daily before opening	Inspect channel grates, coarse basket, surface falls/ponding, overspray screens, covers and alarm status.	Operator / shift supervisor
Daily after closing	Remove coarse debris; clean wash area without flushing silt downstream; record vehicle count and incidents.	Operator
Weekly	Check separator condition, accessible silt level and floating oil; inspect downstream sampling chamber; note any coalescer fouling.	Responsible person
Initial 4–6 weeks	Establish actual silt accumulation after representative operation and adjust cleaning schedule.	Operator / service contractor
Quarterly initially, or earlier by trigger	Licensed contractor empties silt/oil as required; inspect/clean coalescer and ACD; retain waste documentation.	Specialist drainage contractor
Six-monthly	Inspect seals, asphalt edges, traffic covers, buried pipe access and low-level containment.	Maintenance contractor
Annually	Review product inventory, consent compliance, alarms, full service records and hydraulic/containment incidents.	Operator / engineer
After alarm, blockage or spill	Stop washing; identify cause, empty/repair/restore, test and record before reopening.	Operator / specialist

The integrated 1,000 L silt capacity provides a service reserve, not permission to allow the chamber to fill with sludge. The service trigger must be agreed with SPEL based on the actual sludge depth and any impact on coalescer operation. Manual cleaning is limited to safely accessible channel baskets; underground separator sludge and oils require suitable specialist removal. No person is to enter a chamber without a compliant confined-space system.

8.1 Monitoring and records

The site file will contain weekly silt/oil readings, copies of service visits and waste transfer/consignment notes, alarm test records, product specifications, drainage layout and commissioning records, incident logs and the applicable Thames Water consent.

9. Installation and Commissioning

9.1 Scope of physical works

The works comprise checking and locally repairing the existing channel/outlet; installing any necessary coarse-debris basket; intercepting the collector on a dedicated car-wash branch; excavating for the selected full-retention separator and separate sampling chamber; installing appropriate pipe joints, venting, alarm and trafficked cover slab; and reconnecting to the existing private combined/foul drainage route.

9.2 Ground, structural and archaeological controls

The 200 Series customer drawing shows a 1,225 mm external tank diameter and 3,410 mm nominal overall length for P010/1C/SC. Actual excavation is larger than the shell because of base slab, surround and safe working space. Manufacturer installation instructions require the tank to be supported, protected against ground/water pressures, vented and isolated from vehicular superimposed loads by a suitably designed reinforced cover slab. Cover loading and access-cover class will be selected to suit actual traffic. Excavation near buried utilities and in the Archaeological Priority Area will be managed using relevant consents and protective methods.

9.3 Commissioning and evidence

- As-installed plan showing all three washing bay collection routes, interception point, separator, sampling chamber and receiving private drain.
- Manufacturer product identification, rating and written confirmation for the site duty and cleaning chemicals.
- Watertightness tests on tanks, pipes and connections, confirmation of venting, covers and vehicle-loading slab.
- Dye/wet-capture test from each washing bay, confirming no untreated bypass and no escape to adjoining land.
- Gravity levels / pumped system performance and a demonstrated response to downstream surcharge or closure-device operation.
- Oil alarm/monitoring commissioning and confirmation of the separator automatic closure device.
- Trade-effluent consent evidence before any process-water discharge, with commissioning record supplied to the Council.

9.4 Target programme following Council approval

Target interval	Activity
Immediately	Apply interim operational, cleaning and containment measures, subject to lawful discharge arrangements.
Weeks 0–3	CCTV/dye tracing, catchment and invert survey; progress trade-effluent application/requirements.
Weeks 3–6	Obtain SPEL final written duty confirmation; confirm tank, sample chamber, levels, alarm, vent and containment details; agree material design changes.
Weeks 6–12	Install, reconnect and test buried equipment; reinstate local asphalt and covers, maintain access to pub parking.
Weeks 12–14	Complete wet-capture, alarms and watertightness testing; provide as-installed record, maintenance schedule and documentation.

Programme is an intended sequence, not evidence that discharge consent or installation approvals already exist. Operation involving trade-effluent discharge cannot commence lawfully until the relevant consent is in force.

10 Conclusion

The scheme retains the existing asphalt and common drainage channel serving the three washing bays and introduces a dedicated below-ground Class I full-retention oil/silt separator, downstream sampling chamber and operational containment measures. Based on the SPEL engineer's recommendation and published capacity, the P010/1C/SC is the preferred unit; the smaller P004 is not adopted because its 4 L/s nominal rating is marginally lower than the preliminary 4.06 L/s combined-flow check.

The proposal is intended to collect and control car-wash wastewater before it rejoins the existing private drain reported to connect to Thames Water's combined sewer, without diverting unrelated pub sanitary wastewater. Actual source drainage connections, final pipe levels, silt maintenance requirements and safe response to separator closure or sewer surcharge will be fixed through the documented installation hold points.

The scheme is submitted for consideration under Condition 3 on that clearly identified proposed and verification basis. The operator will retain and maintain the approved drainage components, provide the specified commissioning evidence and obtain any necessary Thames Water trade-effluent consent before discharge.

Appendix A SPEL Puraceptor Product Catalogue Extracts

Source: SPEL Products Data Manual, Section 03 (Oil Separators & Grease Separators), catalogue pp. 3.10, 3.12 and 3.13. Extracts are manufacturer literature supplied for this project; dimensions and model suitability remain subject to the manufacturer's written confirmation.

A.1 Published model comparison

Manufacturer model	P004/1C/SC	P010/1C/SC	P010/2C/SC
Configuration	Single chamber	Single chamber	Two chambers
Class / retention	Class I / full	Class I / full	Class I / full
Nominal treated flow	4 L/s	10 L/s	10 L/s
Integral silt capacity	400 L	1,000 L	1,000 L
Oil storage	40 L	100 L	100 L
Overall length	1,720 mm	3,410 mm	4,690 mm
Overall diameter	1,225 mm	1,225 mm	1,225 mm
Nominal inlet invert*	630 mm	630 mm	340 mm
Typical connection size	160 mm	160 mm	160 mm

** Catalogue dimension designation; final cover level, shaft extension, tank orientation and incoming pipe levels are to be checked against SPEL's installation drawings and the actual site survey. Silt capacity is a stored-solids allowance, not the effective hydraulic liquid volume.*

A.2 Extract from SPEL single-chamber product schedule

SPEL Puraceptor® Class 1 Full Retention Separators

Single Chamber

Model	Series	Treated Flow (l/s)	Catchment Area (m²)	Oil Storage (litres)	Silt Capacity (litres)	Overall Length* (mm)	Overall Diameter (mm)	Inlet Invert (mm)	Base to Inlet (mm)	Base to Outlet (mm)	Optimum In/Out Pipe Diameter** (mm)	Number of Access Shafts (dia. mm)				
		NS		NS x 10	NS x 100	L		A	B	C		450	600	750	900	1200
P004 1C/SC	200	4	**222**	40	400	1,720	1,225	630	1,110	1,050	160	-	-	1	-	-
P006 1C/SC	200	6	**333**	60	600	2,310	1,225	630	1,110	1,050	160	-	-	1	-	-
P010 1C/SC	200	10	**556**	100	1,000	3,410	1,225	630	1,110	1,050	160	-	-	1	-	-

SPEL catalogue p. 3.12: published P004, P006 and P010 single-chamber specifications (selected rows shown).

Design selection: the P010/1C/SC is the preferred candidate because its 10 L/s rating is greater than the provisional 4.06 L/s combined hydraulic check, and its 1,000 L integral silt capacity exceeds that of the P004. Neither figure demonstrates treatment of detergent-stabilised oil emulsions.

Appendix B Puraceptor Internal Arrangements

Catalogue illustrations reproduced from SPEL Products Data Manual, Section 3.10. Figure C.2 shows a general range cutaway; Figure C.3 compares single- and two-chamber arrangements. These are not the project-specific construction drawings.



Figure C.2. SPEL catalogue cutaway illustrating inlet, silt baffle, coalescer and automatic closure device. The illustration represents the Puraceptor range and is not a P010 fabrication drawing.

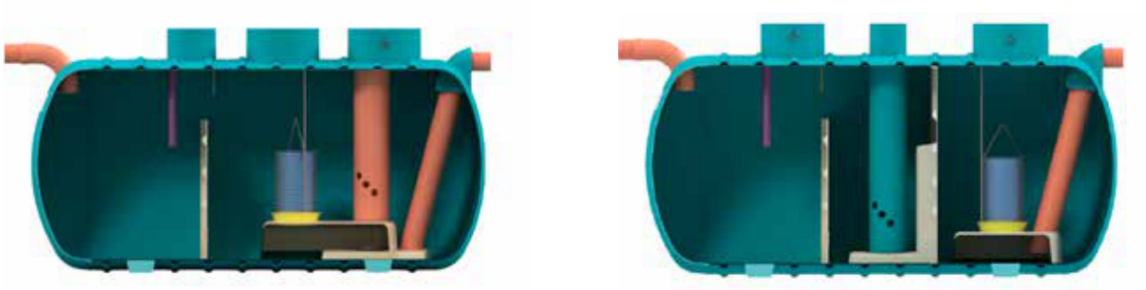


Figure C.3. SPEL catalogue single-chamber (left) and two-chamber (right) arrangements. Proposed P010/1C/SC uses a single-chamber configuration.

The P010/1C/SC proposed in this report is the single-chamber version. SPEL notes that its two-chamber arrangement provides extra protection for the coalescer against bulk silt, but the two-chamber option was not the engineer's primary recommended model.

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Appendix C SPEL 200 Series Installation Guidance

Source: SPEL Products Data Manual, Section 07, p. 7.10 (installation in concrete). This is an indicative manufacturer installation detail, not a foundation design or a substitute for the supplier's project-specific installation instructions.

Typical Installation of a SPEL tank with feet/chocks



*Where the ribs are not bedding onto the concrete base, we recommend timber wedges are inserted under every third rib from alternate sides. This is to

Catalogue p. 7.10: typical concrete surround, base slab and reinforced slab supporting vehicle loading.

Concrete Surround Dimensions

Excavation details for concrete surround	Series 100/200	Series 300	Series 400	Series 500	Series 600
Max. burial depths (m). For your specific requirements refer to burial depth and water table depth charts on pages 7.4-7.7 and 7.19					
Minimum hardcore (mm), dependent on ground conditions	150	200	250	300	300
Concrete base slab (mm) Slab thickness	100-150*	150*	220-240	240-300	250-300
Concrete surround (mm), dependent on ground conditions	100-150	150	200-250	250-300	250-300
Maximum initial water fill depths, prior to backfilling (mm)	**200**	**300**	**400**	**500**	**500**
Tank internal diameter (mm)	1,250/1,200	1,800	2,600	3,500	4,000
Tank external diameter (mm)	1,300/1,225	1,875	2,700	3,650	4,150

Catalogue p. 7.10: published minimum installation dimensions by tank series; Series 100/200 values require site-specific verification.

Installation requirements for the proposed trafficked car-park location

- Provide a suitably designed concrete base and surround, with a reinforced vehicle-loading cover slab spanning onto competent ground and isolated from the GRP tank/shaft.
- Check groundwater and flotation, drainage invert levels, vehicle-loading duty, 160 mm pipe transitions, ventilation routing and access for desludging before ordering.
- Provide an appropriate oil-level alarm and confirm automatic-closure response, downstream surcharge arrangements and access-cover load class with SPEL.

Document control note: SPEL's project-specific P010/1C/SC customer general-arrangement drawing is supplied separately to the design team and is not reproduced in this appendix because it states restrictions on onward copying. The actual setting-out drawing and manufacturer approval should be retained with the site installation file.