Nottingham City Council

Highway Agreements
Guidance for Developers

Planning and Transport

Nottingham City Council

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1.Introduction

Nottingham City Council (NCC) has responsibilities as both the Local Planning Authority (LPA) and the Local Highway Authority (LHA).

Under the Town and Country Planning Act 1990, the LPA has a statutory duty to consult with the LHA as part of their planning application process.

Under the Highways Act 1980, the LHA will then provide advice to Developers on how to proceed with any highways works and what additional authorisation may be required.

This Guidance covers application to enter into a legal agreement under section 278 & or 38 of the Highways Act 1980.

A section 278 agreement (Highways Act 1980) allows Developers to enter into a legal agreement with the Council to make alterations or improvements to the public highway.

A section 38 agreement is required where a Developer proposes to construct a new estate road for residential, industrial or general-purpose traffic that may be offered to the Highway Authority for adoption as a public highway.

Consent for planning permission is not the same as consent to work on the highway and authorisation in respect of highway works are subject to different requirements and application processes. This document is designed to guide Developers smoothy through the process of applying for an agreement under either section 38 or 278 of the Highways Act 1980 (or both), and applying for consent to work on highway maintainable at the public expense, and other applications relating to highways within the area of NCC as LHA.

This document aims to explain the application process, what will happen once agreements under section 38 and or section 278 of the Highways Act 1980 are entered into and how NCC will ensure all works set out in the agreement are delivered to the satisfaction of all parties. This document aims to outline what Developers and NCC can expect of each other.

The Traffic & Flood Risk Management (T&FRM) service area of NCC will support the process and assist with delivery of this function.

NCC is committed to working closely with Developers to achieve:

- The highest quality development possible
- Efficient and effective delivery of all development

- Development that is not a financial or maintenance burden on NCC
- The delivery of highway works constructed to adoptable standards as specified in the agreement under section 38 and or section 278 Highways Act 1980
- Minimal disruption to the existing highway network
- Delivery in accordance with applicable legislation
- Consistent use of acceptable materials on the publicly maintained highway

Applications to enter an agreement under section 38 and or section 278 of the Highways Act 1980 with NCC (S38 &/or S278 Agreement) should be made at the earliest possible opportunity during the planning process, ideally at the pre-application stage. If required, the development may be divided into separate phases and a S38 & / or S278 Agreement application submitted for each phase to be completed prior to commencement of construction of each phase.

2. Section 38 of the Highways Act 1980

Section 38 of the Highways Act 1980 enables NCC as LHA to enter into a legal agreement (S38 Agreement) to take over and maintain at public expense (Adoption), Roads, Footways, Footpaths, Cycle Lanes, and other areas (Road Land) constructed by a third party in accordance with the S38 Agreement to NCC's satisfaction and dedicate as highway. The S38 Agreement sets out requirements for the construction, inspection and maintenance of the Road Land to specified standards and NCC's satisfaction before Adoption by NCC.

Before the S38 Agreement can be entered into, the Developer must provide written proof to T& FRM, that the Health & Safety Executive (HSE) has been informed they are the client for the highway works in accordance with the Construction Design & Management (CDM) Regulations 2015, for all notifiable works.

Proof of land ownership is required to ensure all parties with freehold, leasehold or other interest in the land enter in to the S38 Agreement and consent to its terms.

Section 38(6) of the Highways Act 1980 says:

"*An agreement under this section may contain such provisions as to the dedication as a highway of any road or way to which the agreement relates, the bearing of the expenses of the construction, maintenance or improvement of any highway, road, bridge or viaduct to which the agreement relates and other related matters as the Authority making the agreement think fit".*

NCC may, pursuant to a S38 Agreement, seek contributions for future maintenance of the new or revised highway from the Developer, acquiring monies through "commuted sums" where necessary.

Commuted sums allow greater flexibility to adopt non-standard materials or items where developments increase future maintenance liabilities.

All persons with an interest in the Road Land in question must enter into the S38 Agreement including the Developer, landowner, mortgagee/chargee if applicable and Bond of Surety provider (where applicable), which, in addition to specifying the Road Land will contain provisions relating to some or all the following:

- Details of land ownership/interest in the land (including mortgagees)
- Plans / designs for proposed highway construction

- Details of the planning permission obtained.
- All surface water management and drainage
- Street lighting design approved by NCC PFI partner Enerveo
- NCC Fees and charges
- Any agreements for easements or way leaves
- The need and value of a Bond of surety required at inception of the S38 Agreement in respect to works on the Road Land (or where the works are of low value in exceptional circumstances a Cash Deposit payable before the S38 Agreement is entered into may be acceptable)
- Arrangement for design checks and technical approvals to works on the Road Land
- Part 1 and part 2 of works inspections and certifications
- Developer obligations in respect to works on the Road Land during the maintenance period
- Dedication of the Road Land as highway
- Approach to reporting and timing of adoption.

The drawings submitted and agreed at the planning stage will be considered as a general arrangement and may be subject to changes during technical assessment and submission of detailed design.

A record of all construction should be carried out by the Developer in line with CDM, Health & Safety file and supplied as as-built information prior works being signed into the maintenance period.

The Developer will be required to pay a bond/cash deposit to cover NCC against any risk that the Developer fails to complete the Road Works or fails to complete them to the required standard or to maintain them during the agreed initial maintenance period (24 Months). NCC would then use the monies held in the bond/cash deposit to rectify the works. The bond/cash deposit can be released incrementally under the maintenance period, upon elapse or after the works are completed.

3. Section 278 Highways Act 1980

As part of a development, it may be necessary in some instances to make changes to the existing publicly maintained highway. Where this is required, the highway works must first be authorised under either a separate agreement under the provision of S 278 of the Highways Act 1980 (S 278 Agreement), or, where the Developer wants to also construct Road Land at the development site which they want to be Adopted by NCC a combined agreement under both Sections 38 and 278 Highways Act 1980 (S38 and 278 Agreement) may be appropriate which will include all provisions of section 278 Agreements and S38 Agreements in one combined agreement. S 278 Agreements authorise and govern the arrangements for any works to be done to NCC's satisfaction.

A s 278 Agreement will include provision for the following:

- Details of the planning permission obtained
- Plans / designs for proposed highway construction
- All surface water management and drainage
- Street lighting design approved by NCC PFI partner Enerveo
- NCC Fees and charges
- Any agreed design of the development and changes to the public highway
- Details of any bond/cash deposit required in respect to the highway works
- Details of who will design and manage the highway works
- The programme of highway works to be implemented
- Provision for inspection and certification of the highway works once complete; and
- Details of who is liable for any costs associated with the highway works or the agreement.

A s 278 Agreement may be used to allow alterations of the existing public highway for any or all the following:

1. Roundabouts
2. Priority junctions
3. Junctions with traffic lights
4. Right turn lanes
5. Improved facilities for pedestrians and cyclists
6. Improvements to existing junctions
7. Traffic calming measures

8. Any changes to an existing building or site use, or extension of an existing building where access from the public highway is required.

Usually, a Developer is required to pay for the cost of the highway works, particularly where these have been designed to suit the development, and the costs incurred in preparing and finalising the section 278 Agreement. The Developer will also be required to pay a bond/cash deposit to cover NCC against any risk that the Developer fails to complete the highway works or fails to complete them to the required standard or to maintain them during the agreed initial maintenance period (24 Months). NCC would then use the monies held in the bond/cash deposit to rectify the works. The bond/cash deposit can be released incrementally under the maintenance period, upon elapse or after the works are completed.

If a Developer fails to make full payment of all fees or fails to carry out the [highway] works in accordance with the section 278 Agreement, then NCC have the power to close the access to the development site until such time as any breach is remedied.

Prior to any works starting on site or on the public highway, a dilapidation survey must be carried out jointly between the developer and NCC.

4. Developer Responsibilities

The Developer, (Owner) is the freehold owner of the site registered at HM Land Registry, subject to a change in favour of the Mortgagee. Otherwise, free from encumbrances which includes the Roads and all other land required for the Road Works It is the Developer's responsibility to ensure that all required permissions, consents, licences, and legal agreements are in place before commencing any works on the public highway.

In addition to the obligations in relation to S38 & /or S278 Agreements referred to elsewhere in this document, the following are brought to the Developer's attention:

The Developer must commission a Road Safety Auditor, if the Auditor is not an NCC Auditor, the Developer must ensure an NCC Auditor is present at all Audits as an Auditor and bear all associated costs. The same NCC Auditor should be retained for all Audits.

The Developer is responsible for the safety and all Public Liability of the site whilst works are ongoing. The Developer will seek approval from Network Management for any Traffic Management required for the works.

All public highway Parking restrictions must be adhered to unless a Temporary Traffic Regulation Order (TTRO) is approved in advance, ensure the public highway is kept clear of detritus or obstruction.

The Developer will retain responsibility for the safety and maintenance of the works area for 24 months after the Certificate of Substantial Completion is signed and a Certificate of Final Completion is presented with the Highway returned to "being maintained at Public expense", (Its Adopted Status).

5. Permits to Work, Licences and Other Agreements.

For any work undertaken on the public highway it is necessary to provide several notices to NCC to allow these works to go ahead, namely:

(A) Permit Scheme Notice (Traffic Management Act 2004 – Part 3) [TMA]

The Developer will need to apply for a permit from the Highway Network Management (HNM) team for any works or any occupation and traffic management on the public highway prior to any works starting. Booking road space to work on the public highway can require up to 3 Months' notice depending on the length of time the works will take or the nature of the works, such as any Road closure.

This is to ensure that HNM can identify causes, or potential causes of road congestion or other disruption to the traffic flows. It also allows the regional coordination of works with other Local Authorities and Works Promoters and other planned works in Nottingham City.

Licence under section 171 Highway Act 1980 [S171 Licence]

If the Developer would like to store or deposit materials in connection with any works on or adjacent to the adopted highway, they must first obtain permission from NCC to do this. HNM will consider and consult on any such request.

Due to the sensitive nature and need to maintain expedient movement around the city a S171 Licence will only be approved when all over options are exhausted.

Agreement under section 184 Highways Act 1980 [S184 Agreement]

If a Developer requires a new entrance or alterations to an existing entrance, in advance of the S 278 and or S38 Agreement works starting, then the Developer will be required to apply for a Section 184 Agreement through HNM to do so. This can take 28 days to process.

A temporary site entrance for the construction vehicles accessing and exiting the site off the adopted highway, will need a section 184 licence and be constructed to take construction traffic, NCC specification for a heavy-duty entrance / footway crossing is a Type 9 specification (Useful Appendices & List of Standard Details)

Licence under Section 50 New Road and Street Works Act 1991 [section 50 Licence]

If a Developer requires works within the adopted highway to excavate or break through it to work on or install new apparatus, the Developer will need to apply to NCC for a section 50 Licence.

When applying for a section 50 Licence the developer will be aware of the following:

- Those granted the section 50 Licence become, “works undertakers” (for the purpose of New Road and Street Works Act 1991 (NRSWA)) and because of that take on the responsibilities imposed by the NRSWA and its associated Codes of Practice.
- The Developer must ensure any Operative carrying out the works holds a valid Street works card. A Street Works Card is a nationally recognised qualification that shows the operator and / or Supervisor, knows the standards and procedures required to work on a public highway as laid out in the NRSWA. At least one Operative must hold a supervisor, Street Works Card.
- Within NRSWA, as the section 50 Licence holder the Developer may incur financial penalties if they do not meet the necessary statutory duties and section 50 Licence conditions. This responsibility cannot be delegated to any other person or organisation.
- The requirement to obtain a section 50 Licence applies to any person or organisation (except anyone acting on behalf of a statutory undertaker), who wishes to place, retain and subsequently inspect, maintain, adjust alter or renew apparatus or to move its location or remove it from the adopted highway. This includes drains, cables, ducts, sewer pipes, Inspection chambers or Manholes and any Water or Gas Pipes running under, along, above, across or upon the adopted highway.
- The Developer must apply and have entered into a signed and approved section 50 Licence with the Council and letter of approval from the utility owner, prior to any works commencing.
- The guidance given here does not cover all conditions or legislation relating to the section 50 Licence. (HNM will provide guidance and further information at the point of application).

Section 104 Agreement, (Water Industry Act 1991)

The Developer must demonstrate a right to discharge surface water from the highway, either by way of Sustainable Drainage System (SUDS) or where this is not possible an existing or proposed public sewer.

Where it is proposed to drain the highway into an existing public sewer, subject to a section 104 Agreement must be completed with the drainage statutory undertaker (Severn Trent Water, (STW)) prior to Technical Approval of any Section 278 & / or 38 Agreement.

6. Finance

Bond of Surety

The Developer is required to provide a Bond of Surety to NCC to cover the cost of all adoptable or adopted highway works, NCC associated fees and charges and commuted sums (where applicable), for all S38 & / or 278 Agreements. This Bond ensures that NCC does not incur any financial risk if the highway works/ works to the Road Land as applicable are stalled changed or aborted by the Developer.

If the Developer fails to perform or observe any of the conditions of any agreement, NCC can use the Bond to complete the adoptable highway works, recover NCC fees and charges and retain the Commuted Sums to cover future maintenance cost, (where applicable).

NCC fees and charges element of the Bond must be deposited with NCC prior to any services being undertaken by T&FRM. The cost of adoptable highway works must be deposited with NCC prior to any works commencing on site.

The Bond will be released back to the Developer incrementally in accordance with terms laid out in the S38 &/or S278 Agreement except where a commuted sum is due from the Developer as part of the S38 Agreement, if this remains outstanding the Bond will not be reduced to a value less than the Commuted Sum.

NCC accept UK based Sureties whose registered office is in the UK and who have UK based banking systems only, and that are regulated by the Financial Conduct Authority.

Where the works are of low value in exceptional circumstances provision of a cash deposit may be acceptable as an alternative to a Bond. In which case, the cash deposit must be received in full by NCC before the S38 &/or S278 Agreement is entered into.

NCC Fees & Charges.

NCC incur various cost associated with the S38 & / or S278 Agreement application process which must be paid for by the Developer.

- Preparing, executing and managing the Agreement. (These fees are undertaken by the Developer / applicants.)
- Technical Assessment, (Design Checks).
- Technical Approval including structures; and

- Inspecting the works on site.

A non-returnable payment of £2000 will be taken at the time of application prior to any assessment, consultation or meetings take place. This is to cover the administration cost of services provided in advance of the Technical Process. The £2000 will be deducted from the final invoice.

Technical Assessment

The cost for Technical Assessment of the highway design and Site Inspections is illustrated in the table 6.1.

Table 6.1 Technical Assessment & Site Inspection Fees.

S38 Works		S278 Works	
Bond Sum Value	Technical Assessment Fee	Bond Sum Value	Technical Assessment Fee
< £250k	9% of bond sum (min £1000)	£100k to < 250k	11% of bond sum
£250k to < 500k	9% of bond sum	£250k to < £500k	9% of bond sum
£500k to < £1m	5% of bond sum	£500k to < £1m	7% of bond sum
£1m and over	Negotiable from 3% of bond sum	£1m and over	Negotiable from 3% of bond sum

The fees illustrated in table 6.1 do not include costs/fees for the following (where applicable, will be subject to additional costs/fees):

- Highway Structures
- Street Lighting
- Traffic Signal Design, Civils works, Electrical work or equipment.
- Suds, and nonstandard surface water drainage proprietary systems
- Geotechnical approval or inspection
- Conducting surveys for as built information
- Road Safety Audits
- Traffic Regulation Orders (TRO's)

The additional fees in respect of the matters listed above (where applicable) will be charged at actual cost for provision of the service and invoiced at the same time as the fees for Technical Assessment & Site Inspection.

All fees for Street Works Permit's, Highway Licences, such as Hoarding, Scaffold or section 50 licences will be invoiced for once Technical Approval has been granted, by HNM.

Legal Costs

The Developer will be required to pay NCC's reasonable legal costs and disbursements incurred in connection with the S38 &/ or S278 Agreement which has been applied for.

NCC's Legal Services Team will not be instructed until the consultation and technical approval process has concluded, the heads of terms agreed, and the required plans/drawings have been approved by NCC. Once NCC's Legal Services Team have been instructed in relation to an agreement they will contact the Developer's legal representative and request that they provide an undertaking to pay NCC's Legal fees.

No Legal work will be commenced by NCC until the undertaking to pay NCC's reasonable legal fees in relation to the agreement applied for has been received by the Council.

Commuted Sums

Commuted Sums are required pursuant to a S38 & / or S278 Agreement when any works carried out by a developer increases NCC's highway maintenance liability

Items that typically require Commuted Sums, but not an exhaustive list are:

- Maintenance cost for any construction that is required for the safe and satisfactory functioning of the adopted highway, (Including alterations to the existing public highway, which are only required to serve the new development) with no general benefit / public amenity value.
- Maintenance cost for additional features, such as highway structures, additional street lighting, traffic signal installations, non-essential street furniture / fencing / walls, public transport infrastructure and landscaping.
- Additional maintenance costs for permitted alternative materials and features, for example, higher quality paving materials and features, bespoke street furniture, exceeding NCC's Standard Specification; and
- Provision of SUDS (such as flow attenuation devices, swales and storage areas).

Developers should discuss their requirements with NCC, ideally during pre-planning application discussions, in advance of a formal Planning application being submitted.

An Example of a Commuted Sum schedule for additional features, alternative surfaces and specifications can be found in the Useful Appendices & List of Standard Details.

Commuted Sums schedules are calculated on the date of technical approval. Developers should therefore be aware that the unit prices for Commuted Sum items are not set and if the Developer should subsequently apply to NCC for another S38 & /or S278 Agreement the cost of any required Commuted Sum item(s) is likely to have increased in line with inflation and will be index linked to the date of that subsequent S38 & / or S278 Agreement.

Where items, materials or features are not covered by Useful Appendices & List of Standard Details, Commuted Sums will need to be calculated on a site-by-site basis by NCC

Payment of commuted sums are required prior to the certificate of substantial completion being issued.

The Commuted sum is then held through the maintenance period. Once the works are signed off and a Certificate of Final Completion is issued, the commuted sum is provided to NCC's relevant team/s to take on the maintenance of the items at public expense.

Insurance Liabilities Design

As NCC are not designing the S38 Agreement Road Works, the Developer must indemnify NCC against any claims by third parties arising from any work included in the S38 Agreement that NCC subsequently adopt. In addition, the Developer must indemnify NCC against any claims by third parties arising for any works to the public highway where applicable.

Written evidence must be provided that the Developer's designer for the S38 Agreement Road Works (and or any works to the public highway) has a minimum of £5 million of professional indemnity insurance, with no limit on the number of claims.

Construction Generally, Where NCC will not be constructing the S38 Agreement Road Works, the Developer must indemnify NCC against any claims by third parties arising from any work included in the S38 Agreement that NCC subsequently adopt.

Written evidence must be provided that the Developer's contractor undertaking the S38 Agreement Road Works has a minimum of £5 million of public liability insurance, with no limit on the number of claims.

If NCC are appointed to construct the S38 Agreement Road Works, then no evidence of public liability insurance will be required.

The Developer / applicant agrees to indemnify NCC from any claims or injury occurring as a result of the S278 & / or S38 Agreement works.

7.Planning Consultation on Highway Design

Informal Consultation

Informal consultation with Councillors (Ward Members and Cabinet Member "Portfolio" Holders) may occur during pre-application.

Formal Consultation

Formal consultation will happen with the Planning Authority and the Highway Authority once the planning application is submitted.

Outcomes of the consultation will be discussed internally in NCC and with the Developer and will inform the planning decision and subsequent planning conditions or legal agreements.

NCC will undertake the necessary consultation regarding the S278 & / or S38 Agreement Road Works with all interested parties, in accordance with NCC's standard policies and procedures.

This process is undertaken in two distinct stages; a third stage may be required if objections are received at either stage which NCC are unable to resolve.

Technical Consultation

Once planning permission is granted, and the developer seeks to implement their permission, T&FRM will carry out a formal technical consultation, which may require the scheme to be re-appraised, with:

- Bus operators.
- Emergency services.
- Taxi operators.
- Haulage companies.
- Cyclists; and
- Any other interested parties.

T&FRM will undertake a further formal consultation with relevant stakeholders subject to planning feedback and discuss any outcome with the Developer.

The Developer will pay all consultation costs regardless of the outcome.

Please note that abortive work may result as a consequence of consultation.

Statutory Traffic Regulation Order Consultation

Where a development requires changes to an existing Traffic Regulation Order (TRO), creation of a new TRO, or provision of a temporary TRO to facilitate the works, the Developer shall pay all associated costs, including consultation.

TROs are subject to statutory procedures and the formal consultation stage can be protracted.

The outcome cannot be guaranteed.

Unresolved Objections to TRO Consultation

Where either consultation stage receives objections to the proposals which NCC are unable to resolve, then a formal objection report is submitted to the Portfolio Holder for consideration. This may or may not uphold the development's proposals.

Advice regarding the need, timescales, and likely cost of consultation can be obtained from T&FRM. The Developer needs to consider any implications of consultation when developing a project programme.

8. Highway Design for works pursuant to Section 38 & / or S278 Agreements

General Design

The design concept of the S38 Agreement Road Works and or works to the public highway must be in accordance with:

- Manual for Streets,
- Street Maintenance Hierarchy, material requirements. (Please see diagram in Useful Appendices & List of Standard Details.
- NCC's Design Quality Framework. https://www.dqfnottingham.org.uk/
- NCC's Standard Design Details
- Stage 1 Safety Audit.

The Developer must provide NCC with details of their Designer prior to the design commencing to avoid abortive works. The information provided will need to be sufficiently detailed to allow the competency of the Designer to be assessed.

The proposed development must relate to the existing Adopted Highway boundary, NCC design standards and consider the existing highway requirements.

The Developer is responsible for ensuring that the development's horizontal and vertical alignments tie back into the existing Adopted Highway boundaries which they impact upon.

T&FRM will undertake all highway-related consultations as soon as is reasonably practical.

Highway Design

A Road Safety Audit (RSA) Stage 1 must be procured by the Developer prior to the start of the detailed design (see Section 11). The Developer must commission a NCC Road Safety Auditor, the same auditor should be retained for all subsequent audit stages.

T&FRM must consider the recommendations in the RSA Stage 1 report and determine the need for further consultation and information required from the Designer. When the detailed design is submitted for technical assessment, the Developer must commission a Road Safety Audit Stage 2 in accordance with the S38 & / or S278 Agreement.

The Audit may recommend changes to the detailed design which the Designer will need to consider.

Once the RSA Stage 2 outcomes have been incorporated and the design completed, the Developer's Designer shall provide enough information to allow NCC to carry out a Design Check.

NCC will submit a formal Design Check report highlighting any issues that need to be discussed further. Once all the issues raised by the Design Check have been addressed, NCC will write to the Developer's Designer to confirm that the design is approved.

Highway Structures Design

If the development includes a highway structure where any of the following apply:

- Agreement in Principle (AIP)
- Structure will be offered up for adoption.
- Structure supporting the adopted highway (24-month maintenance period the Adopted Highway.)
- Structure supported by the Adopted Highway. (This structure may not be adopted)

Then structural details must be submitted to T&FRM for Technical Approval.

All structural design details and calculations submitted to NCC will be assessed by Chartered Structural Engineers.

The Developer must provide the information set out in Useful Appendices & List of Standard Details as required.

Street Lighting Design

All street lighting infrastructure installed within the city must adhere to the requirements set in the Street Lighting PFI Developers Specification document (Rev 17 as of April 2024)

The street lighting works required to illuminate the Adopted Highway can be undertaken in the following ways:

- The Developer procures Enerveo, NCC's Street Lighting PFI Service Provider, to design the street lighting works.
- The Developer procures a third party to undertake the design, which must then be formally reviewed by Enerveo.

The Developer is responsible for acquiring all necessary approvals. The Developer must inform NCC which option they will use to design the Street Lighting works, and this will be included within the S278 & / or S38 Agreement.

Enerveo will undertake the Lighting Designs and Design Checks within:

- Lighting Designs within 20 working days (4 weeks) from receipt of order.
- Design Review within 20 working days (4 weeks) from receipt of order.
- Rechecking - Enerveo will generate a report with issues arising from the original design – any resubmitted drawings and documents will require a further 20 working days (4 weeks) to re-check.

Enerveo programme their Lighting Designs and Design Checks from the date of receipt of all drawings and documents as outlined in section eight of the PFI Developers Specification.

Traffic Signals Design

Where traffic signals are required, the design will be undertaken by NCC's Traffic Signals Group (TSG) to meet timescales stated in the S278 & / or S38 Agreement.

Speed Restrictions

Where a 20 MPH speed restriction is required, the making and processing of an order in accordance with Section 84 of the Road Traffic Regulation Act 1984 will be undertaken by NCC's, Traffic Management.

The Developer must pay for all costs incurred by NCC in relation to this process.

Documents Required

From the Developer for the Section 278 and /or 38 Agreement, an electronic copy of the adoption layout plan/works to public highway (where applicable) shall be submitted to NCC.

For Technical Approval, the following information is required in an electronic format (PDF or AutoCad / DWG):

- Site Layout Plan
- Proposed Highway Adoption Plan (with land to be adopted shaded brown.)

- Where works to the existing public highway a separate Plan showing the location of these works shaded blue
- Surface Finishes Plan
- Road Construction Details with typical cross-sections & Long Sections
- Surface Water Drainage Layout
- Street Lighting Designed Approved by Enerveo.

A copy of the

- Planning Approval (Decision Notice); and
- Approved Planning Layout (site plan) of the proposed works or development (as requested in the Application Form).
- Layout Plan The layout plan should be drawn to 1:500 scale and incorporate a location plan, drawn to either 1:1250 or 1:2500 scale, as appropriate.
- The location plan should show the outline of the new roads by a broken line and the boundary of the land in the ownership of the applicant defined by red edging.
- The following details should be shown on the layout plan:
- The layout of any proposed dwellings with plot numbers and driveways.
- Details of sewers and surface water drains or SUDS (private and highway).
- Landscaping details.
- A typical cross section showing the construction to be used.
- Signing and road marking details.
- Retaining wall details and other highway structures.
- Carriageway and other associated dimensions.
- Auto Tracking for a refuse and / or fire tender.
- Junction visibility and forward visibility splays.
- Horizontal and vertical alignment; and
- Street lighting

For the S38 & /or S278 Agreement a copy of:

- Land Title Deeds from Land Registry, no older than six months old.
- A site plan with the site boundary outlined in red and
    - for s 278 Agreements a plan showing the location of works to existing highway land shaded blue (Section 278 Plan).
    - for s38 Agreements a plan showing land, being offered for adoption, shaded brown (Section 38 Plan).

The legal site plans should be on one page, have no design detail, no material changes, drainage, street lighting, etc. The section 38 Plan and of section 278 Plan as applicable should be clean with only the area of land covered by the legal agreement shaded in either blue or brown.

Road Safety Audit Report

A Road Safety Audit Stage 2 Report and Designer's response will also be required.

Geotechnical Report

A Geotechnical Report (including CBR test results at formation) will be required prior to any approval along with details of any statutory undertakers' service protection or diversion works.

Traffic Management-TRO

An AutoCad plan that shows only the kerb lines and back of footways including all dropped kerbs and access points will need to be correctly identified and provided to Traffic Management. This is to assist TM in designing any TRO proposal for lining & Signing schemes accompanying the development.

9. Contractor Approval

All highway works must be carried out by a competent Contractor or Sub Contractor. Any operative working on the public highway will need a valid and in date Street Works Card, each gang must have at least one operative with a Street Works, Supervisors Card. Evidence of qualifications will be required prior to any Street Works Permit being agreed and approved on the public highway.

A Street Works Permit and Traffic Management approval will also be required for HNM to approve any Street Works Permit or Highway Licence application. Where NCC has no previous experience of a Contractor's work, the Developer will be required to provide NCC with satisfactory references, and examples of similar work successfully completed to the satisfaction of another Highway Authority.

We recommend that the Developer only considers employing experienced and competent Contractors to avoid abortive works and subsequent delays.

The Developer can appoint NCC to construct the highway works subject to availability. No references will be required for NCC or their sub-contractors

10. Construction

Notification of Start of Works

A minimum of 2 weeks' notice, in writing to NCC is required, of a developer's intention to commence construction works on any S 38 Agreement Road Works. For works on the public highway under a section 278 Agreement a Street Work Permit will be required from HNM.

A Street Works Permit will not be issued, or any Highway Licence agreed without the S 278 Agreement technical approval being approved prior.

The S38 Agreement will state that the construction of any work on site must not start until the Developer has met all of the following conditions:

- S38 Agreement has been entered into by all parties and completed by NCC.
- All necessary fees and charges are paid to NCC.
- Written confirmation that an adequate Bond of Surety is in place.
- Written confirmation that the Developer will pay all Commuted Sums.
- Written confirmation that the Developer has notified the HSE that he is the Client for the development (see Section 9).
- Statutory procedures completed.
- Non-statutory consultation processes completed.
- Design checks satisfactorily completed.
- Technical approvals given for structures within / abutting the highway.
- Road safety audits satisfactorily completed up to, and including, RSA Stage 2.
- NCC's S38 Agreement Engineer has been provided with approved construction drawings for site inspections; and
- NCC has been provided with adequate information to allow NCC's Engineer to approve the Developer's contractor for the highway works.

NCC will not inspect any of the works until the above conditions have been met. Any works constructed before this time will be subject to retrospective inspections at the Developer's expense, which may include excavations to expose construction depths and materials used.

Site Inspection

NCC will inspect the S38 Agreement Road Works (and any works to the public highway) to check that they are being constructed in accordance with the approved drawings and to the appropriate specification. Sufficient

advance notice must be given to the NCC Engineer for any item of adoptable highway work being constructed on site and requiring approval. The Engineer must be given access to the highway works at all times.

If unforeseen issues arise, the Engineer will discuss possible solutions, but it is the responsibility of the Developer to instruct the S278 & / or S38 Agreement Road Works contractor, and make sure that the works are satisfactorily completed in accordance with NCC's requirements.

It is the responsibility of the Developer's contractor to provide, at their own expense, detailed laboratory reports or material analysis as requested by NCC's Engineer. The Developer's contractor must be able to prove the technical suitability of any proposed construction material.

NCC engineer will have authorised access to the site at all times. (Subject to induction and site safety briefings)

Completing the Highway Works

When the Developer's contractor constructs the S38 Agreement Road Works (and or works to the public highway), it is the
Developers' responsibility to complete any work included in the S38 &/ or S278 Agreement to the satisfaction of NCC.

The Developer must ensure that adoption takes place within a reasonable period to minimise any potential risks or inconvenience to residents.

In order to safeguard the interests of householders and highway users, NCC expects the Developer to ensure that the Road Works (and highway works if applicable) are completed, either:

- within 6 months after all buildings fronting or served by the highway works are completed; or
- within 24 months after completion of the S38 &/or S278 Agreement whichever is sooner.

Where the Developer does not complete the Road Works/highway works (for either construction option) within the specified timescales, and an extension of time is agreed, NCC will charge extra fees towards additional administrative and inspection / supervision costs.

If the Developer does not complete the Road Works/ highway works in accordance with the

Agreement (for either construction option), NCC reserves the right to use the Bond (or cash deposit where applicable) to complete the works.

11. Certification of the Highway Works

The Developer must apply to NCC separately in writing for the Substantial Completion Certificate, and Final Certificates.

Certificate of Substantial Completion

The Developer shall complete the approved Works within an agreed timescale stated in the Agreement. The S38 &/or S278 Agreement states that works should start within 6 months of signing the Agreement for a 36-month completion period.

If NCC determine with the Developer that the completion period should be varied then the works completion timescale should also be varied to reflect this longer completion period.

When NCC receives an application from the Developer to issue a Certificate of Substantial Completion for all works listed in Schedule 1 of the Agreement, NCC must inspect the works to which the application relates and provide the Developer with a definitive list of all remedial works required to be undertaken to complete the Works prior to issuing the Certificate of Substantial Completion.

The Developer must carry out all the remedial works without delay and at their own cost. NCC will inspect the works again and, subject to all remedial works being completed to its satisfaction, will issue the Developer with a Certificate of Substantial Completion as soon as reasonably practicable of the completion of the remedial works.

In addition, where the Works are also subject to a Section 104 Agreement of the Water Industry Act 1991, and the sewer is situated within the highway or is an integral part of the highway drainage system, the Certificate of Substantial Completion will only be issued after a “Provisional Certificate” has been issued by the drainage Statutory Undertaker.

If the Developer’s contractor has constructed the Road Works/highway works, the 24-month maintenance period commences on issue of the Certificate of Substantial Completion. If NCC has constructed the highway or Road Works, the 24-month maintenance period is not required. NCC will require a Road Safety Audit Stage 3 to be commissioned by the Developer at this stage.

All Works carried out by NCC included in the Agreement that are to be adopted become highway open for public use (but not maintainable at the public's expense).

Maintenance Period Responsibility

When the Developer's contractor has constructed the highway works, the following applies:

- The Developer will require Public Liability Insurance for a minimum sum of £5m.

    - The Developer remains the Street Manager for the purposes of Section 49(4) of the New Roads and Street Works Act 1991.
    - The Developer is responsible for the maintenance of all work included in the Agreement, including highway verges, and must carry out road sweeping and gully emptying to the NCC published current standards and maintenance regimes until the Final Certificate is issued.
    - The Developer is responsible for the removal of abandoned vehicles, rubbish or other unauthorised materials or obstructions as may be necessary, in order to facilitate the use of highway areas by residents and the public.
    - The Developer is responsible for the routine maintenance of the street lighting and illuminated traffic signs, and will pay for all associated energy charges, during the Maintenance Period.
    - The Developer must ensure that the highway areas are maintained to a high standard during the Maintenance Period and are completely safe to use by all road users.

Site inspections will be carried out during wet weather conditions to check that there are no problems with surface water drainage.

Certificate of Final Completion

The Developer must arrange a joint inspection with NCC, in order to agree a definitive list of any repairs deemed necessary, prior to the end of the 24 Month Maintenance Period.

As soon as reasonably practical after the joint inspection, NCC will send the Developer a list, in writing of all necessary repairs to be completed before the issue of the Final Certificate.

The Final Certificate will only be issued when:

- All S38 and or S278 Agreement works, including remedial works, are satisfactorily completed.
- All payments under the Agreement, including any additional inspections and administration fees, have been paid to NCC.
- The Developer has supplied NCC with the Health & Safety File, as stipulated in Construction (Design and Management) Regulations 2015.
- The Developer has supplied NCC with electronic (PDF & AutoCAD) sets of “As Built” drawings, including highway surface water drainage and any drainage situated outside the highway limits.
- A Road Safety Audit Stage 3 has been completed, and approved by NCC; and
- The Developer has paid any necessary Commuted Sums to NCC.

Following satisfactory completion of all the above requirements, NCC will issue the Final Certificate and the Road Works included in the Agreement will become maintainable at the public expense.

12. Health & Safety

The Developer must provide written proof to T&FRM that the Health and Safety Executive (HSE) has been informed that he is the Client for the highway works when the works are notifiable in accordance with the Construction (Design & Management) Regulations 2015 (CDM 2015).

The Developer must agree to undertake all the Client's obligations and ensure that the Works are carried out in accordance with CDM 2015.

The Client's role and responsibilities are laid out in Useful Appendices & List of Standard Details.
The Developer must ensure compliance with the CDM 2015 and indemnify NCC
against all claims, liabilities and actions.

The Developer must create and maintain a Health and Safety File (HSF) for the
highway works and allow NCC access to the HSF during the delivery of the highway works. The Developer must subsequently provide NCC with an electronic copy of the HSF on completion of, and prior to, the formal adoption of the highway works.

The remaining Bond of Surety will not be released until the highway works are
undertaken to the satisfaction of NCC and the HSF is provided.

13. Street Lighting

Inspection

Routine maintenance of the street lighting and illuminated traffic signs during the maintenance period and until a development is adopted, will be the responsibility of the Developer, including the payment of all associated energy charges.

The inspection of an installation would fall into 2 categories.

1. If the installation work has been carried out by Enerveo in its entirety, when Certificate of Final Completion is issued by the Section 38 Officer, Enerveo will accrue the equipment on to the street lighting inventory. No further inspections are required.

2. If the installation/part installation has been carried out by a third party (not Enerveo), the installation will have to be inspected by Enerveo and associated charges paid for by the Developer. It is the Developers responsibility to gain all necessary approvals. Enerveo will require an Official Order from the Developer to carry out the inspection works.

The inspection will include the following process:

- An on-site inspection will be carried out to check the actual location and depth of the lighting columns against the design and that the equipment used has been installed as per the requirements of the PFI Developers Specification.
- If the on-site inspection fails, the Section 38 Officer will be notified and issued with a defect list by Enerveo.
- Column reference numbers will be supplied by Enerveo and ID labels should be affixed to the columns by the Developer prior to any on-site inspection taking place.
- An electrical test would then be carried out on each lighting column.
- Following a successful electrical test and on-site inspection, a Certificate of Completion can be issued.

Normally the Developer would be responsible for the maintenance and energy
of the lighting columns for the next 24 months or until the Street Lighting is adopted.

The timescales are based on the date of order receipt at Enerveo with all of the
necessary drawings and proposed equipment details in an agreed format (i.e. AutoCAD drawings) as outlined in section 2.10 of the PFI Developers Specification.

14. Road Safety Audit

Application

A Road Safety Audit (RSA) process may be required, subject to the scope and scale of the proposed highway infrastructure being offered up for formal adoption.

An RSA will be required when any of the proposed highway infrastructure incorporates the provision of any of the following: -

- Principal Roads.
- Classified Roads.
- Local Distributor Roads.
- Collector Streets (Residential Streets incorporating Bus Routes);
- Any Residential Street, Shared Surface Street or Home Zone that requires the creation of a new access or formal junction off any of the above street types; and
- The development is creating more than eight (8) new residential units/properties.

The need for a RSA will be determined at the pre-application stage as part of the discussions with the LPA & the LHA.

Definition

A Road Safety Audit (RSA) is the staged evaluation of changes to the highway
during design, construction and operation.

It looks to identify potential safety hazards that may affect any road user.

- Stages 1 and 2 evaluate the design.
- Stage 3 is carried out as soon as possible after measures become operational; and
- Stage 4 is carried out approximately 12 months after the measures became operational.

An RSA considers the road safety implications of all measures and their impact on the highway network – the effects on all road users are considered.

Particular attention is paid to the effects on vulnerable groups, for example the very young, the elderly, people with a disability and more generally pedestrians, cyclist and riders of electrified vehicles. A RSA may be

applicable to a particular junction or section of the network. However, it is important that the road safety implications of the measures being proposed are considered, along with any impact on adjacent or other parts of the network.

An RSA does not consider non-road safety related issues and is not a technical check. However, to clearly explain a safety problem or make a recommendation to resolve a problem, the audit may refer to a design standard.

An RSA is not to be used:

- As a means of selecting between various design options under consideration.
- To query why other measures are not being proposed; nor
- To comment on the effectiveness of the proposals where there are no adverse safety implications.

Audit Stages

An RSA shall be undertaken after the completion of four specific stages of project development, which are:

Stage 1

A Stage 1 RSA must be commissioned by the Developer as soon as possible after completion of the preliminary design. The design should be sufficiently progressed so that all significant features are clearly shown. This is likely to have been undertaken prior to defining the scope of the S278 Agreement works. The Developer will provide T&FRM with the Stage 1 report prior to the start of detailed design.

Stage 2

The Developer must commission a Stage 2 RSA upon substantial completion of the detailed design and before the preparation of works orders or tender documents. The design should be sufficiently progressed so that it could be constructed with the information produced to that point. Once the Developer has provided TS with the Stage 2 report, the detailed design can be completed in line with recommendations.

Stage 3

A Stage 3 RSA must be commissioned by the Developer just before or just after the issue of the Certificate of Substantial Completion depending upon what is most
appropriate. The timing will be dictated by the earliest opportunity to observe actual road user behaviour. On occasions it may be necessary to carry out an RSA before the road is (re)opened to traffic, so that any identified issues can be addressed prior to (re)opening. The need for this will be discussed with the Developer and should be included in the Section 278 Agreement where possible.

Stage 4

The Developer must commission a Stage 4 RSA just before or just after the issue of the Certificate of Final Completion depending upon what is most appropriate.

The RSA should take account of actual road user behaviour and the following data will be analysed:

- Locations at which personal injury collisions occurred.
- Personal injury collisions that appear to have similar causes or show common factors.
- How the scheme may have affected collision patterns and rates.

NCC hope that the guidance and information above proves useful in applying to enter a s 278 Agreement and / or s 38 Agreement with us.

If you have any further queries or wish to discuss further any part of this guidance, please contact Technical Services via email: highway.agreements@nottinghamcity.gov.uk

15. Contact Details

Highway Agreements

Traffic & Flood Risk Management

Technical Services & Systems

Loxley House

Station Street

Nottingham

NG2 3NG

Email: highway.agreements@nottinghamcity.gov.uk

Further Contact Details

Highway Network Management Email: highway.management@nottinghamcity.gov.uk

Traffic Management Email: traffic.management@nottinghamcity.gov.uk

Road Safety Email: road.safety@nottinghamcity.gov.uk

Public Rights of Way Email: traffic.management@nottinghamcity.gov.uk

Technical Terms:

In Writing. This includes emails and messages on Microsoft Teams.

Electronic Copies. Documents provided in either a PDF or DWG, AutoCAD format. Auto CAD should be AutoCAD 2020 version or older.

16. List of Abbreviations

CBR	California Bearing Ratio Test
CDM	Construction Design & Management Regulations
LHA	Local Highway Authority
LPA	Local Planning Authority
HS	Highway Services (Maintenance)
NCC	Nottingham City Council
PFI	Private Finance Initiative
RSA	Road Safety Audit
S38	Section 38 of the Highways Act 1980
S50	Section 50 of the New Roads & Street Works Act 1991
S58	Section 58 of the New Roads & Street Works Act 1991
S104	Section 104 of the Water Industry Act 1991
S171	Section 171 of the Highways Act 1980
S184	Section 184 of the Highways Act 1980
S278	Section 278 of the Highways Act 1980
SUDS	Sustainable Urban Drainage System
TRO	Traffic Regulation Order
TM	Traffic Management
HNM	Highway Network Management
T&FRM	Traffic & Flood Risk Management

17. Useful Appendices & List of Standard Details

Example of a Commuted Sum.

Assuming £10000 of work. Annual Maintenance cost £1000 (10%). 40% replacement required every 25 years. 60 years maintenance costs.

Works Cost	£	10000.00	Total amount for works
Annual Maintenance Cost	£	1000.00	10% of works cost
Replacement Cost	£	4000.00	If no replacement, leave blank
Commuted Sum	**£**	**35884.83**	Total amount for maintenance + replacements

Expected Life (Years)	25	Manufacturers Specified Life of Material
Interest Rate	1.045	Updated 08/03/24
Inflation Rate	1.0225	Updated 08/03/24
Discount Rate	0.022	DR= Interest Rate / Inflation Rate

List of Technical Information required for Technical Assessment & Legal Agreement

The following information should be submitted on appropriate drawings for Technical Approval.

1. Layouts to be at 1:500 scale
2. Areas to be adopted as public highway – (S38 Agreement Legal Plan) coloured Brown
3. Areas of existing highway to be improved – (S278 Agreement Legal Plan) coloured Blue
4. Areas to be adopted as Public Open Space – (S38 Agreement Legal Plan) coloured Brown
5. Street Lighting columns -coloured Red
6. Road Gullies and Highway Drainage – coloured Blue
7. Retaining structures – coloured Dark Blue
8. Sculpture / Artwork – coloured Light Brown
9. Ownership / Site Boundary – (S38 Agreement Legal Plan) coloured Red
10. Highway finishes coloured-up plan

11. Location of Street Nameplates – Including Text (Proposed Street Name)
12. Location of Pedestrian crossings – including Tactile Paved areas.
13. Street lighting specification – to be included on S38 Agreement plan (All Lighting to be approved or designed by Enerveo)
14. Typical construction details of: Asphalt carriageway
15. Typical construction details of: Shared Surface
16. Typical construction details of: Pedestrian crossing points
17. Typical construction details of: Footpaths
18. Typical construction details of: parking bays
19. Typical construction details of: Car crossings of footpath
20. Typical construction details of: Ramps
21. Typical construction details of: Kerb detail adj verge.
22. Typical construction details of: Kerb detail adj footpath
23. Typical construction details of: Traffic calming measures (plan/ section/ materials/ road signs)
24. Level Survey and design plan: showing tie-ins surface levels, drainage channels, thresholds back of footway road centre line detail.
25. Road markings – White 'Give Way' lines 30
26. Manhole covers in carriageway areas must be Heavy Duty.
27. Traffic signs – 20mph zone – Signs x 2, mounted back-to-back – 2 no. posts at site entrance – Developer to pay councils costs to make a 20mph zone order. 300mm repeaters along new road, to be mounted on street lighting columns.

Notes:

i. Minimum pipe size under highway areas 150mm inc 'Lateral Drains'

ii. Backfill to all trenches under adoptable areas to be Type 1 sub-base not "selected backfill".

iii. Road gully grating, D400 (minimum frame depth 100mm)

Client Roles & Responsibilities under CDM Regulation 2015 (HSE Document).

Commercial clients:
Roles and responsibilities Construction (Design and Management) Regulations 2015 (CDM 2015) CDM 2015 makes a distinction between commercial clients and domestic clients. Client duties apply in full to commercial clients (for domestic clients the duties normally pass to other duty holders).

A commercial client is any individual or organisation that carries out a construction project as part of a including the management of health and safety risks. Whatever the project size, the commercial client has contractual control, appoints designers and contractors, and determines the money, time and other resources for the project. For all projects, commercial clients must:

- make suitable arrangements for managing their project, enabling those carrying it out to manage health and safety risks in a proportionate way.

These arrangements include:

Appointing the contractors and designers to the project (including the principal designer and principal contractor on projects involving more than one contractor) while making sure they have the skills, knowledge, experience and organisational capability. Allowing sufficient time and resources for each stage of the project. making sure that any principal designer and principal contractor appointed carry out their duties in managing the project. Making sure suitable welfare facilities are provided for the duration of the construction work

- Maintain and review the management arrangements for the duration of the project
- Provide pre-construction information to every designer and contractor either bidding for the work or already appointed to the project
- Ensure that the principal contractor or contractor (for single contractor projects) prepares a construction phase plan before that phase begins
- Ensure that the principal designer prepares a health and safety file for the project and that it is revised as necessary and made available to anyone who needs it for subsequent work at the site for notifiable projects (where planned construction work will last longer than 30

working days and involves more than 20 workers at any one time; or where the work exceeds 500 individual worker days), commercial clients must:

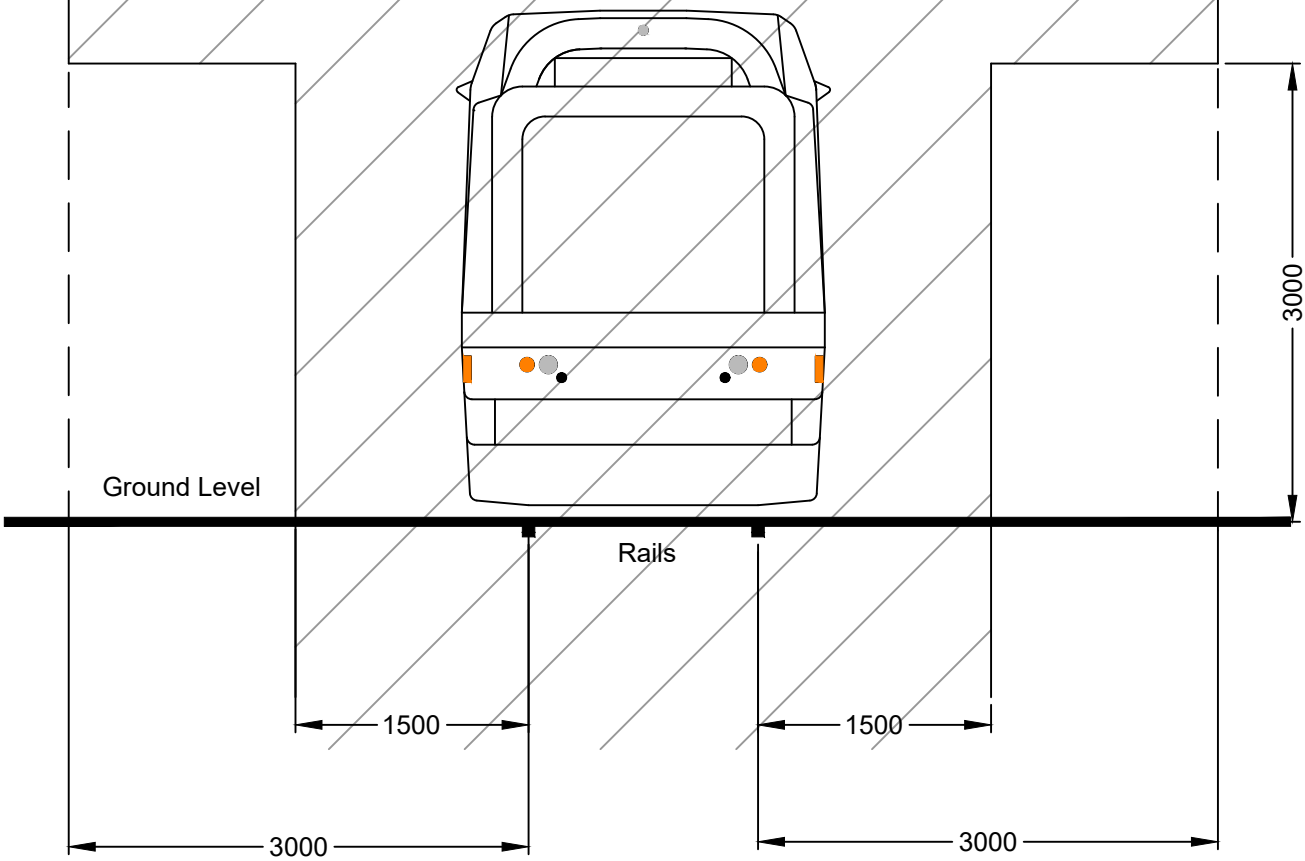
- Notify HSE in writing with details of the project
- Ensure a copy of the notification is displayed in the construction site office and a copy provided to NCC.

Footway Type 9, (Heavy Duty Crossing)

Footway Type 9: Vehicle access dropped crossings					
Material Course	Clause	Material	Grade of Binder	Thickness (mm)	Special Requirements
Surface course	SC8	HRA 55/10 F surf 100/150 des	100/150	40	PSV coarse aggregate 55 min.
Binder Course	BC2	AC 20 dense bin rec	100/150	70	
Base (Where included in the Package Order)	B2	AC 32 dense base rec	100/150	100	
Sub-base	803	Granular Type 1	-	270	
				380 (480 inc Base)	Total thickness

The Hazard Zone has no upper limit. All overhead work within 3m of nearest rail is governed by these requirements.

HAZARD ZONE



Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All descrepancies are to be reported to the Engineer.
4. Over 3 metres above the rails, the Hazard Zone ends 3 metres out from the nearest rail.
5. Upto 3 metres above the rails, the Hazard Zone ends 1.5 metres out from the nearest rail.
6. Below ground the Hazard Zone ends 1.5 metres from the nearest rail.
7. A permit is required from NET for any crane, grab or MEWP working within 6m of any NET infrastructure.
8. NET shall be consulted regarding any tall crane planned more than 6m distant but with potential to fall on to NET tracks.

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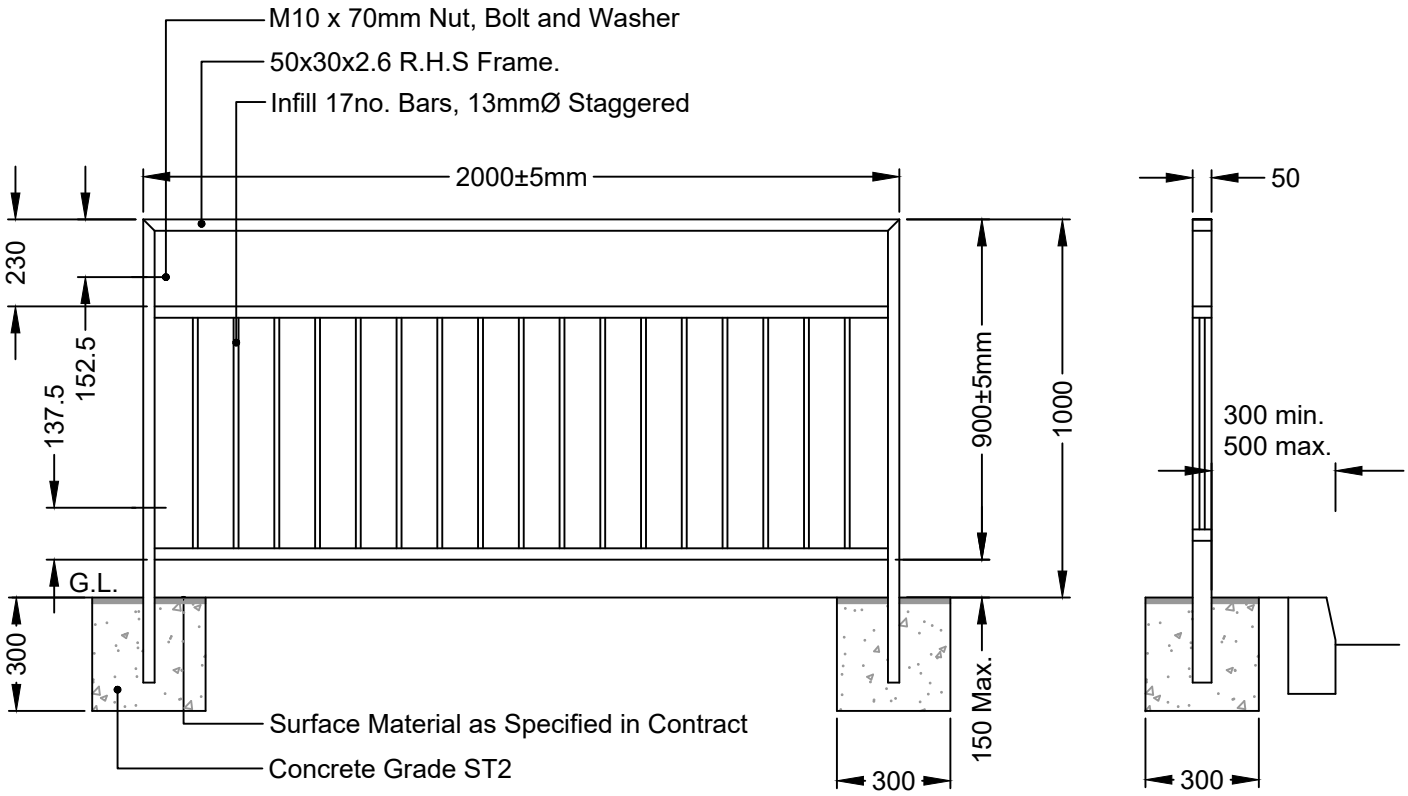
Scale	Scheme				
1:50	Technical Services Standard Details				
Drawn	Title				
DWM	NET Tram Hazard Zone				
Date	CAD	Checked	Authorised	Drawing Number	Revision
Aug 23				TS/SD100/50	

Original frame size A4 (210 x 297mm) 2cm



Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the engineer.
4. Pedestrian gaurd rail shall be mild steel in accordance with BS 7818:1995 with staggered vertical bar infill. The connections shall permit assembly of sections to accomodate gradients of up to 1 in 20 and erection around horizontal radii down to 2.5m.
5. The contractor shall obtain the engineers approval to the positions of the posts before commencing excavation for the post holes.
6. Steel gaurd rails shall recieve protective treatment in accordance with BS 7818:1995 and hot dipped galvanising to BS EN ISO 1461:1999.
7. All fasteners, including nuts, bolts and washers shall be galvanised to BS EN ISO 1461:1999 and centrifuged.
8. This gaurd rail is to be used in normal situations. In special situations, visi-rail may be ordered, or on central reserves rail with full height vertical bar infill is used.

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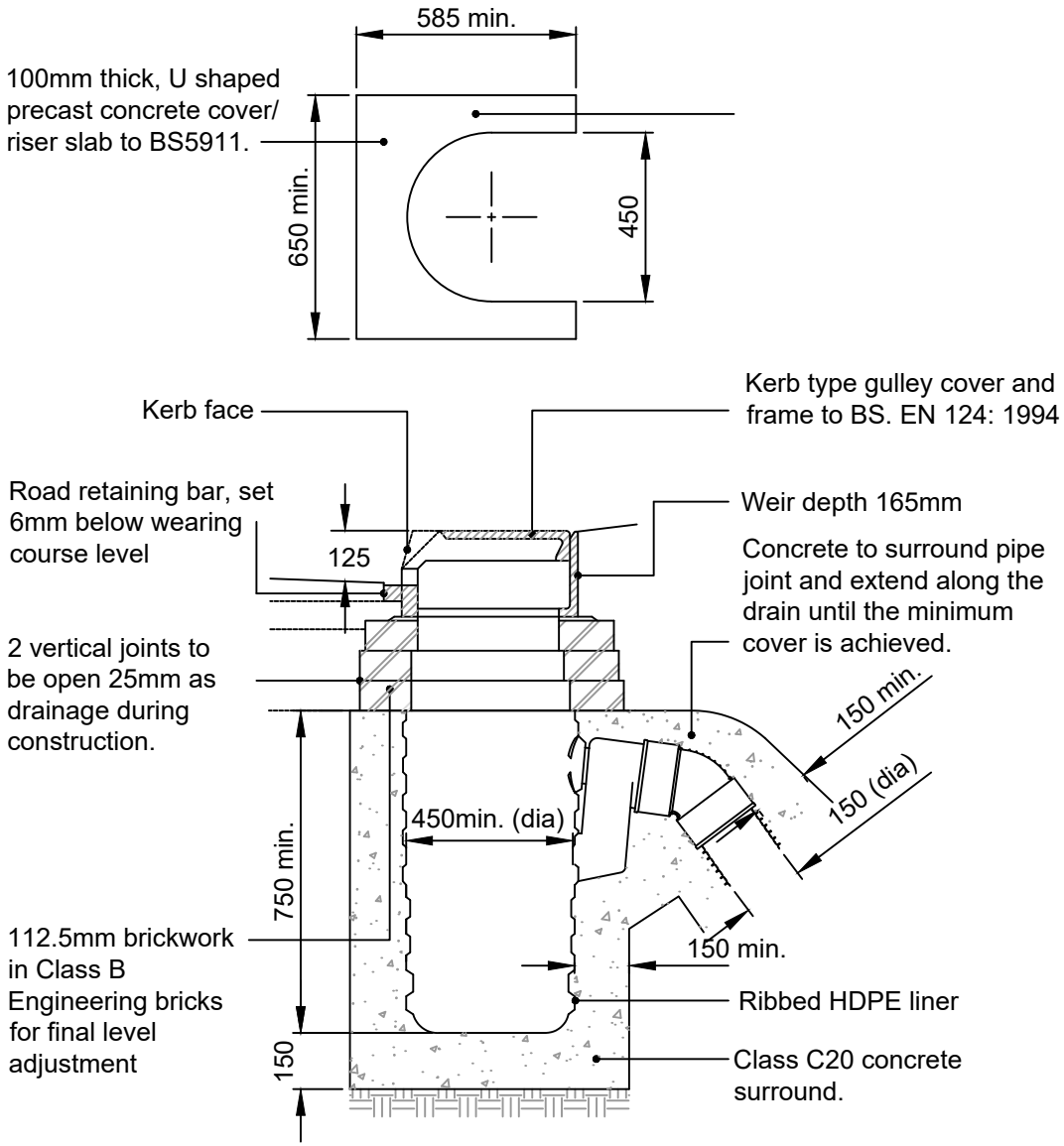
Scale	Scheme	
1:20	Technical Services Standard Details	
Drawn	Title	
DWM	Pedestrian Gaurd Rail Type GR1	

Date	CAD	Checked	Authorised	Drawing Number	Revision
Aug 23				TS/SD400/10	

Original frame size A4 (210 x 297mm) 2cm



In situ Concrete Road Gully

Notes

1. Do not scale
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies to be reported to the Engineer.
4. Precast concrete gullies to BS5911.
5. Clay gullies to BS65 and BS EN295 Parts 1, 2 and 3.
6. Plastic gullies can be used with the permission of the Engineer.
7. The depth of mortar joints shall be between 5 and 15mm for OPC. Where proprietary cementitious materials or epoxy resins are used the bedding depths should be in accordance with the manufacturers instructions.
8. Class B Engineering bricks to BS EN771-1.772-3 and 772-7.
9. Gully frames and covers must be to class BS EN124.
10. For insitu concrete gullies, the liner must be held by suitable weight to prevent floatation.
11. Gully grate and frame to be laid to the crossfalls of the adjacent finished surface.
12. Where the outlet pipe of a gully within the carriageway is behind the kerbline/channel, the depth from the top of the grating to the top of the gully outlet pipe shall be 375mm to 425mm.
    Where the outlet pipe of the gully is on the carriageway side of the kerbline/channel, the top of the grating to the top of the gully outlet pipe shall be 525mm to 575mm by increasing the number of brick or riser courses.
13. Corbelling of brickwork will be no more than 30mm per course, in excess of this, corbelling shall be supported by 12.5mm thick galvanised steel plates.
14. The concrete surround to gullies shall fill the whole void between the gully pot and the face of the excavation. The concrete should be compacted by vibrating poker to remove all voids.
15. Where the gully connection pipe is of a different material or system from that of the gully pot, the connection should be made only using the appropriate manufacturers adapters.
16. On new construction the brickwork shall be completed after the road base layer(s) have been laid. The contractor must allow for fixing suitable temporary formwork over the gully prior to laying the road base layer(s).
17. A void for the brickwork should be cut with vertical edges into the road base layer(s) to a minimum size to allow the bickwork to be completed.

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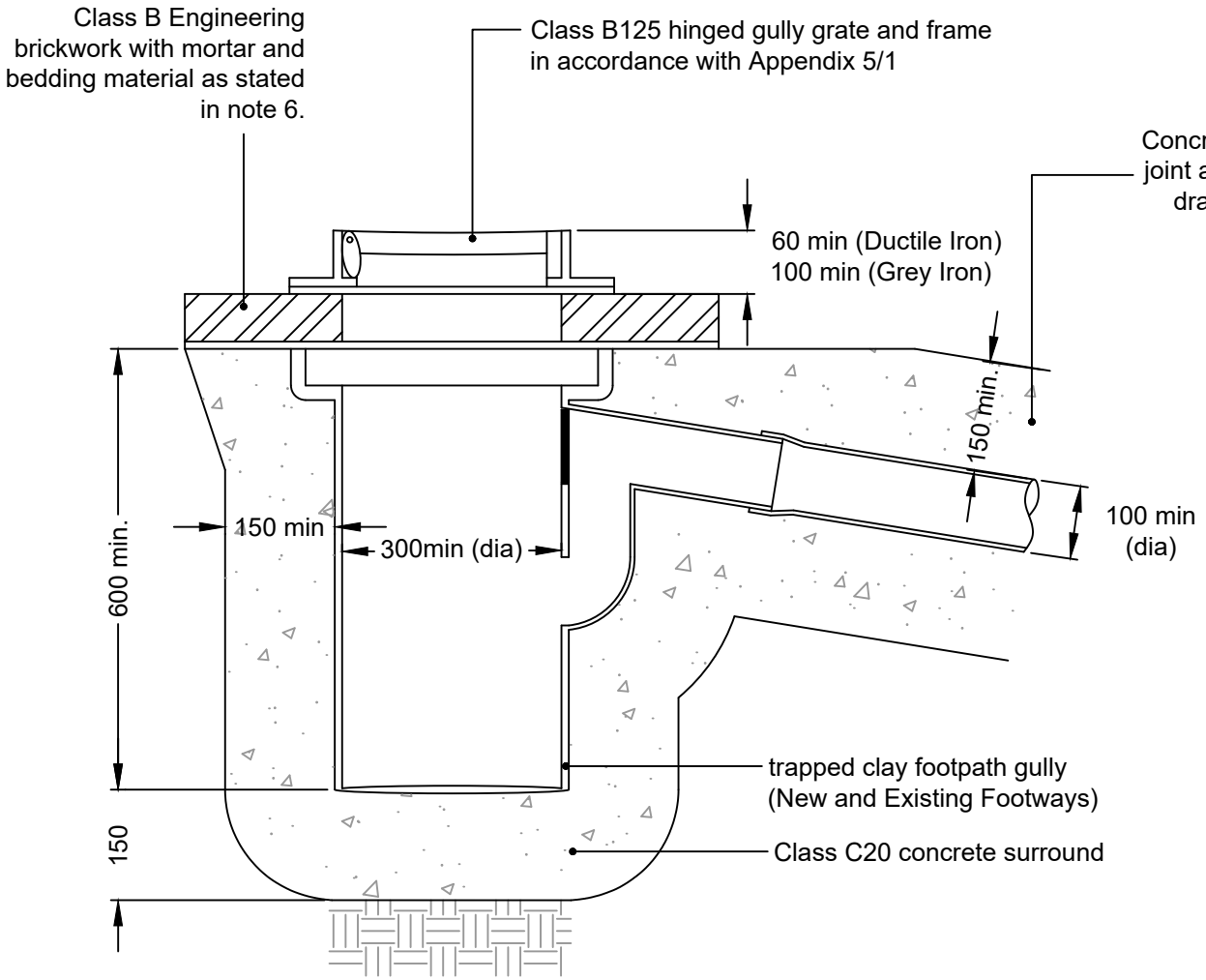
Scale	Scheme	Technical Services Standard Details				
1:20						
Drawn	Title	Carriageway Gully Type G1				
DWM						
Date	CAD	Checked	Authorized	Drawing Number	Revision	
Aug 23				TS/SD500/60		

Original frame size A4 (297 x 210mm) 2cm



Trapped Footpath Gully

Notes

1. Do not scale
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies to be reported to the Engineer.
4. Precast concrete gullies to BS5911.
5. Clay gullies to BS65 and BS EN295 Parts 1, 2 and 3.
6. Plastic gullies can be used with the permission of the Engineer.
7. The depth of mortar joints shall be between 5 and 15mm for OPC. Where proprietary cementitious materials or epoxy resins are used the bedding depths should be in accordance with the manufacturers instructions.
8. Class B Engineering bricks to BS EN771-1, 772-3 and 772-7.
9. Gully frames and covers must be to class B125.
10. Gully grate and frame to be laid to the crossfalls of the adjacent finished surface.
11. The concrete surround to gullies shall fill the whole void between the gully pot and the face of the excavation. The concrete should be compacted by vibrating poker to remove all voids.
12. Where the gully connection pipe is of a different material or system from that of the gully pot, the connection should be made only using the appropriate manufacturers adapters.

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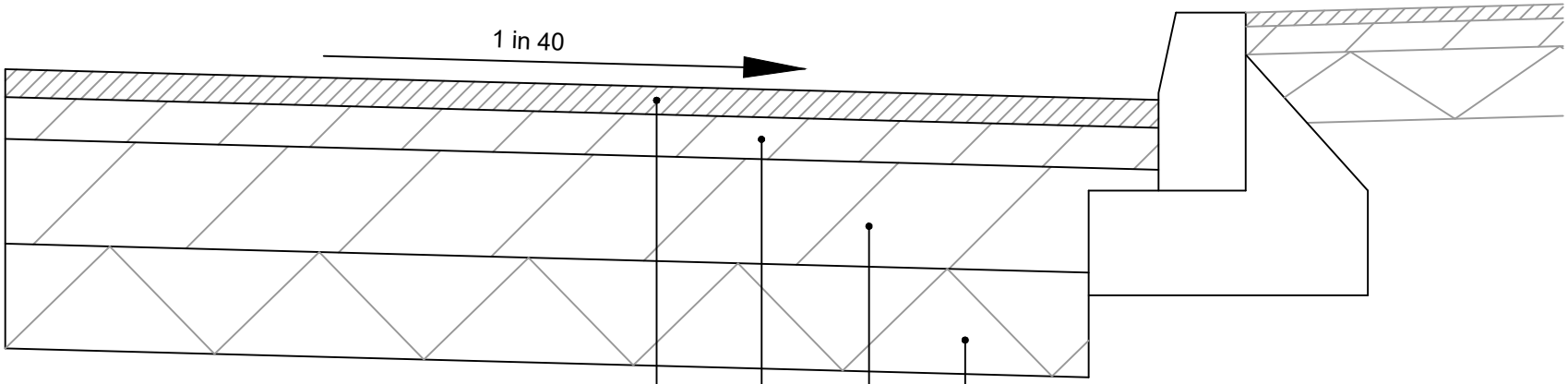
Scale	Scheme	
1:10	Technical Services Standard Details	
Drawn: DWM	Title: Footway Gully Type G2	
Date: Aug 23	CAD / Checked / Authorized	Drawing Number: TS/SD500/70 — Revision

Original frame size A4 (297 x 210mm) 2cm



Typical Carriageway Construction

Surface course (selection according to road classification)

Binder course (design thickness to comply with CD 226)

Base course (design thickness to comply with CD 226)

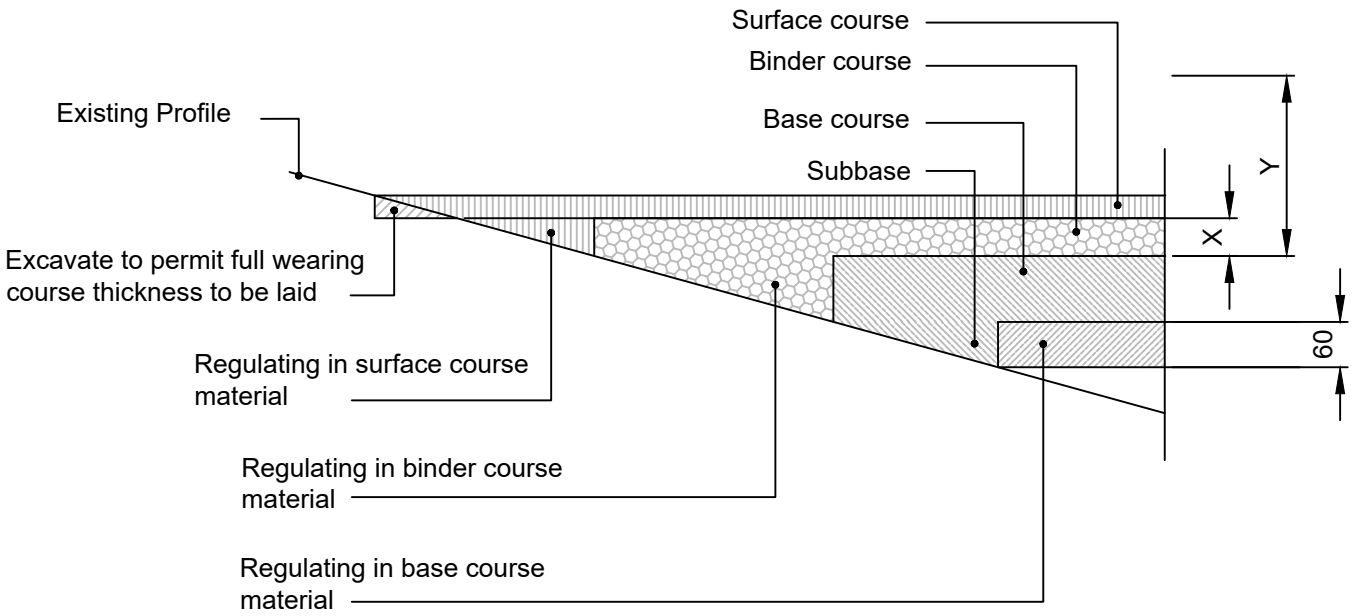
Type 1 Sub-base
Recycled to Cl 803 shall only be used with specific consent from the Highway Authority

1. AC32 bituminous layers can be limestone. Final Surfacing to be hardstone
2. Limestone bituminous layers can be used within footways. Final Surfacing to be hardstone
7. Base to be laid in layers 100mm thick the laying depth should fall between 2.5 and 5x the aggregate size.
8. Hot applied Bond coat required between base & binder.
9. Sealing grit required following installation of bituminous layers to be used where a road will be left at binder level for a period of time to provide a level of skid resistance the binder course can't offer. Assuming all of the works are being carried out at the same time, this wouldn't be required.

Notes:
1. Do not scale.
2. All discrepancies are to be reported to the Engineer.
3. Design Traffic flows to be agreed with the Authority at commencement of pavement design.
4. The Developer is required to design all pavements in accordance with CD226.
5. All carriageway construction shall be fully flexible with asphalt base.
6. Choice of materials shall comply with the materials policy of Nottingham City Council and be in accordance with appendix 7/1

Testing
1. CBR frequency is 30 l/m taken on formation, capping, and sub-base.
2. Base/Binder tarmac testing to include:
   a. Determination of Binder Content and Aggregate Grading (1/100t).
   b. Temperature and Laying Records.
   c. NDM.
   d. Core Logs (100mm diam. within the oil lane at 30 l/m).
   e. Maximum Density Samples taken on the day confirming maximum density values to calculate air voids.
3. Surface course tarmac testing to include:
   a. Temperature and Laying Records.

Scale 1:10	Scheme Technical Services Standard Details				
Drawn DWM	Title Typical Carriageway Construction Detail				
Date Aug 23	CAD	Checked	Authorized	Drawing Number TS/SD700/10	Revision



CARRIAGEWAY REGULATING

Notes

1. Do not scale
2. All dimensions in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. The regulating materials shown above are to the minimum requirement but materials in a lower layer may be substituted by those in a higher layer in accordance with Appendix 7/1.
5. Dimensions 'X' and 'Y' to be minimum of 2.5 times the nominal aggregate size of the basecourse and roadbase respectively.
6. Tack coat to be applied in accordance with BS 594987

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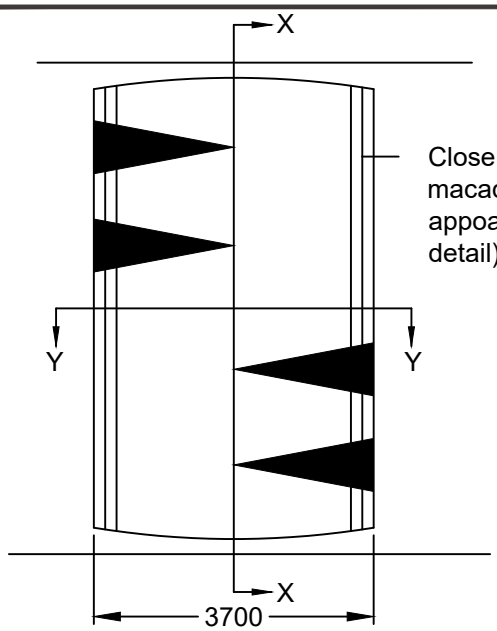
Scale	Scheme	
1:10	Technical Services Standard Details	
Drawn: FWK	Title: Carriageway Regulating	
Date: Aug 23	CAD: FWK	Checked	Authorised	Drawing Number: TS/SD700/20	Revision

Original frame size A4 (210 x 297mm) 2cm

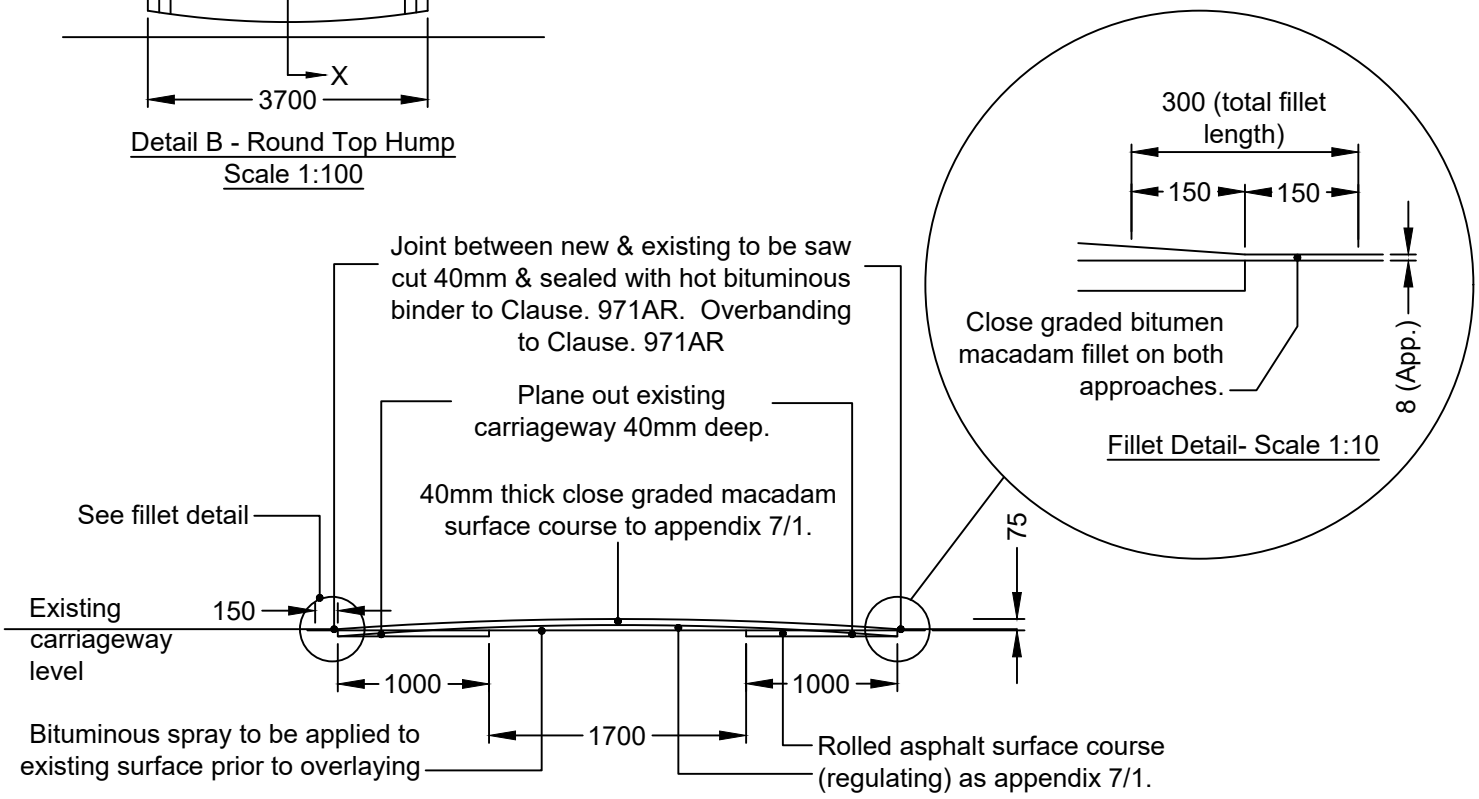


Close graded bitumen macadam fillet on both appoaches (see fillet detail).

Detail B - Round Top Hump
Scale 1:100

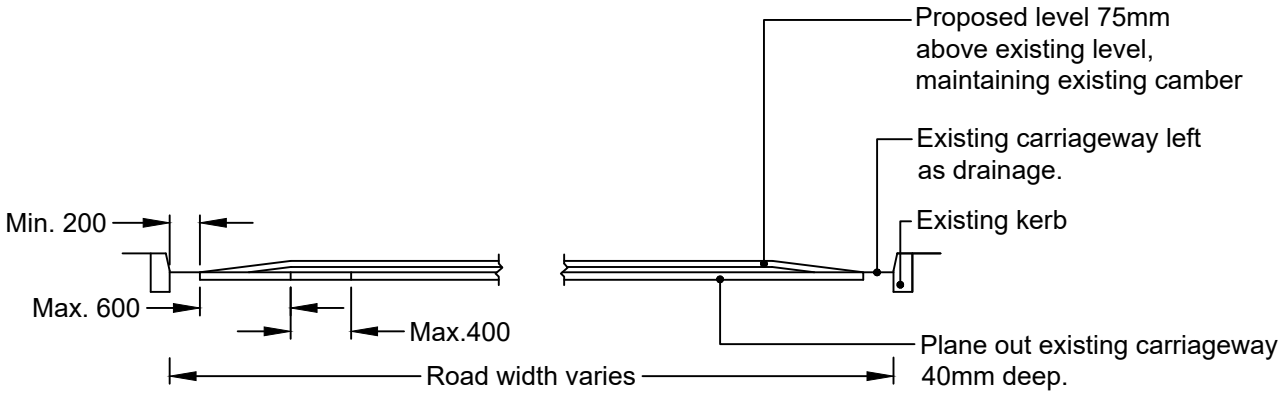
Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. The profile of the hump shall not deviate by more than ±5mm from the circular. Each hump shall be checked for compliance by the use of a shaped profile board.
5. The fillets are to be constructed as part of the road hump and not seperately and therefore, the new surface course profile board must be used.
6. This detail for retro-fit of road hump on existing road. If part of new works, alternative material specifications may be considered by the Authority.



Fillet Detail- Scale 1:10

Longitudinal Section Y-Y Modified Round Top Hump
Scale 1:50



Section X-X Modified Round Top Hump
Scale 1:50

Scale: As shown	Scheme: Technicl Services Standard Details				
Drawn: DWM	Title: Bituminous Road Hump Modified Detail				
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD700/30	Revision

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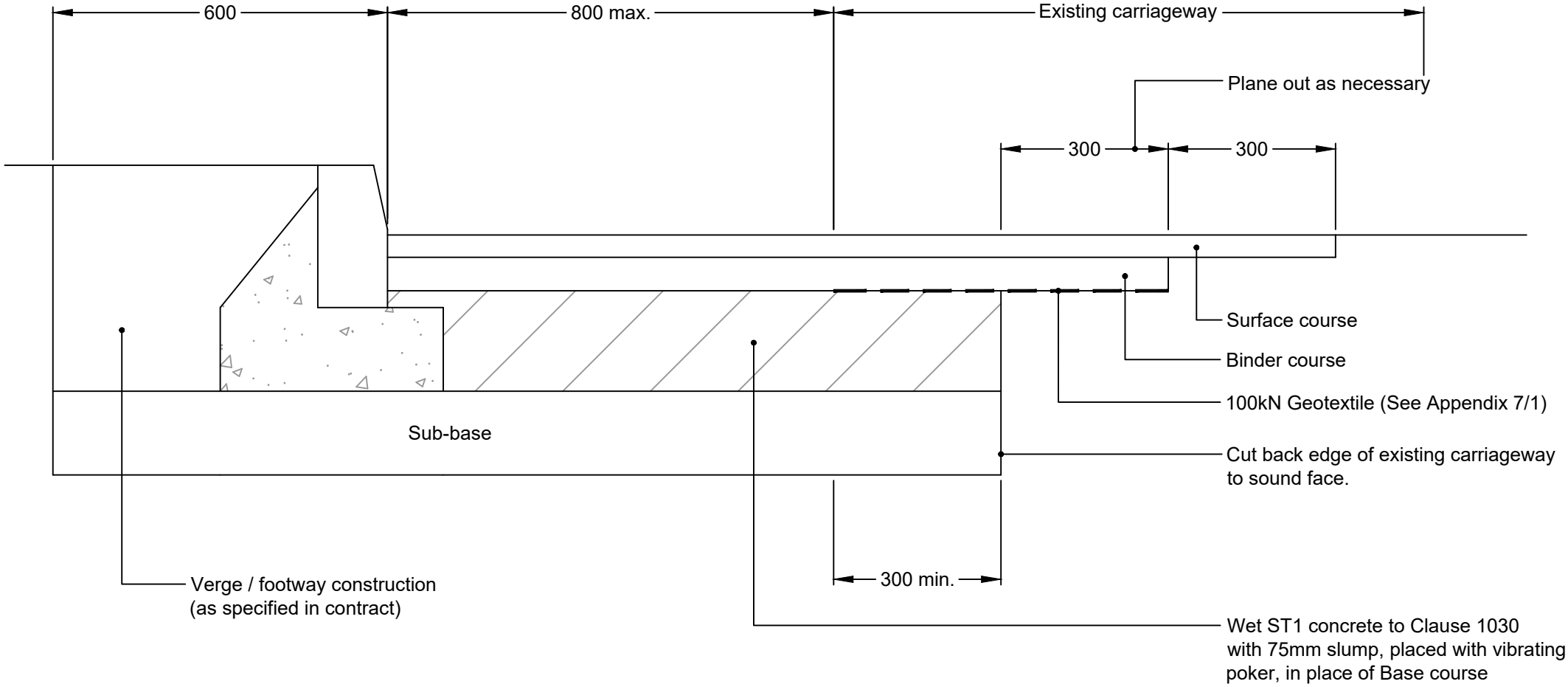
Original frame size A4 (210 x 297mm) 2cm



Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.

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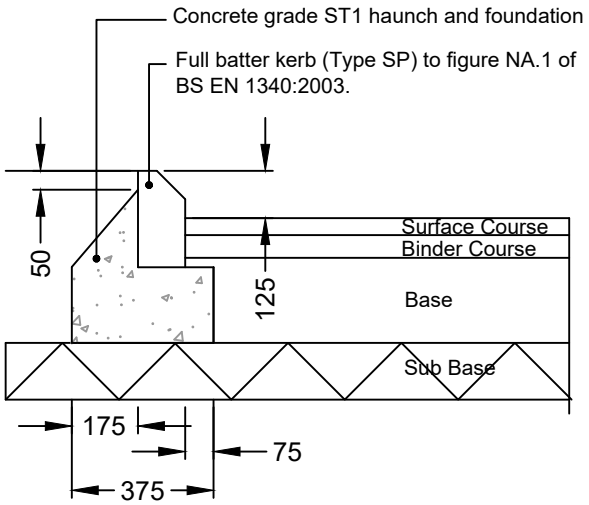
Scale: 1:10	Scheme: Technical Services Standard Details				
Drawn: DWM	Title: Strip widening Carriageways less than 1.0m wide				
Date: Aug 23	CAD	Checked	Authorized	Drawing Number: TS/SD700/40	Revision

Original frame size A4 (297 x 210mm) 2cm

150mm x 305mm Type SP
Similar to 125mm x 255mm Type SP detail but uses 150mm x 305mm full battered kerb to figure NA.1 of BS EN 1340:2003.

125mm x 255mm Type HB2
Similar to 125mm x 255mm Type SP detail but uses 125mm x 255mm half battered kerb to figure NA.1 of BS EN 1340:2003.

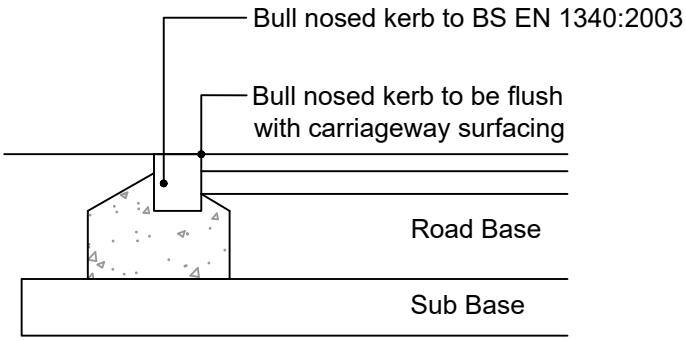
150mm x 305mm Type HB1
Similar to 125mm x 255mm Type SP detail but uses 150mm x 305mm half battered kerb to figure NA.1 of BS EN 1340:2003.



125mm x 255mm Type SP

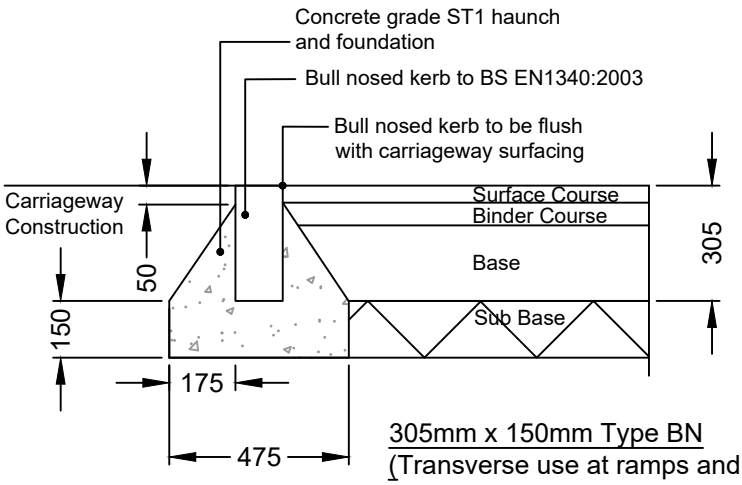
150mm x 125mm Type Bridge Deck (HB3)
Similar to 125mm x 150mm detail but uses 125mm x 150mm half battered kerb to figure NA.1 of BS EN 1340:2003.

All other details as per type BN.



125mm x 150mm Type BN

Notes:
1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Foundations shall not be less than 150mm thick.
5. Form 50mmØ weep holes through foundations on low side of carriageway at 15m centres.
6. Kerbs to be placed directly on newly mixed concrete, laid to line and level and backed up in one continuous operation.
7. Full battered to be used adjacent to areas of 'soft verge', half batter adjacent to footway.



305mm x 150mm Type BN
(Transverse use at ramps and longditudinal us at laybys etc)

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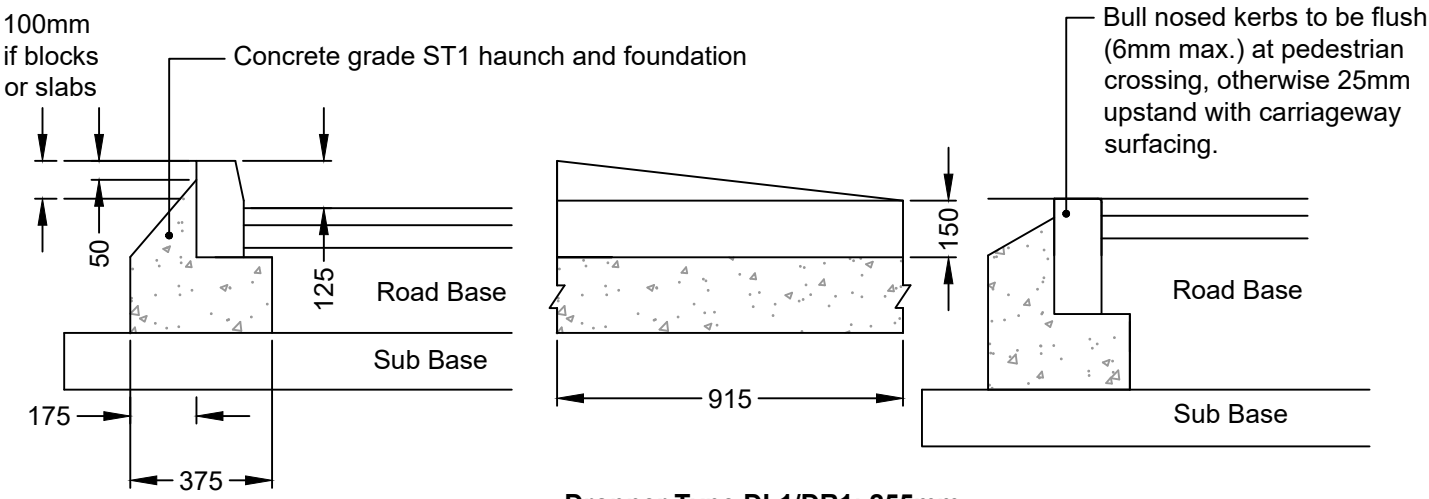
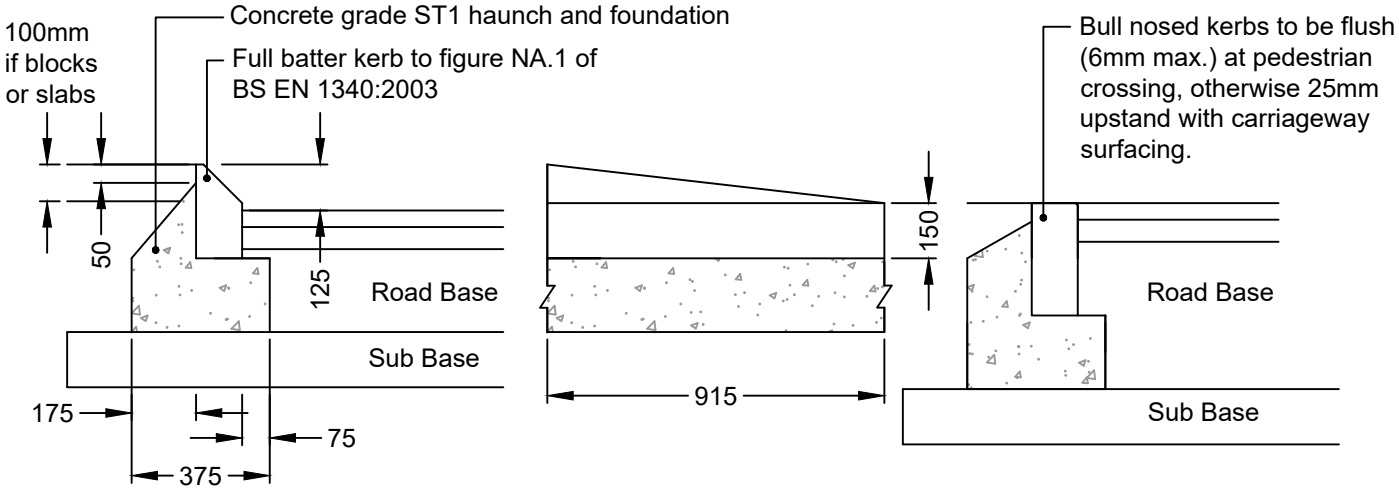
Scale	Scheme	Technical Services Standard Details				
1:20	Title	Typical Kerb Detail Sheet 1				
Drawn	Date	CAD	Checked	Authorised	Drawing Number	Revision
CL	Sept 23				TS/SD1100/10	

Original frame size A4 (210 x 297mm)



Dropper Type DL1/DR1: 255mm

Dropper suits type half battered kerb (Type HB2).
Other details as for dropper type DL2/DR2:255mm.
Kerbs available are DL1:left hand (shown) and DR1: right/opposite hand.



Dropper Type DL2/DR2: 255mm

Dropper suits type SP full battered kerbs.
Kerbs available are DL2: left hand (shown) and DR2: right/opposite hand.

Dropper type DL2/DR2: 305mm

Similar to above detail but suits type 150mm x 305mm type SP full battered kerb to figure NA.2 of BS EN 1340:2003..

Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the engineer.
4. Foundations shall not be less than 150mm thick.
5. Form 50mmØ weep holes through foundations on low side of carriageway at 15m centres.
6. Kerbs to be placed directly on newly mixed concrete, laid to line and level and backed up in one continuous operation.
7. Full battered to be used adjacent to areas of 'soft verge', half batter adjacent to footway.

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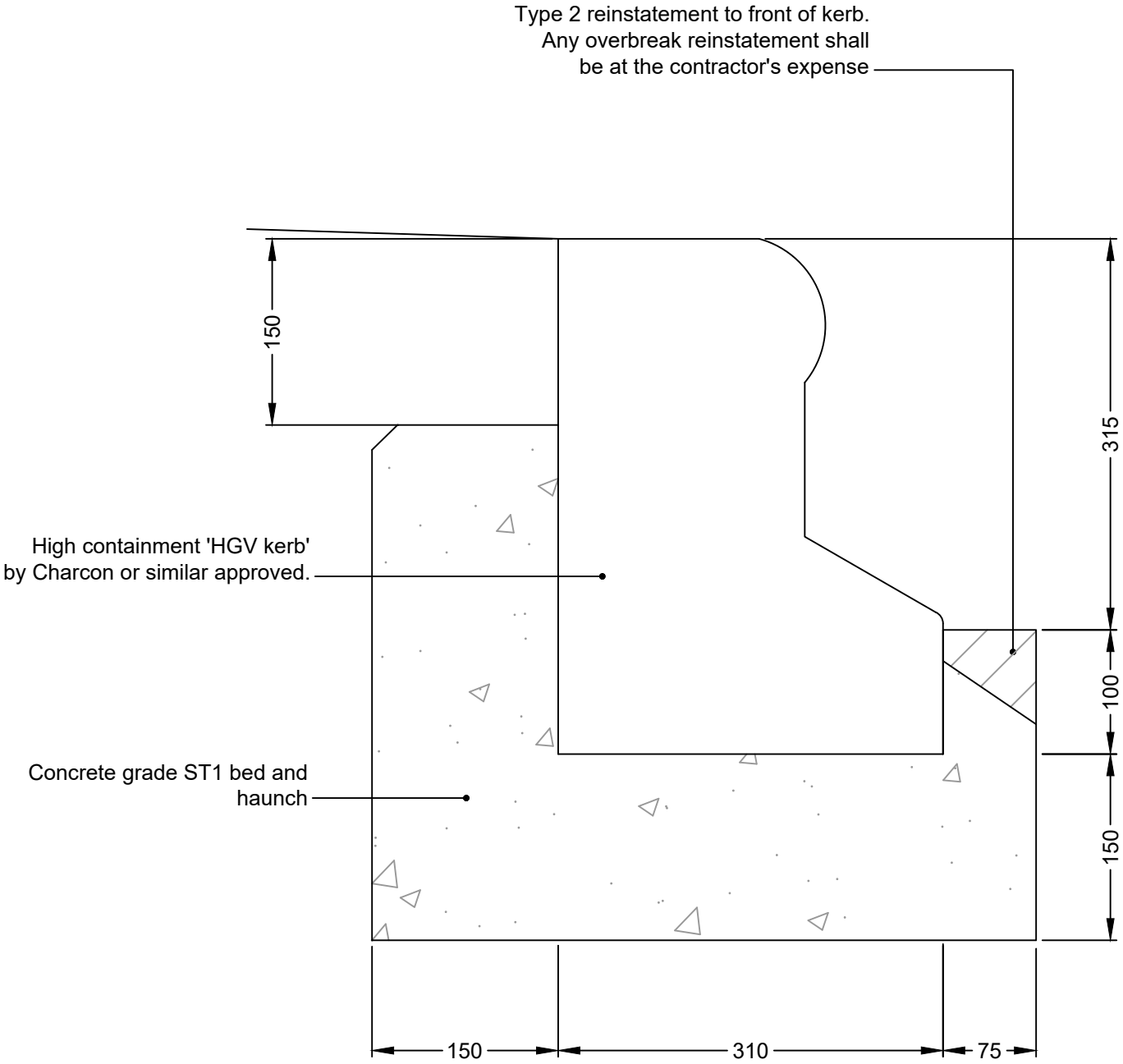
Scale	Scheme	
1:20	Technical Services Standard Details	
Drawn	Title	
DWM	Kerbs Sheet 2	
Date	CAD	Checked	Authorised	Drawing Number	Revision
Aug 23				TS-SD1100/20	

Original frame size A4 (210 x 297mm)



Notes

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.

Scale: 1:5	Scheme: Technical Services Standard Details					
Drawn: DWM	Title: Vehicle Containment Kerb Detail					
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/30	Revision	

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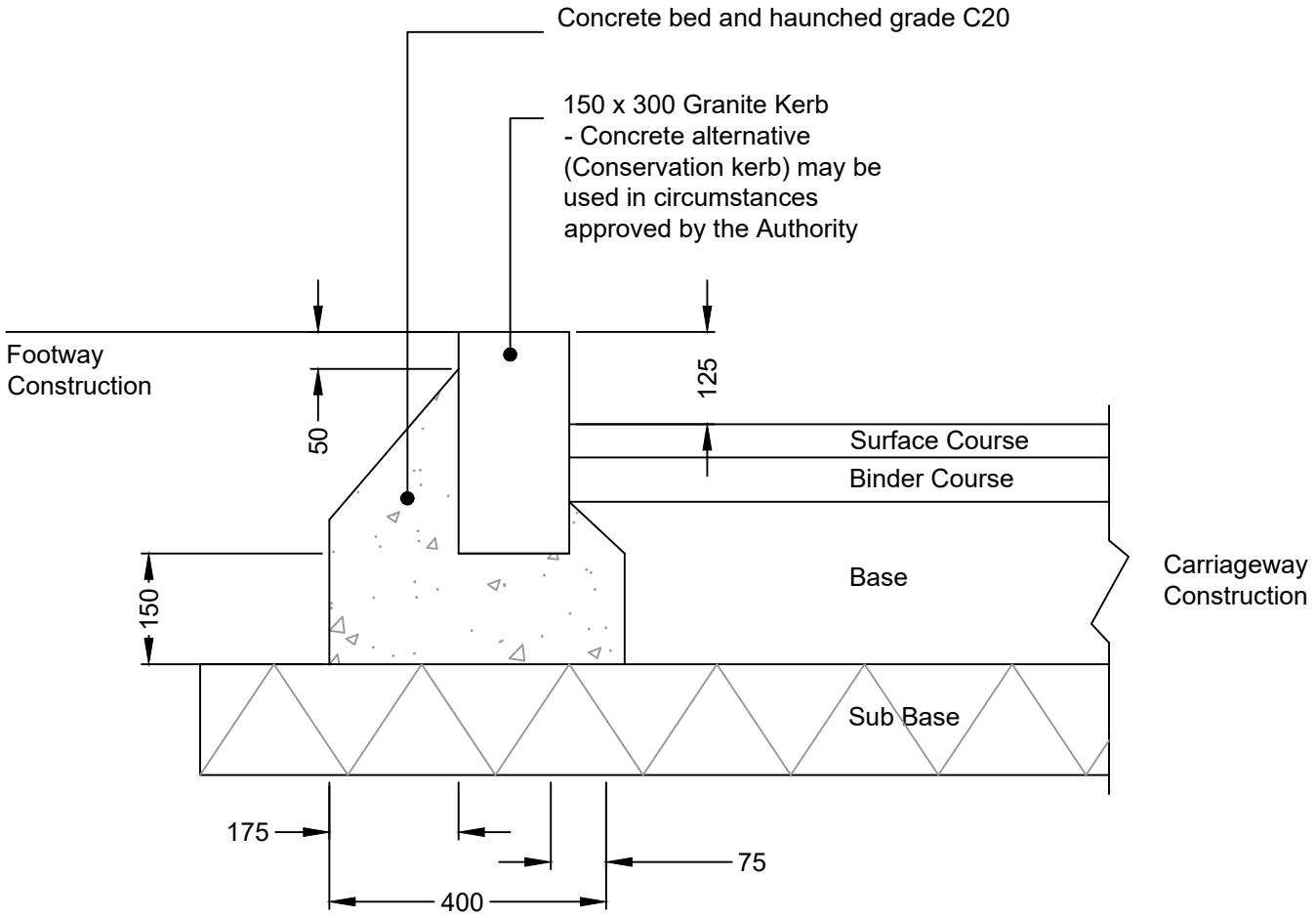
Original frame size A4 (210 x 297mm) 2cm



Granite Kerb Detail

Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.

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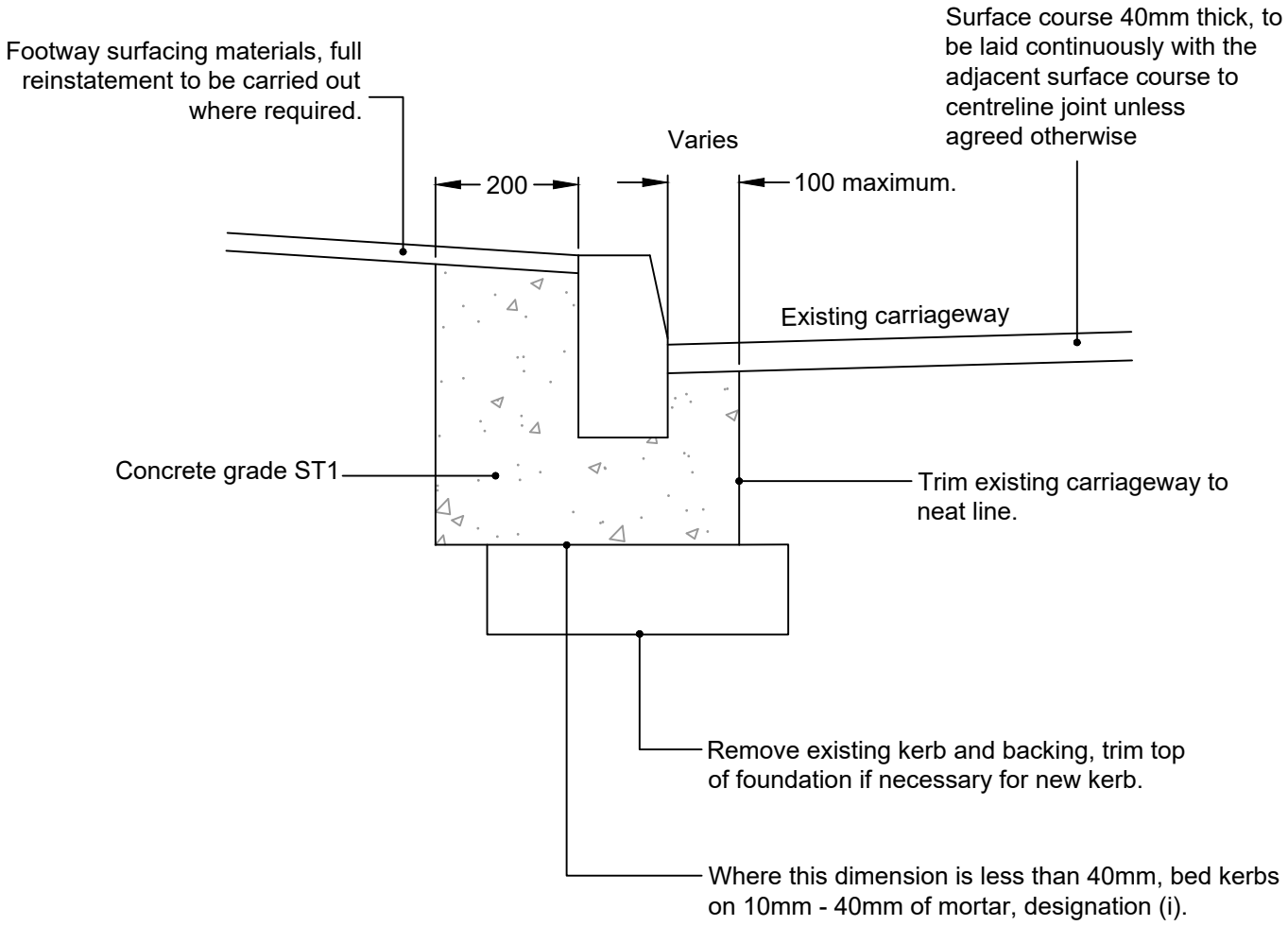
Scale: 1:10	Scheme: Technical Services Standard Details				
Drawn: HJR	Title: Typical Granite Kerb Detail				
Date: Sept 23	CAD	Checked	Authorized	Drawing Number: TS-SD1100/40	Revision

Original frame size A4 (297 x 210mm) 2cm



Notes

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.

Scale: 1:10	Scheme: Technical Services - Standard Details					
Drawn: DWM	Title: Kerb replacement					
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/60	Revision	

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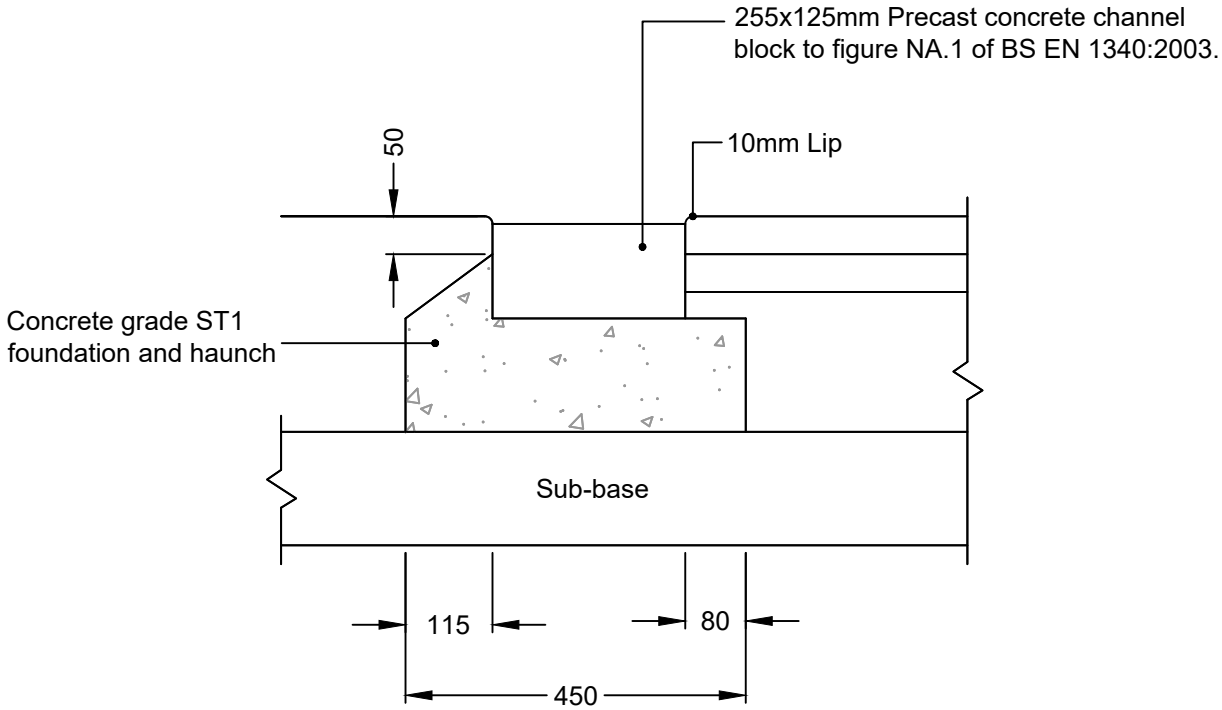
Original frame size A4 (210 x 297mm) 2cm

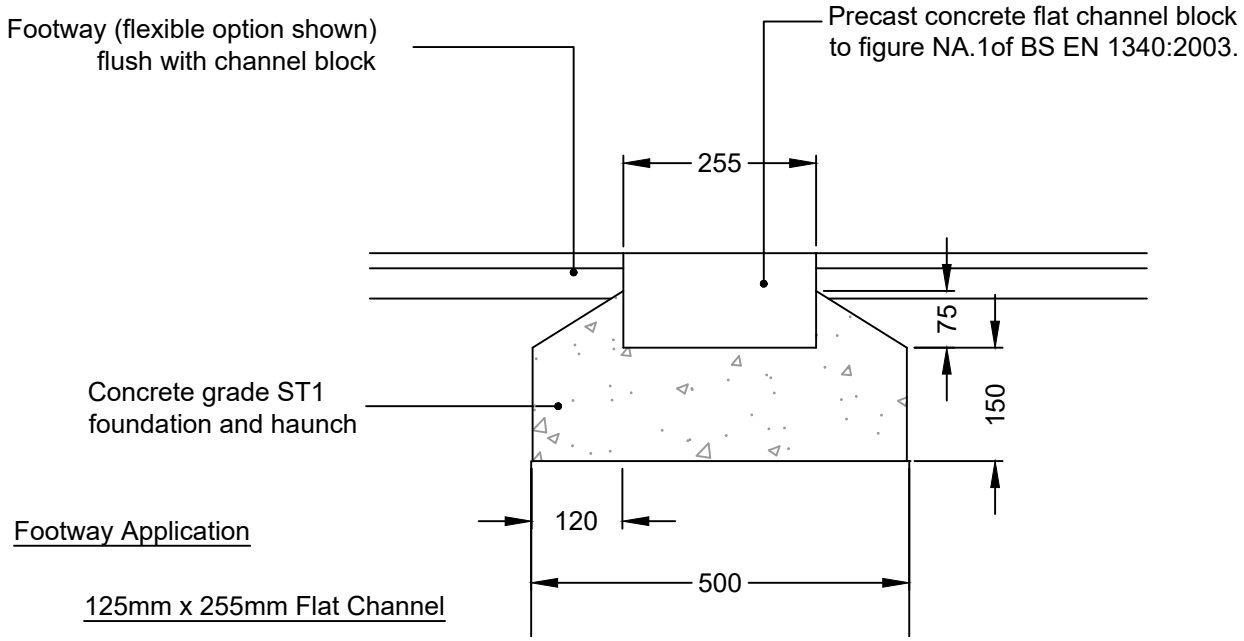


Carriageway Application

255mm x 125mm Type CS1

255mm x 125mm Type CS1: Castellated

Details as above except 155mm x 255mm precast concrete castellated channel block (audible warning type)



Footway Application

125mm x 255mm Flat Channel

Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise
3. All discrepancies are to be reported to the engineer.
4. Foundations shall not be less than 150mm thick.
5. Form 50mmØ weep holes through foundations on low side of carriageway at 15m centres.
6. Kerbs to be placed directly on newly mixed concrete, laid to line and level and backed up in one continuous operation.

Scale: 1:10	Scheme: Technical Services - Standard Details				
Drawn: DWM	Title: Pre-cast concrete channels				
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/70	Revision

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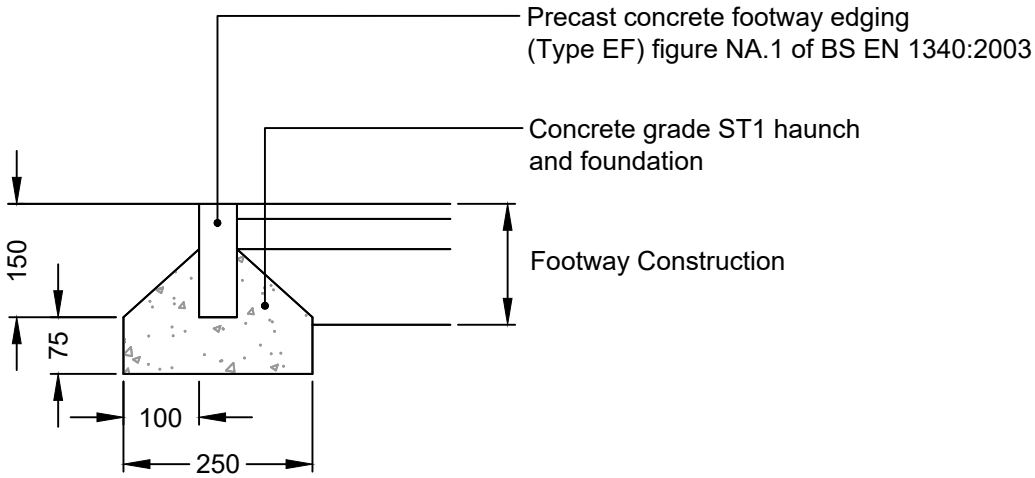
Original frame size A4 (210 x 297mm) 2cm



50mm x 150mm Type EF

Notes:
1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the engineer.

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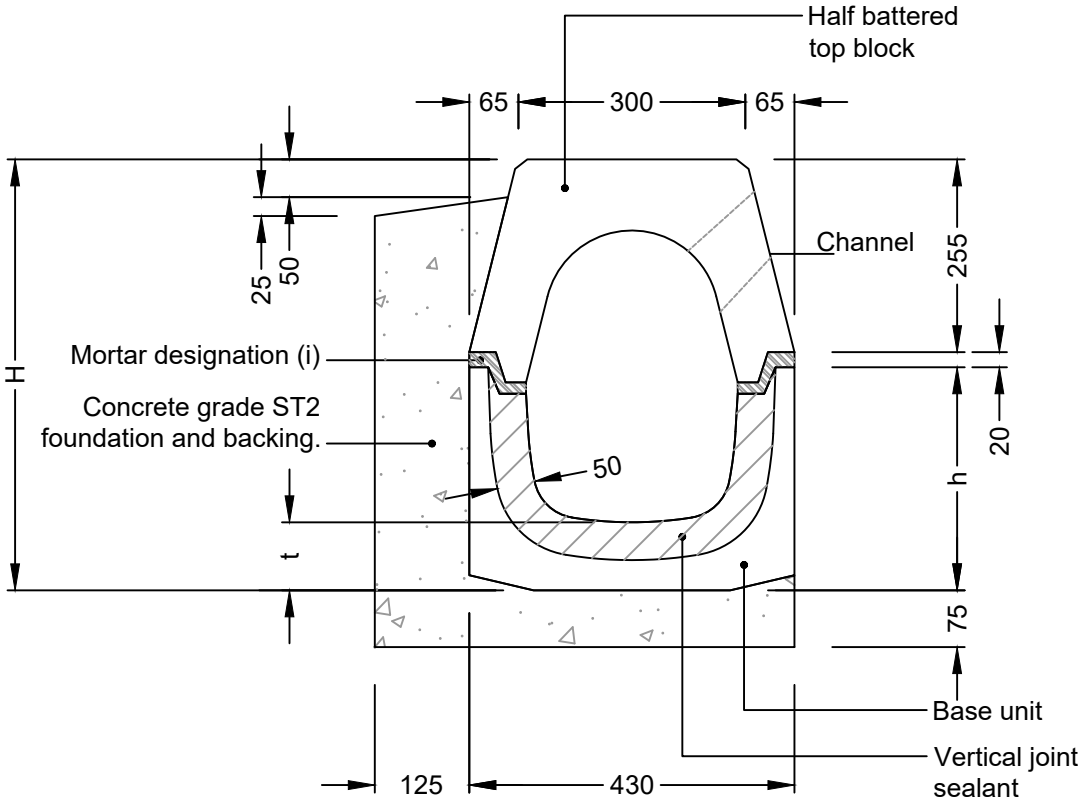
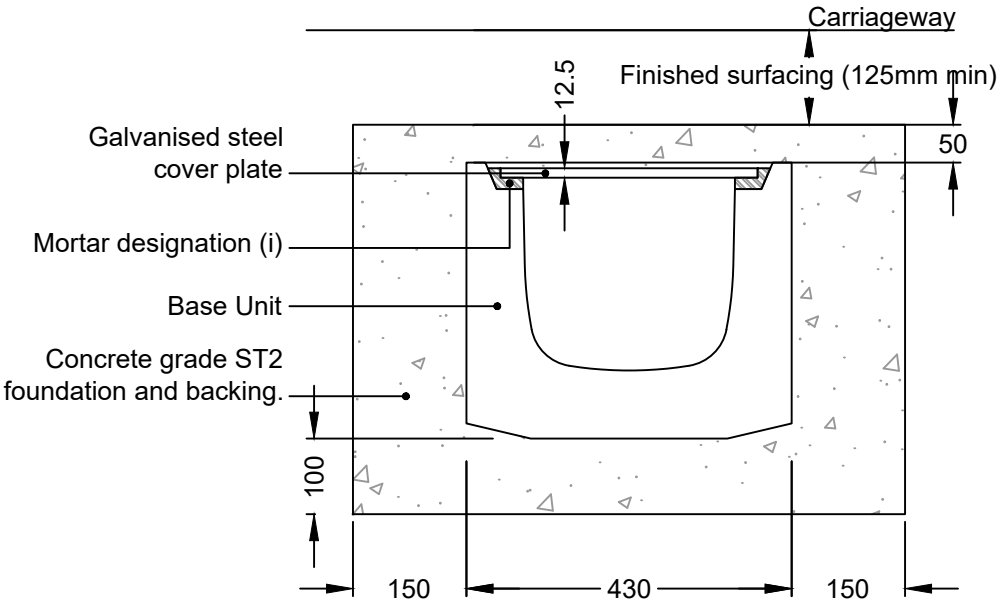
Scale	Scheme	Technical Services Standard Details				
1:10	Title	Footway Edgings				
Drawn						
DWM						
Date	CAD	Checked	Authorised	Drawing Number	Revision	
Sept 23				TS/SD1100/80		

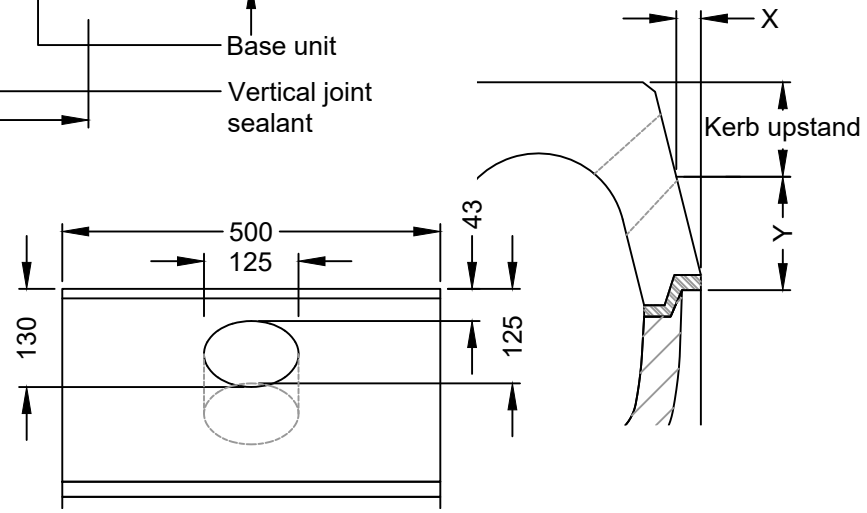
Original frame size A4 (210 x 297mm)



Cross Section



Base Block & Type A Cover Plate



Base Unit	H	h	t	Depth: c/way channel to invert (125 kerb upstand)
Base 205	480	205	70	285
Base 295	570	295	90	355
Base 365	640	365	90	425
Base 630	905	630	75	705

Kerb Upstand	100	110	120	125	150
X	40	37	34	33	27
Y	175	165	155	150	125

Where X is dimension to top outside edge of base block

Notes

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. All insitu concrete shall use sulphate resisting cement.
5. The detail is shown to define the basic drain form. A proprietory system is to be employed using all of the applicable items of the whole range.

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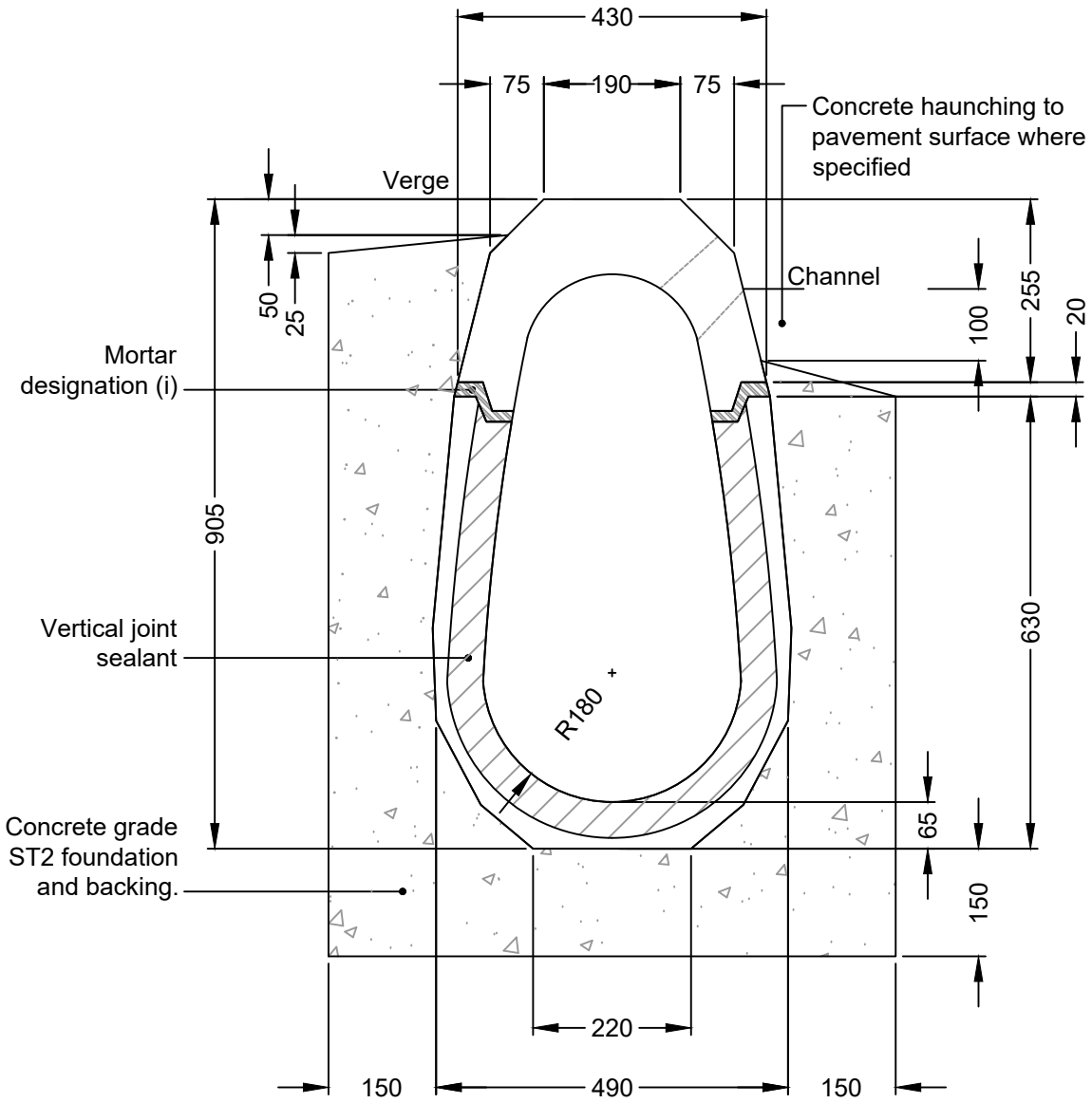
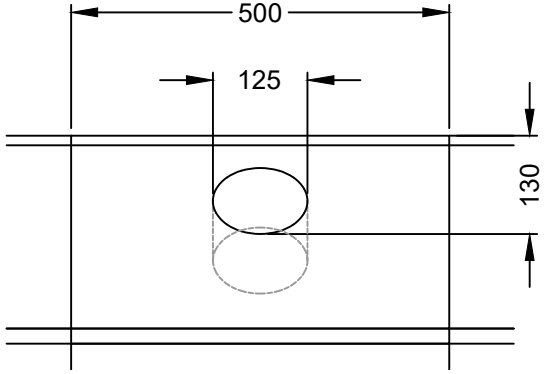
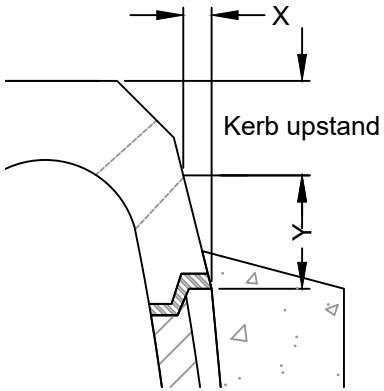
Original frame size A4 (297 x 210mm) 2cm

Scale	Scheme
1:10	Technical Services Standard Details
Drawn: RJF	Title: Combined Drainage and Kerb Blocks Half-Battered Base and Top Block
Date: Aug 23	CAD / Checked / Authorized / Drawing Number: TS/SD/1100/90 / Revision



Cross Section





Kerb Upstand	75	100
X	51	45
Y	200	175

Where X is dimension to top outside edge of base block

Notes

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. All insitu concrete shall use sulphate resisting cement.
5. The detail is shown to define the basic drain form. A proprietory system is to be employed using all of the applicable items of the whole range.

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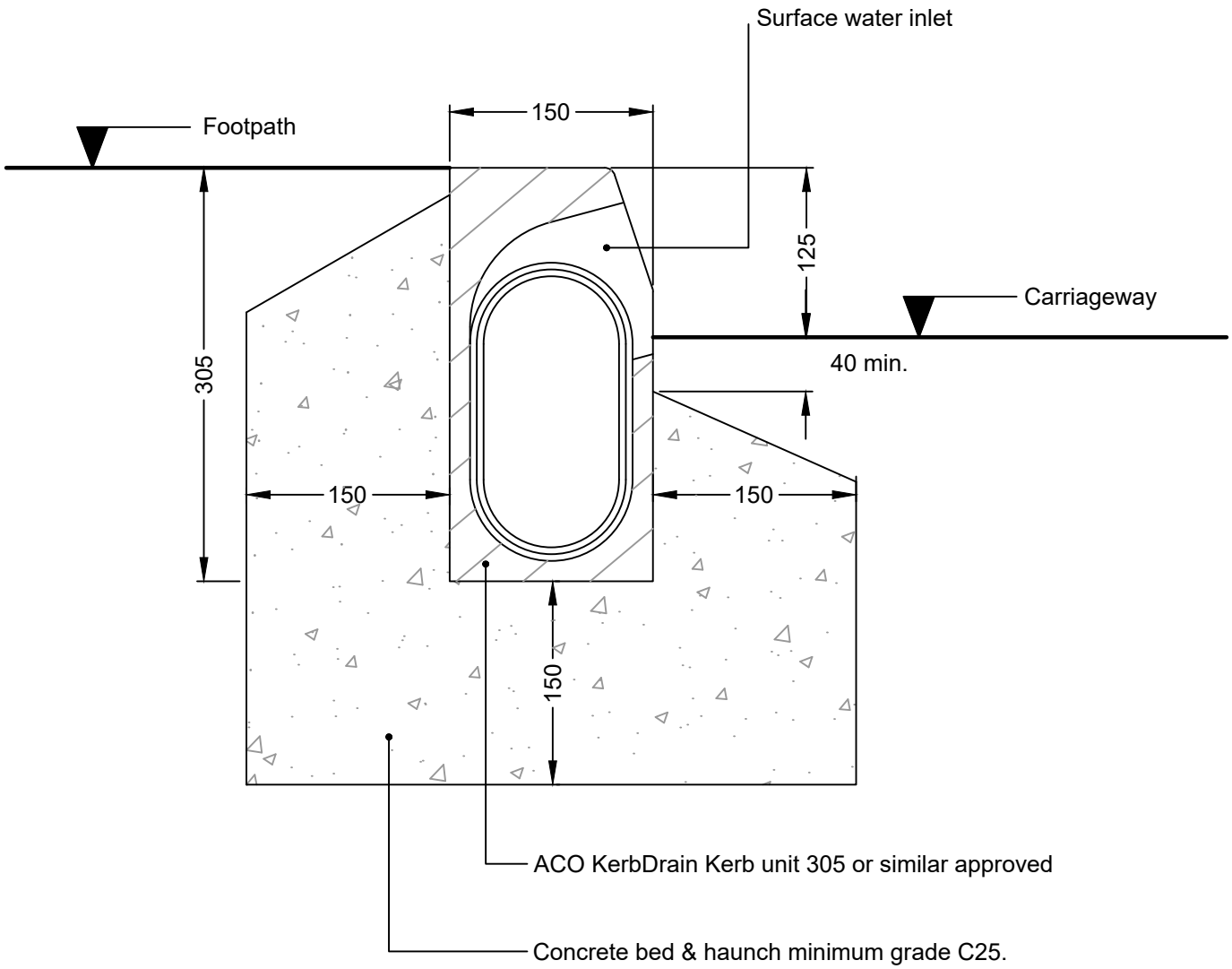
Scale	Scheme	
1:10	Technical Services Standard Details	
Drawn: RJF	Title: Combined Drainage and Kerb Blocks Half-Battered Base and Top Block	
Date: Aug 23	CAD / Checked / Authorized	Drawing Number: TS/SD1100/100 — Revision

Original frame size A4 (297 x 210mm) 2cm



Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.

Scale: 1:5	Scheme: Technicl Services Standard Details				
Drawn: DWM	Title: Typical Linear Drainage Section				
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/110	Revision

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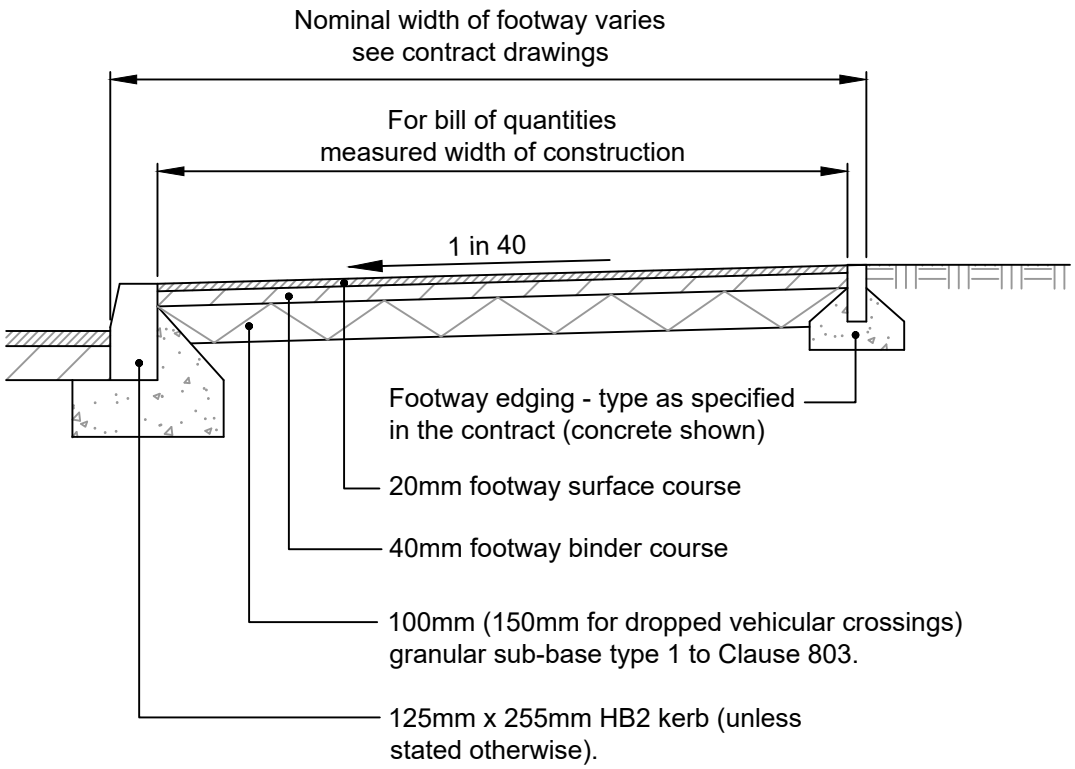
Original frame size A4 (210 x 297mm) 2cm



Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Footway construction to be as detailed in Appendix 11/1

Scale: 1:20	Scheme: Technical Sevices-Standard Details					
Drawn: DWM	Title: Typical Flexible Footway Section					
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/120	Revision	

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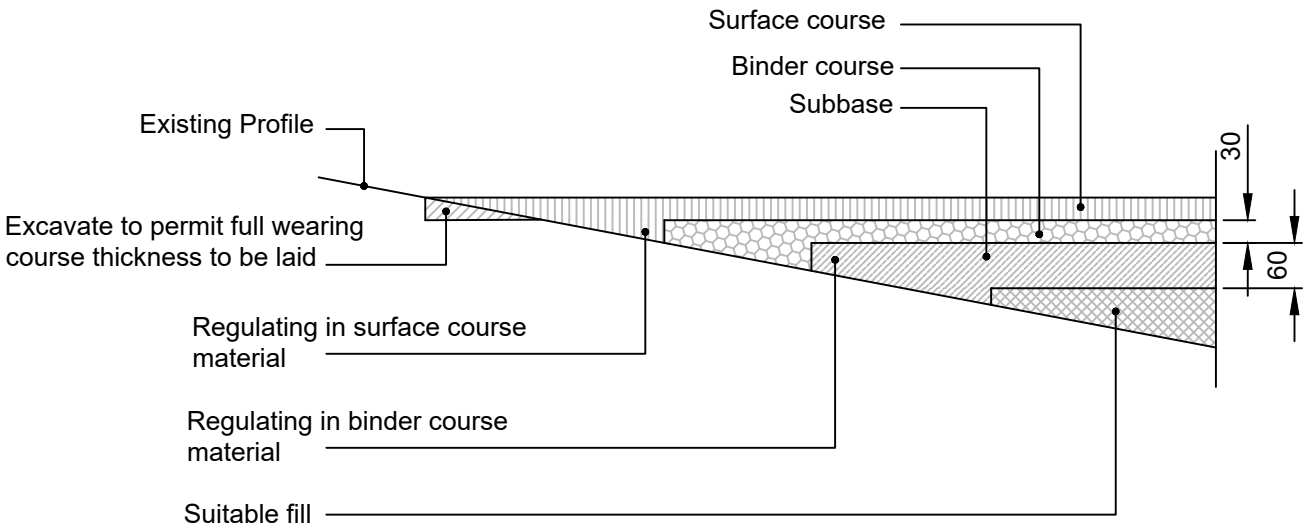
Original frame size A4 (210 x 297mm) 2cm



FOOTWAY REGULATING

Notes

1. Do not scale
2. All dimensions in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. The regulating materials shown above are to the minimum requirement but materials in a lower layer may be substituted by those in a higher layer in accordance with Appendix 11/1.
5. Tack coat to be applied in accordance with BS 594987

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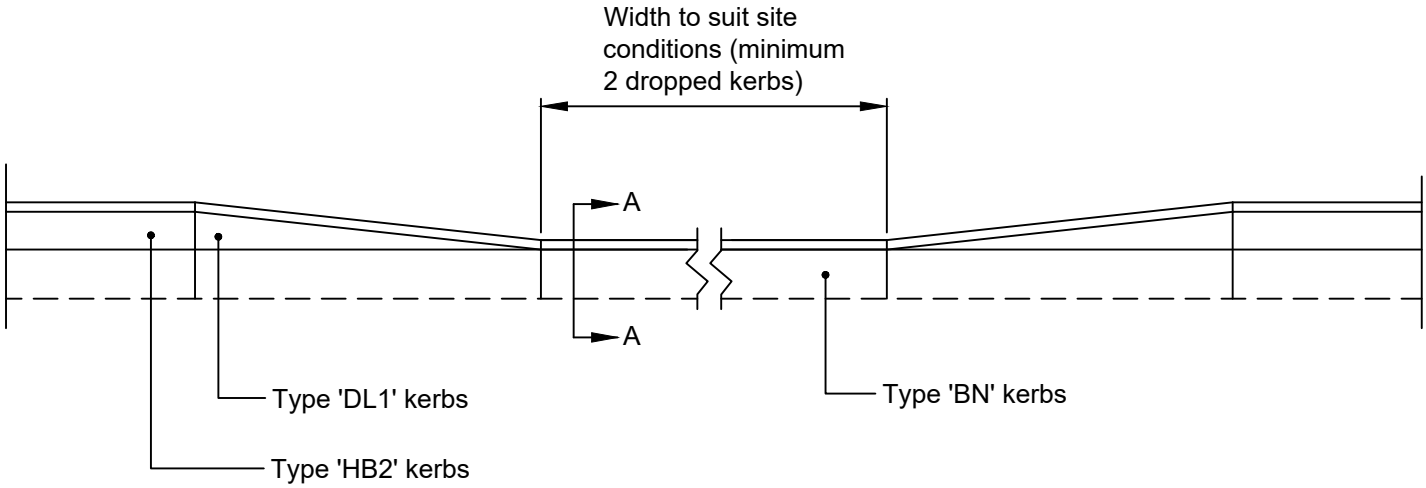
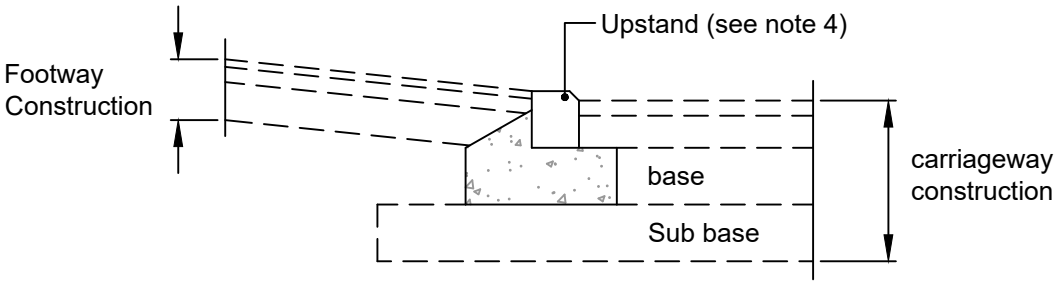
Scale	Scheme	
1:10	Technical Services Standard Details	
Drawn	Title	
FWK	Footway Regulating	
Date	CAD	Checked	Authorised	Drawing Number	Revision
Aug 23	FWK			TD/SD1100/130	

Original frame size A4 (210 x 297mm) 2cm



Elevation



Section A-A

Notes

1. Do not scale
2. All dimensions are in millimetres unless otherwise stated.
3. All discrepancies are to be reported to the Engineer.
4.

	Upstand
Cycle Crossing	0mm
Pedestrian Crossing (with tactile paving)	0mm
Vehicular Access	25mm

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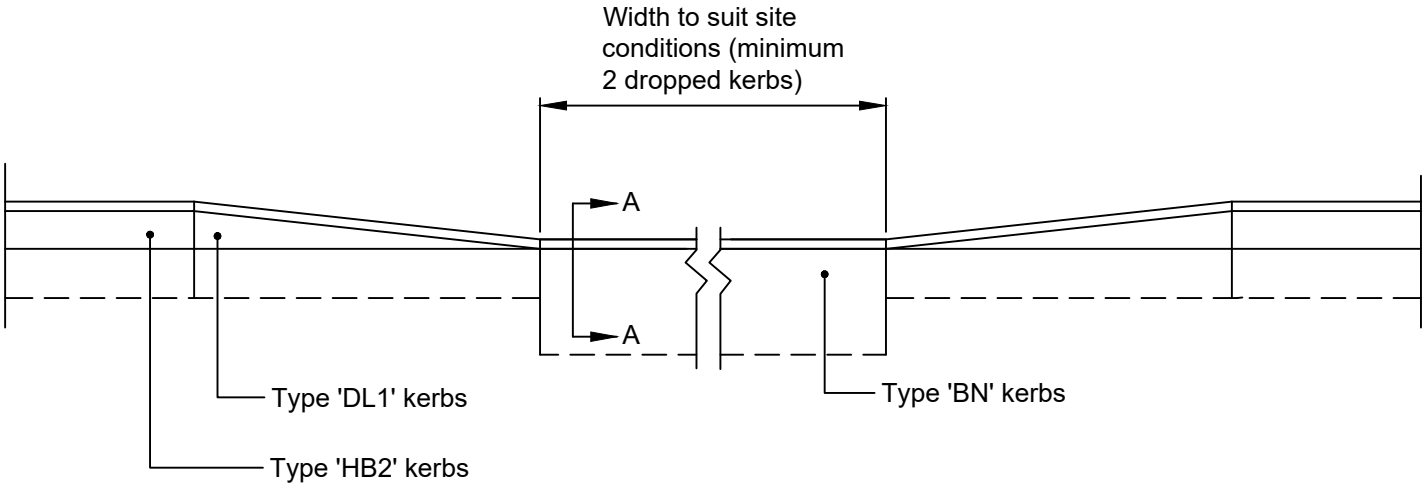
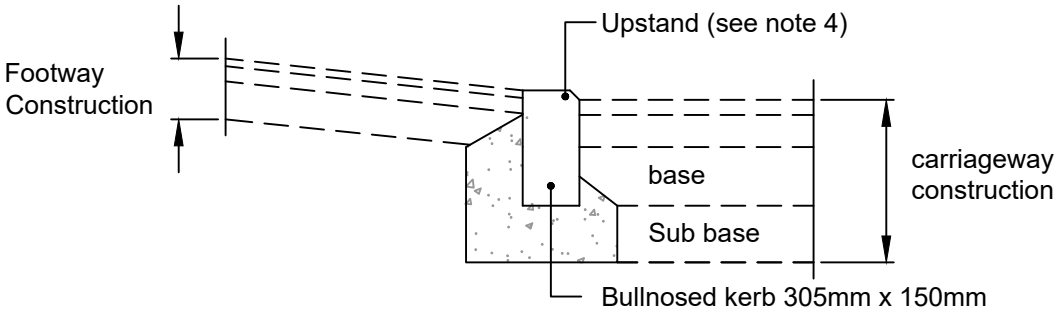
Scale	Scheme	
1:20	Technical Services Standard Details	
Drawn: DWM	Title: Dropped Crossing	
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/140	Revision

Original frame size A4 (210 x 297mm) 2cm



Elevation



Section A-A

Notes

1. Do not scale
2. All dimensions are in millimetres unless otherwise stated.
3. All discrepancies are to be reported to the Engineer.
4. This detail to be used where specified by the Authority.
5.

	Upstand
Cycle Crossing	0mm
Pedestrian Crossing (with tactile paving)	0mm
Vehicular Access	25mm

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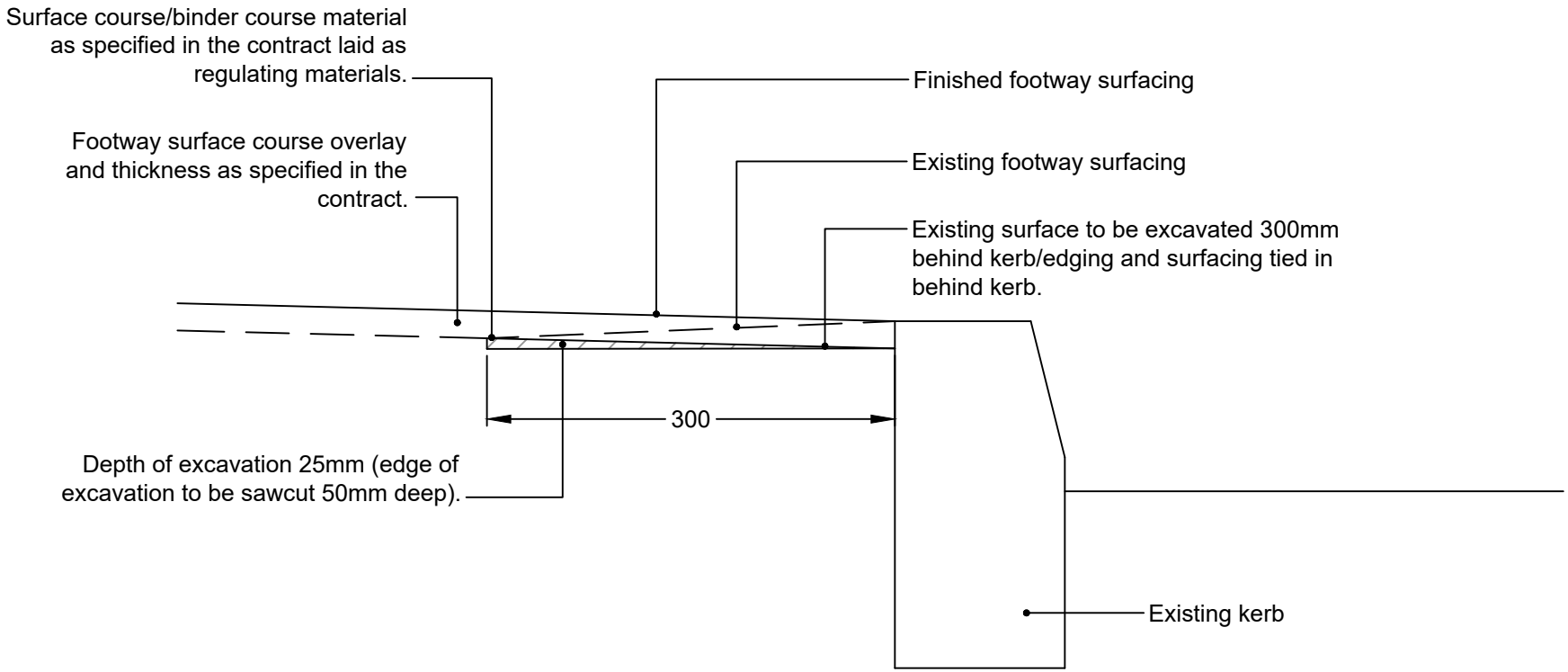
Scale	Scheme	Technical Services Standard Details				
1:20	Title	Heavy Duty Dropped Crossing				
Drawn						
CL						
Date	CAD	Checked	Authorised	Drawing Number	Revision	
Sept 23				TS/SD1100/145		

Original frame size A4 (210 x 297mm)



Notes:

1. Do not scale
2. All dimensions are in millimetres unless otherwise stated.
3. All discrepancies are to be reported to the Engineer.
4. The footway tie-in detail shall be excavated by method approved by the Engineer & the area swept clean.
5. The edges of the excavation area are to be sawcut 50mm deep to a straight line to a firm undisturbed vertical edge.
6. The footway surface course overlay shall at no point be less than the minimum thickness stated.
7. A vertical faces to be treated with hot poured bitumen in accordance with BS 594987.

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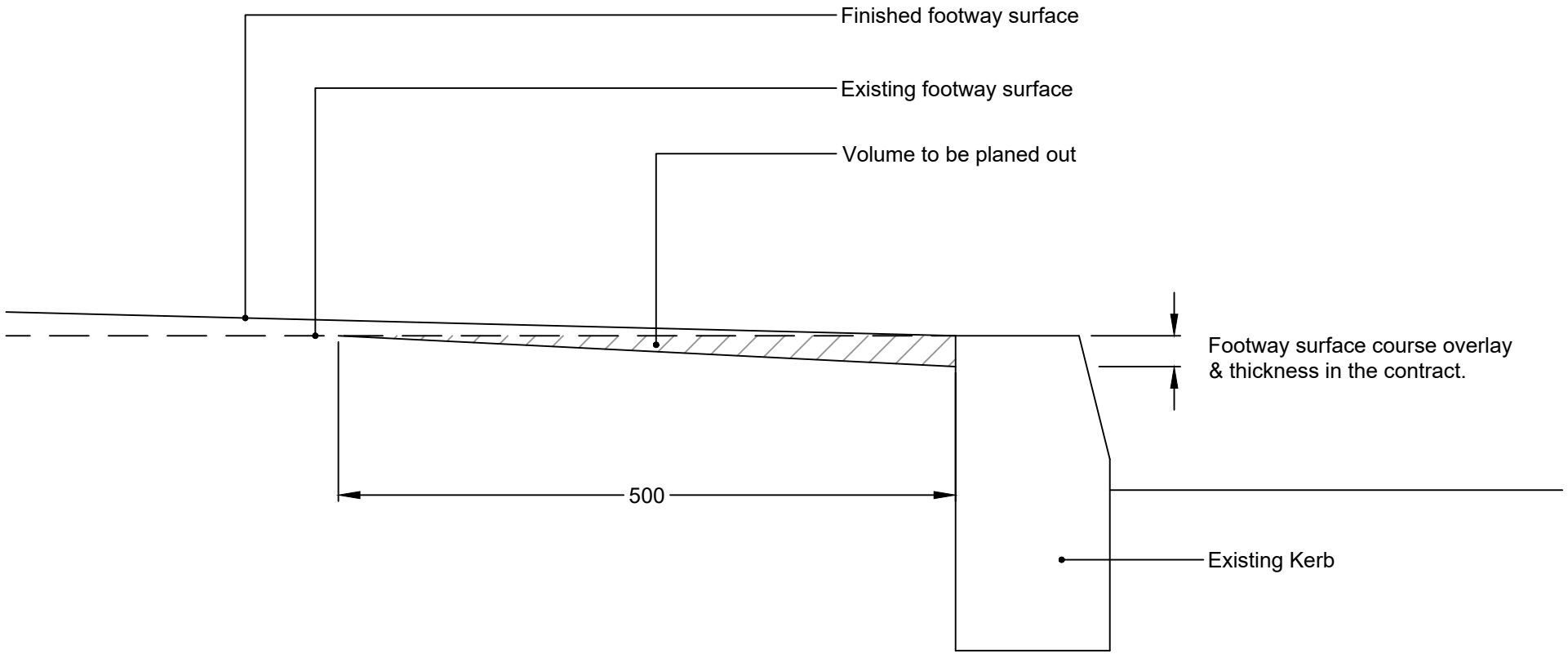
Scale: 1:5	Scheme: Technical Services Standard Detail				
Drawn: DWM	Title: Footway Tie-in Detail - Chasing Detail				
Date: Aug 23	CAD	Checked	Authorized	Drawing Number: TS/SD1100/150	Revision

Original frame size A4 (297 x 210mm) 2cm



Notes

1. Do not scale
2. All dimensions are in millimetres unless otherwise stated.
3. All discrepancies are to be reported to the Engineer.
4. This detail shall be read in conjunction with clause 1174AR
5. The footway surface course overlay shall at no point be less than the minimum thickness stated.
6. All vertical faces to be treated with hot poured bitumen in accordance with BS 594987.

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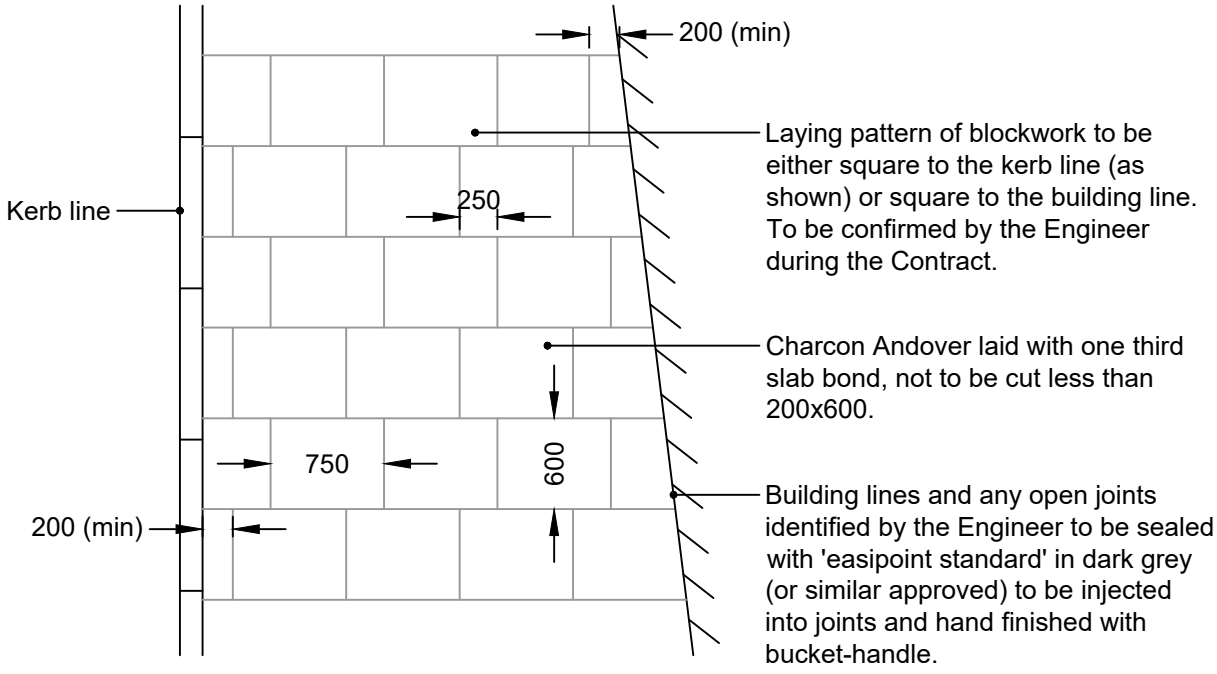
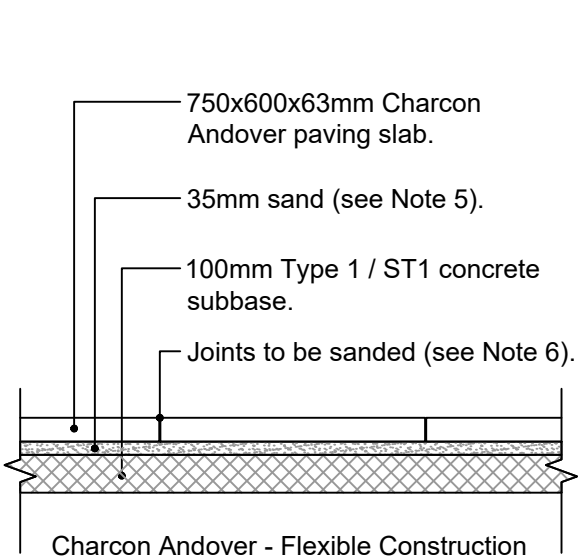
Scale: 1:5	Scheme: Technical Services Standard Detail				
Drawn: DWM	Title: Footway Tie-in - Planing Method				
Date: Aug 23	CAD	Checked	Authorized	Drawing Number: TS/SD1100/160	Revision

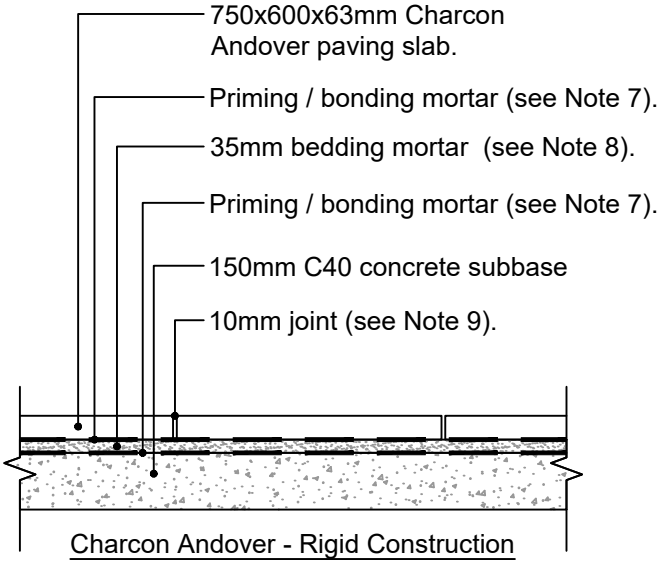
Original frame size A4 (297 x 210mm) 2cm



Charcon Andover - Laying Pattern
(Scale 1:50)



Charcon Andover - Flexible Construction
(Scale 1:20)



Charcon Andover - Rigid Construction
(Scale 1:20)

Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Charcon Andover steel mesh reinforced flag paver to be Dark Grey colour.
5. Sand to be as specified in Table 11-1 of Appendix 11/1.
6. Sand to be Kiln Dried & be in accordance with BS7533-3 Table D4.
7. Priming / bonding mortar to be in accordance with BS 7533-7 & BS 7533-12 (Steintec "Tuffbond" or similiar approved).
8. Bedding mortar 35mm thick laying mortar to BS 7533-4 & BS 7533-7 (Steintec "Tuffbed" or similiar approved).
9. Joints to be 10mm & hydraulically pointed in accordance with BS 7533-7 (Steintec "Tuffgrout" or similiar approved).

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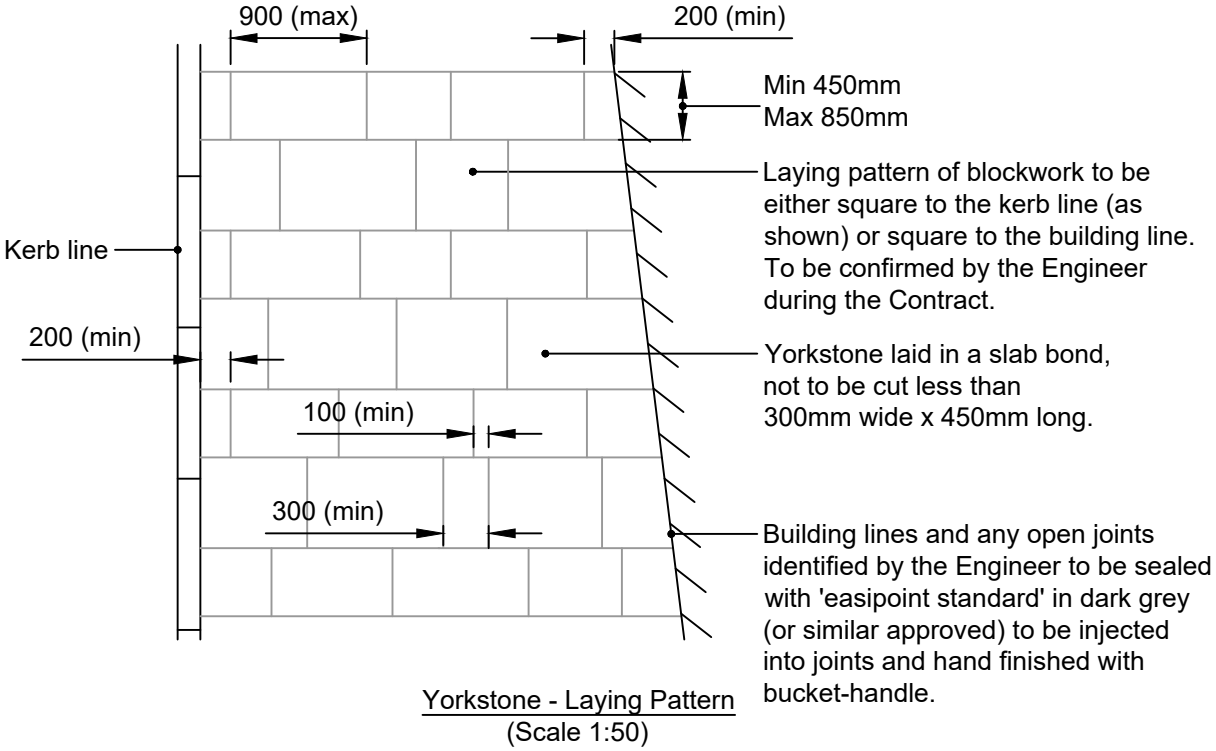
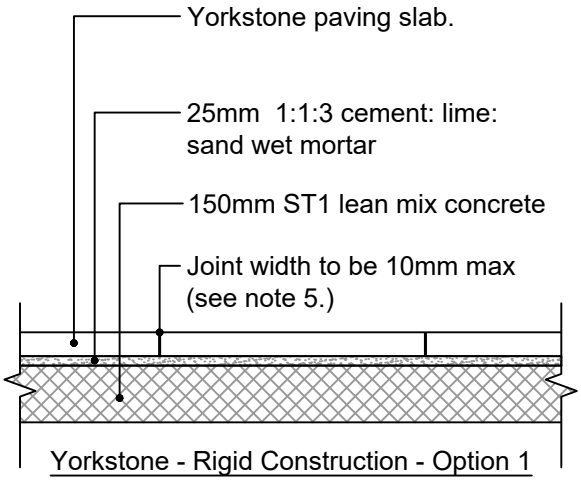
Scale	Scheme	
As Shown	Technical Services Standard Details	
Drawn: RJF	Title: Charcon Andover - Construction Details	
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1100/170	Revision

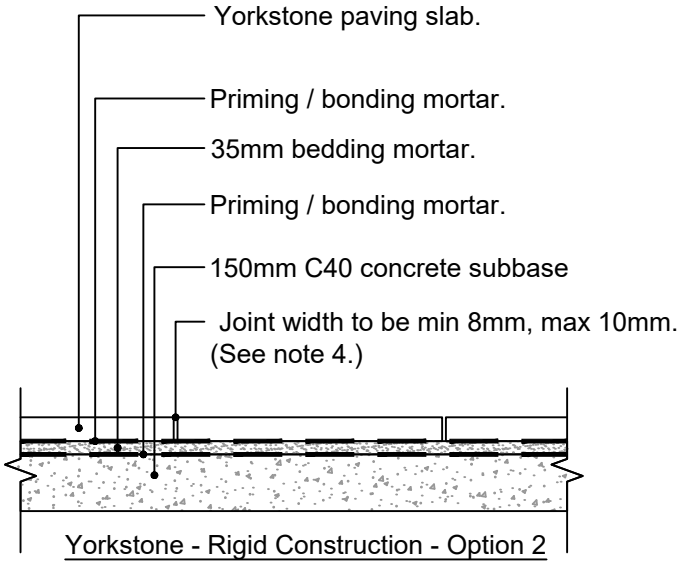
Original frame size A4 (210 x 297mm) 2cm



Yorkstone - Laying Pattern
(Scale 1:50)



Yorkstone - Rigid Construction - Option 1
(Scale 1:20)



Yorkstone - Rigid Construction - Option 2
(Scale 1:20)

Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Joints to be hydraulically pointed in accordance with BS 7533-7(Steintec "Tuffgrout" or similar approved).
5. Joints to be pointed in accordance with Clause 2677AR.

Scale: As Shown	Scheme: Technical Services Standard Details				
Drawn: FWK	Title: Yorkstone Paving - Construction Details				
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS-SD1100/180	Revision

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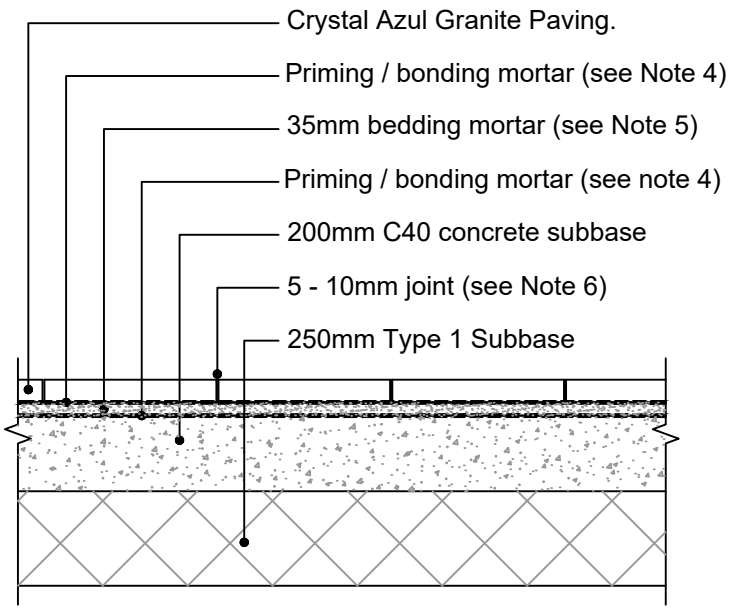
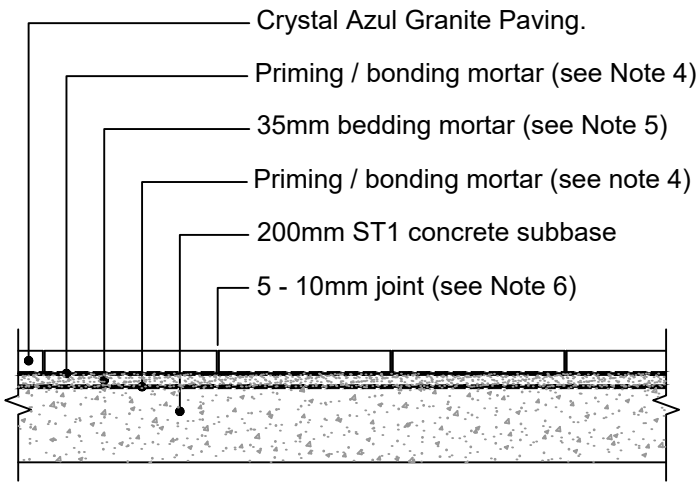
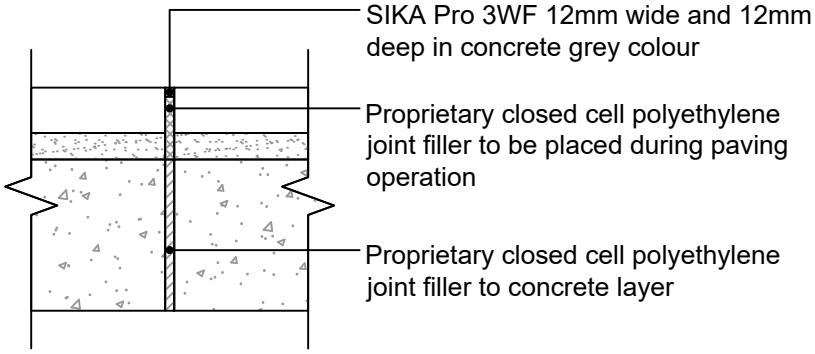
Original frame size A4 (210 x 297mm) 2cm



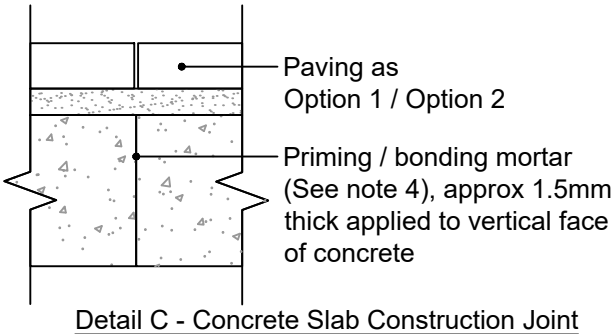
Charcon Granite Crystal Azul - Rigid Construction
Option 1: Vehicular Overrun Areas
(Scale 1:20)



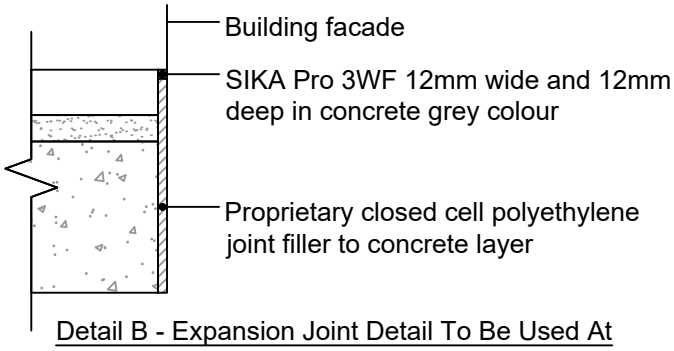
Charcon Granite Crystal Azul - Rigid Construction
Option 2: Non Vehicular Overrun Areas
(Scale 1:20)



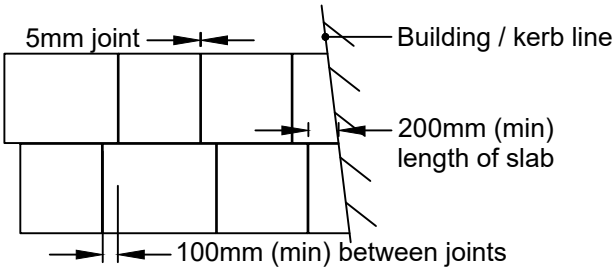
Detail A - Paving Expansion Joints (Scale 1:10)



Detail C - Concrete Slab Construction Joint
For Non Vehicular Overrun Areas
(Scale 1:10)



Detail B - Expansion Joint Detail To Be Used At
Building Lines
(Scale 1:5)



Charcon Granite Crystal Azul - Paving Bond Detail
(Scale 1:50)

Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Priming / bonding mortar to be in accordance with BS 7533-7 & BS 7533-12 (Steintec "Tuffbond" or similiar approved).
5. Bedding mortar 35mm thick laying mortar to BS 7533-4 & BS 7533-7 (Steintec "Tuffbed" or similiar approved).
6. Joints to be hydraulically pointed in accordance with BS 7533-7 (Steintec "Tuffgrout" or similiar approved). Exact joint width to be specified by the Engineer during the contract.

Scale: 1:20	Scheme: Technical Services Standard Details				
Drawn: RJF	Title: Granite Crystal Azul Construction Details				
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS-SD1100/190	Revision

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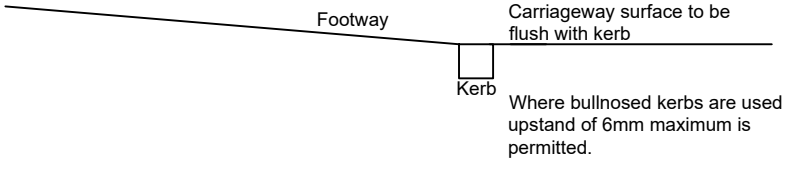
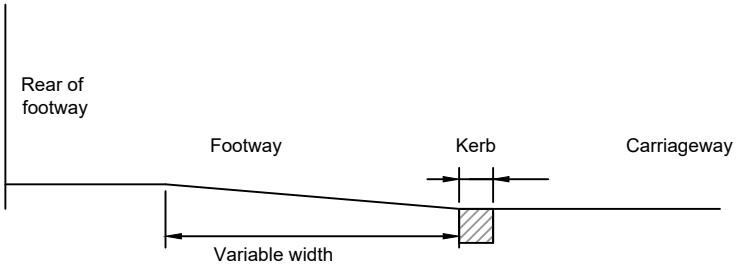
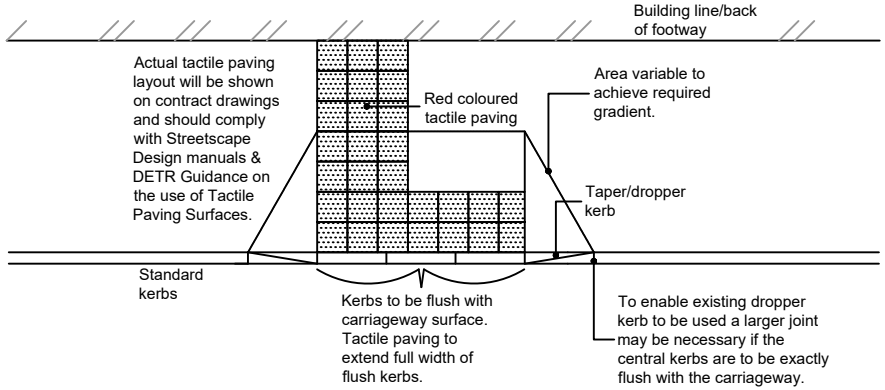
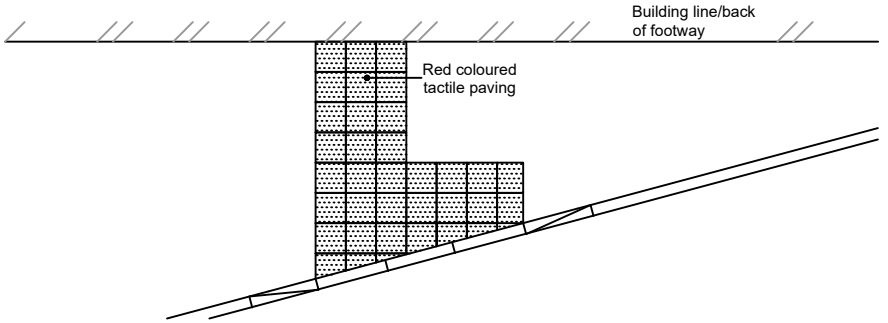
Original frame size A4 (210 x 297mm) | 2cm

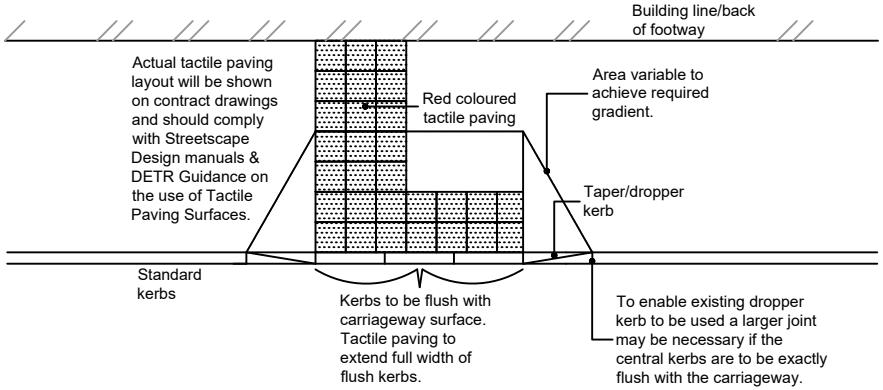




Maximum gradient 1 in 12 (8%). Footpath gradient to extend as far back as required to achieve a satisfactory approach for all users.







Notes:

1. Do Not Scale
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. In order to conform with BV 165 the crossing must be constructed in accordance with:
   DETR Guidance on the use of Tactile Paving Surfaces 1998 (available on DfT website)
   The Design of Pedestrian Crossings LTN 2/95 TSO 1995
   Puffin Pedestrian Crossings TAL 1/02
   Inclusive Mobility - a guide to best practice on access to pedestrian and transport infrastructure (available on DfT website).
   DfT website address: www.dft.gov.uk

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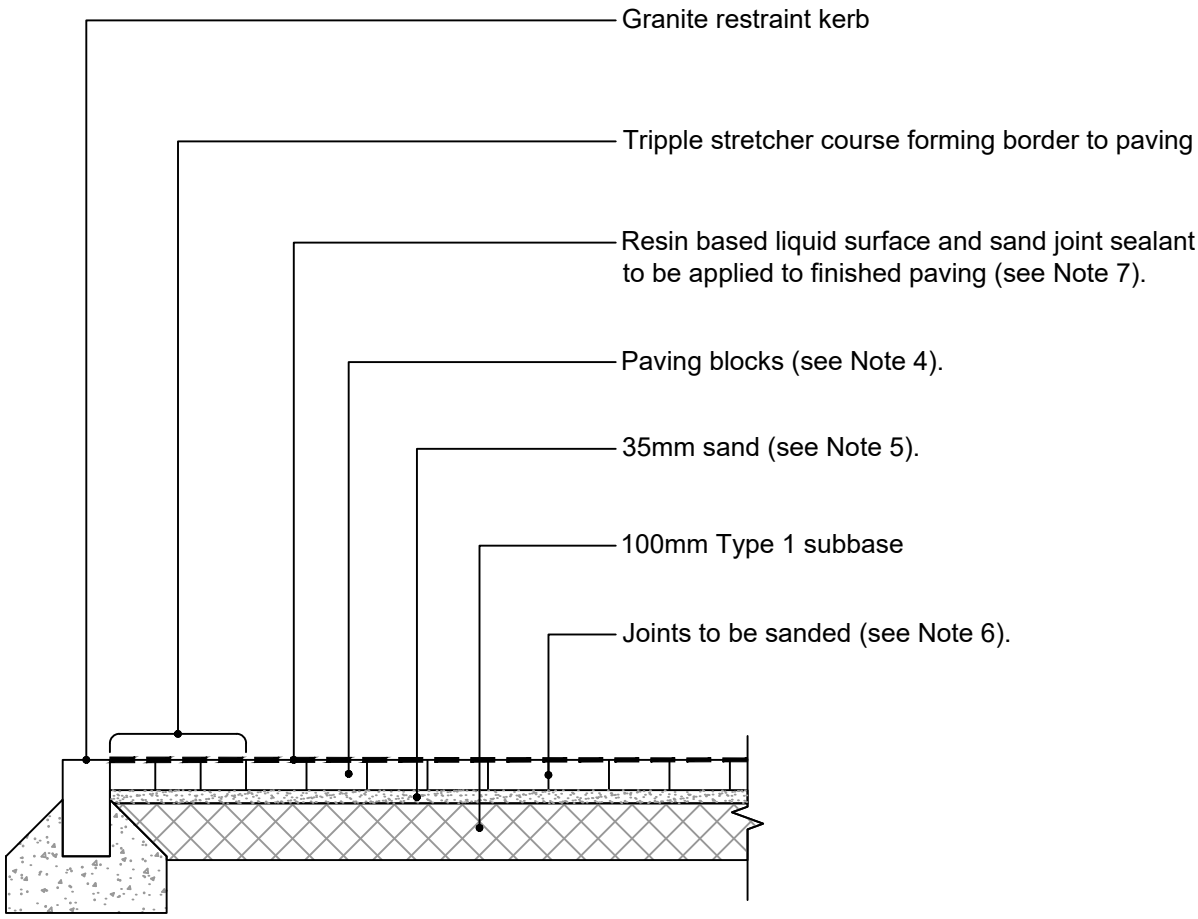
Scale	Scheme	
NTS	Technical Services Standard Details	
Drawn: RJF	Title: Tactile Paving at Signal Controlled Crossings (Compliance with BV 165)	
Date: Aug 23	CAD / Checked / Authorized	Drawing Number: TS-SD1100/210 — Revision

Original frame size A4 (297 x 210mm) 2cm



Block Paving - Typical Construction Detail
(Scale 1:20)

Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Block paving as specified in Table 11-1 of Appendix 11/1.
5. Sand to be as specified in Table 11-1 of Appendix 11/1.
6. Sand to be Kiln Dried & be in accordance with BS7533-3 Table D4.
7. Sealant to be Instarmac Joint Fix (or similiar approved).

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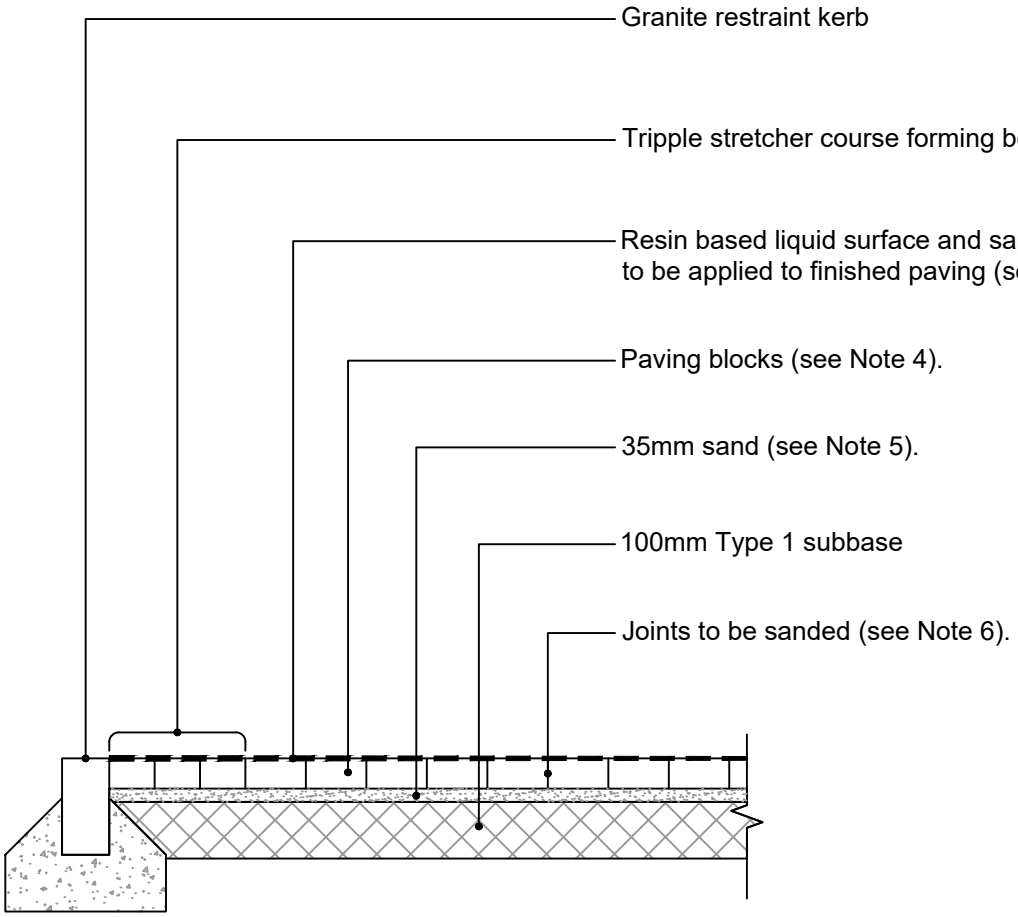
Scale	Scheme	
As Shown	Technical Services Standard Details	
Drawn: RJF	Title: Block Paving - Typical Construction Detail	
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS-SD1100/220	Revision

Original frame size A4 (210 x 297mm) 2cm



Block Paving - Typical Construction Detail
(Scale 1:20)

Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Block paving Charcon Woburn original in graphite 201x134x80mm deep.
5. Sand to be as specified in Table 11-1 of Appendix 11/1.
6. Sand to be Kiln Dried & be in accordance with BS7533-3 Table D4.
7. Sealant to be Instarmac Joint Fix (or similiar approved).

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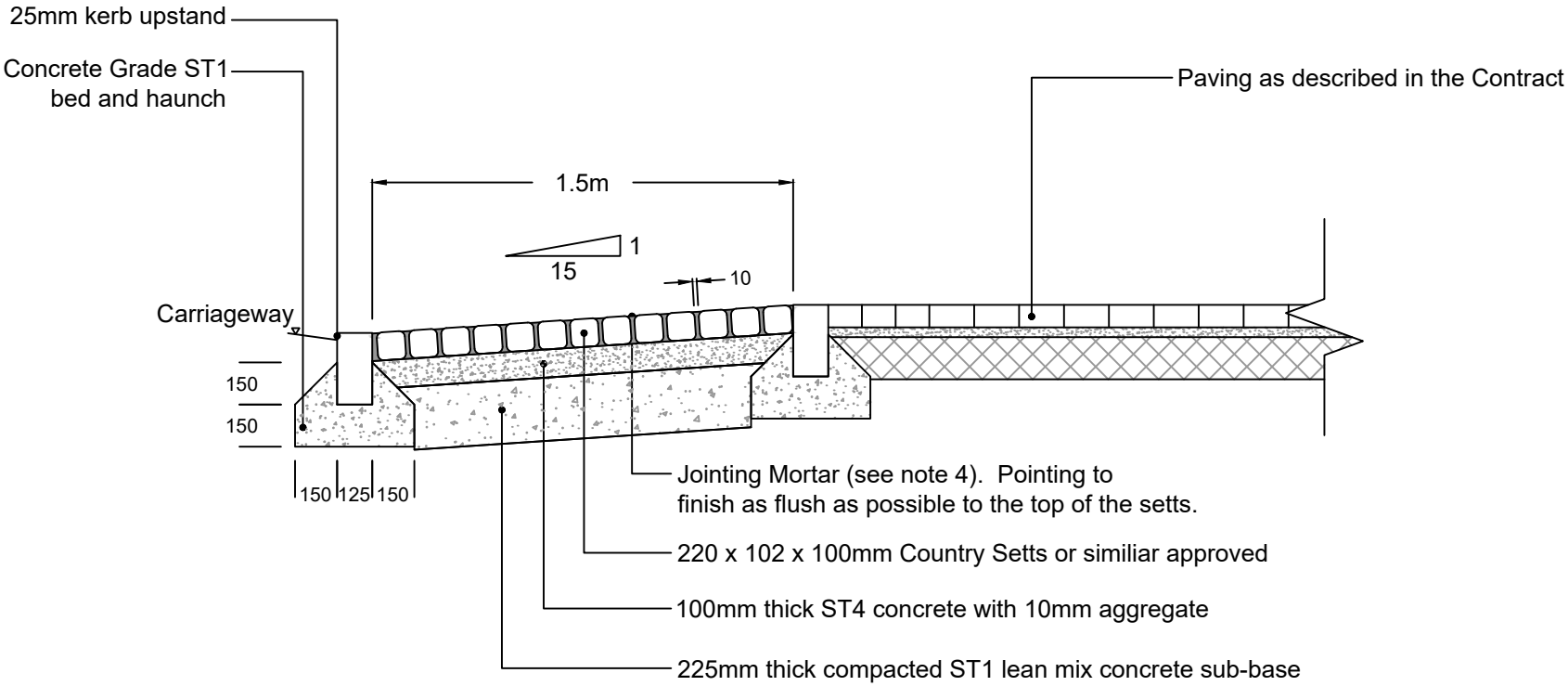
Scale	Scheme	
As Shown	Technical Services Standard Details	
Drawn	Title	
CL	Block Paving - Typical Construction Detail	

Date	CAD	Checked	Authorised	Drawing Number	Revision
Sept 23				TS/SD1100/220	

Original frame size A4 (210 x 297mm)



Notes:

1. Do Not Scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Joints to be 10mm & hydraulically pointed in accordance with BS 7533-7 (Steintec "Tuffgrout" or similiar approved).

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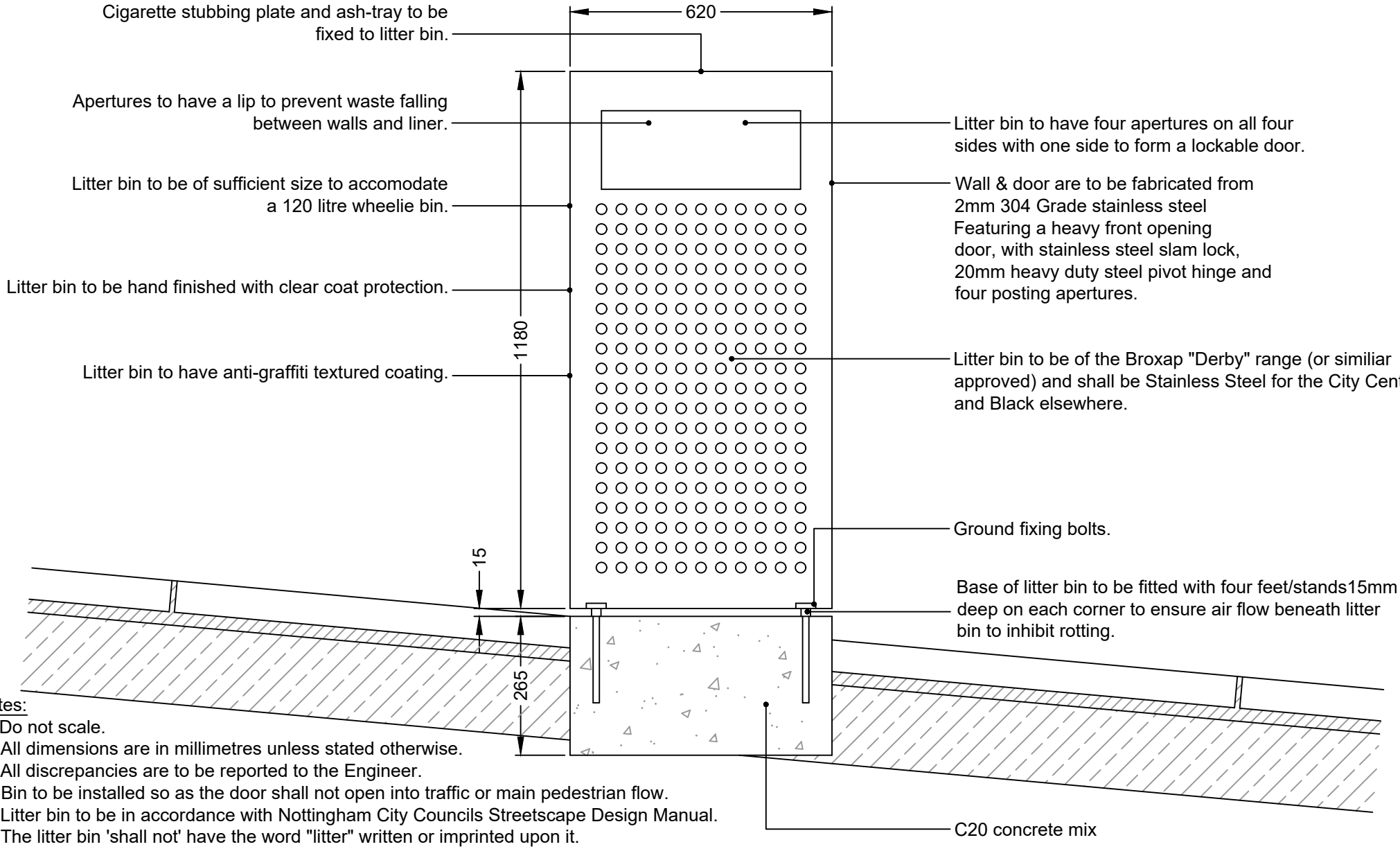
Scale: 1:25	Scheme: Technical Services Standard Details				
Drawn: RJF	Title: Country Sett Ramp Detail				
Date: Aug 23	CAD	Checked	Authorized	Drawing Number: TS-SD1100/230	Revision

Original frame size A4 (297 x 210mm) 2cm



Notes:

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the Engineer.
4. Bin to be installed so as the door shall not open into traffic or main pedestrian flow.
5. Litter bin to be in accordance with Nottingham City Councils Streetscape Design Manual.
6. The litter bin 'shall not' have the word "litter" written or imprinted upon it.

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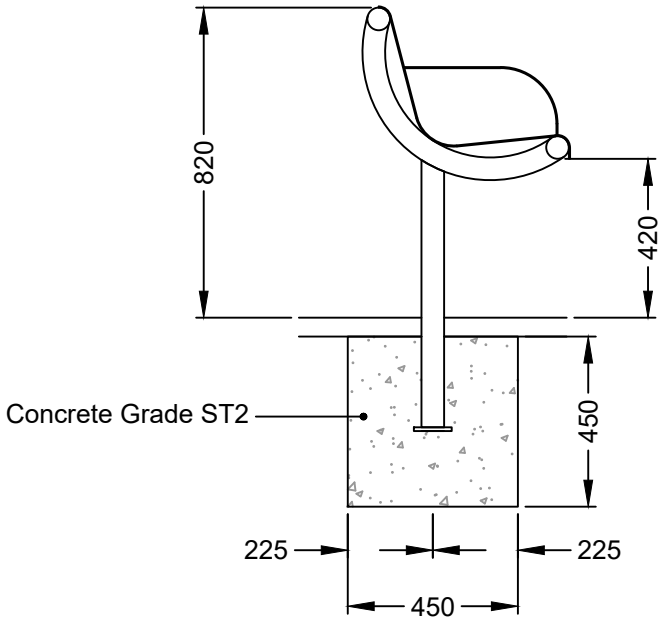
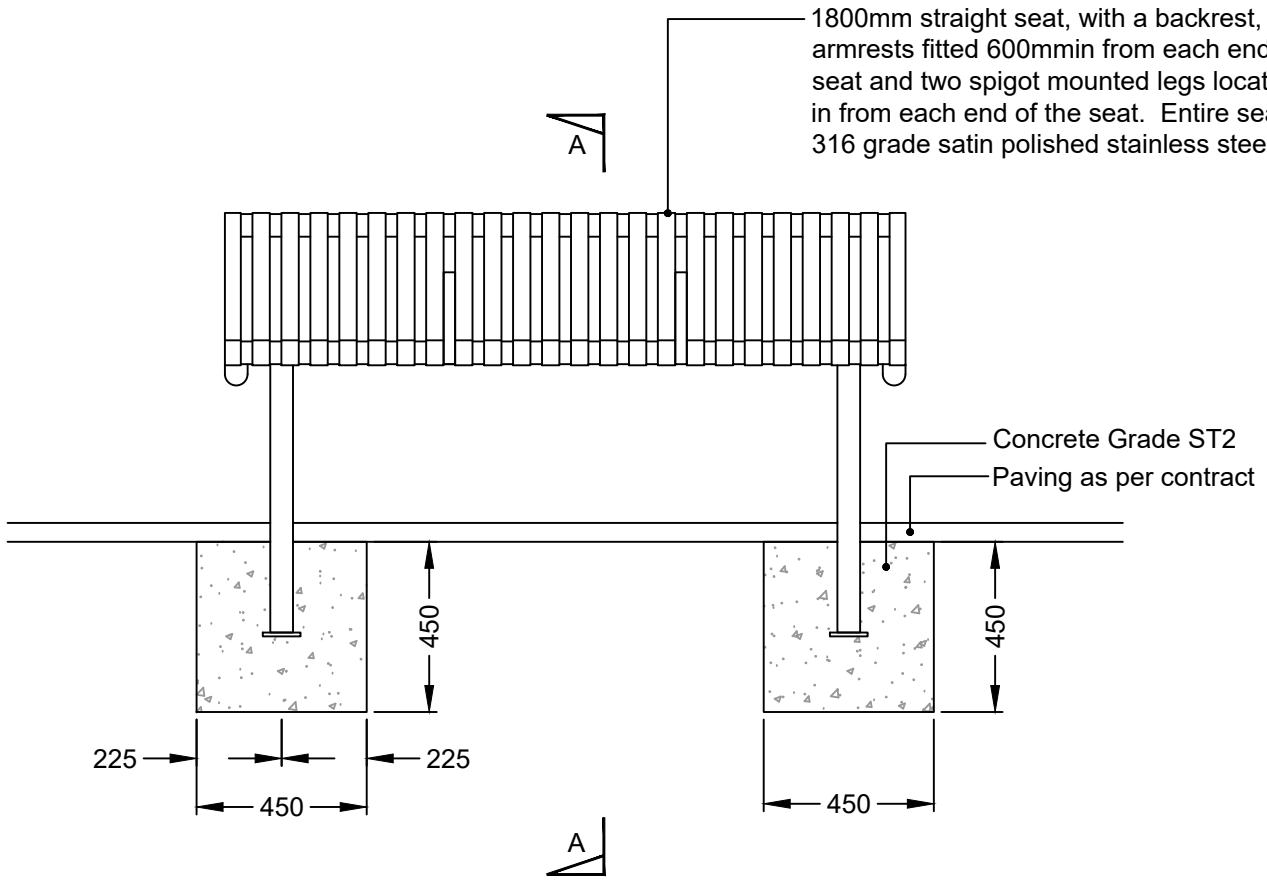
Scale: 1:10	Scheme: Technical Services Standard Details				
Drawn: DWM	Title: Litter Bin				
Date: Aug 23	CAD	Checked	Authorized	Drawing Number: TS-SD1100/240	Revision

Original frame size A4 (297 x 210mm) 2cm



Section A - A



Elevation

Notes:

1. Do not scale
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to be reported to the engineer.
4. Seat to be in accordance with Nottingham City Councils Streetscape Manual.

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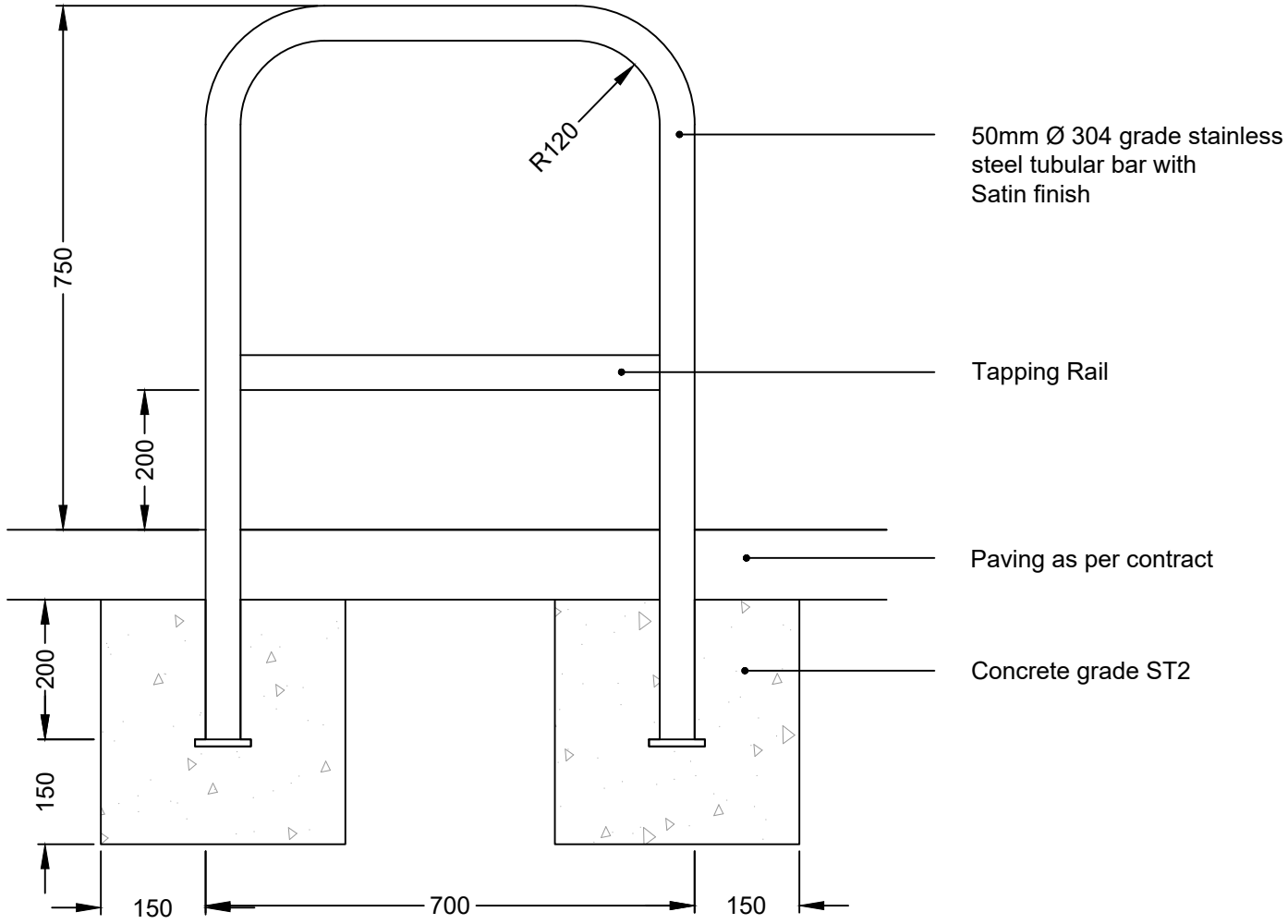
Scale: 1:10	Scheme: Technical Services Standard Details				
Drawn: DWM	Title: Seat Detail				
Date: Aug 23	CAD	Checked	Authorized	Drawing Number: TS/SD1100/250	Revision

Original frame size A4 (297 x 210mm) 2cm



Notes:
1. Do not scale.
2. All dimensions are in millimetres.
3. All discrepancies are to be reported to the Engineer.
4. Cycle Stand to be in accordance with Nottingham City Councils Streetscape Design Manual.

Scale: 1:10	Scheme: Technical Services Standard Details					
Drawn: DWM	Title: Cycle stand					
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS-SD1100/260	Revision	

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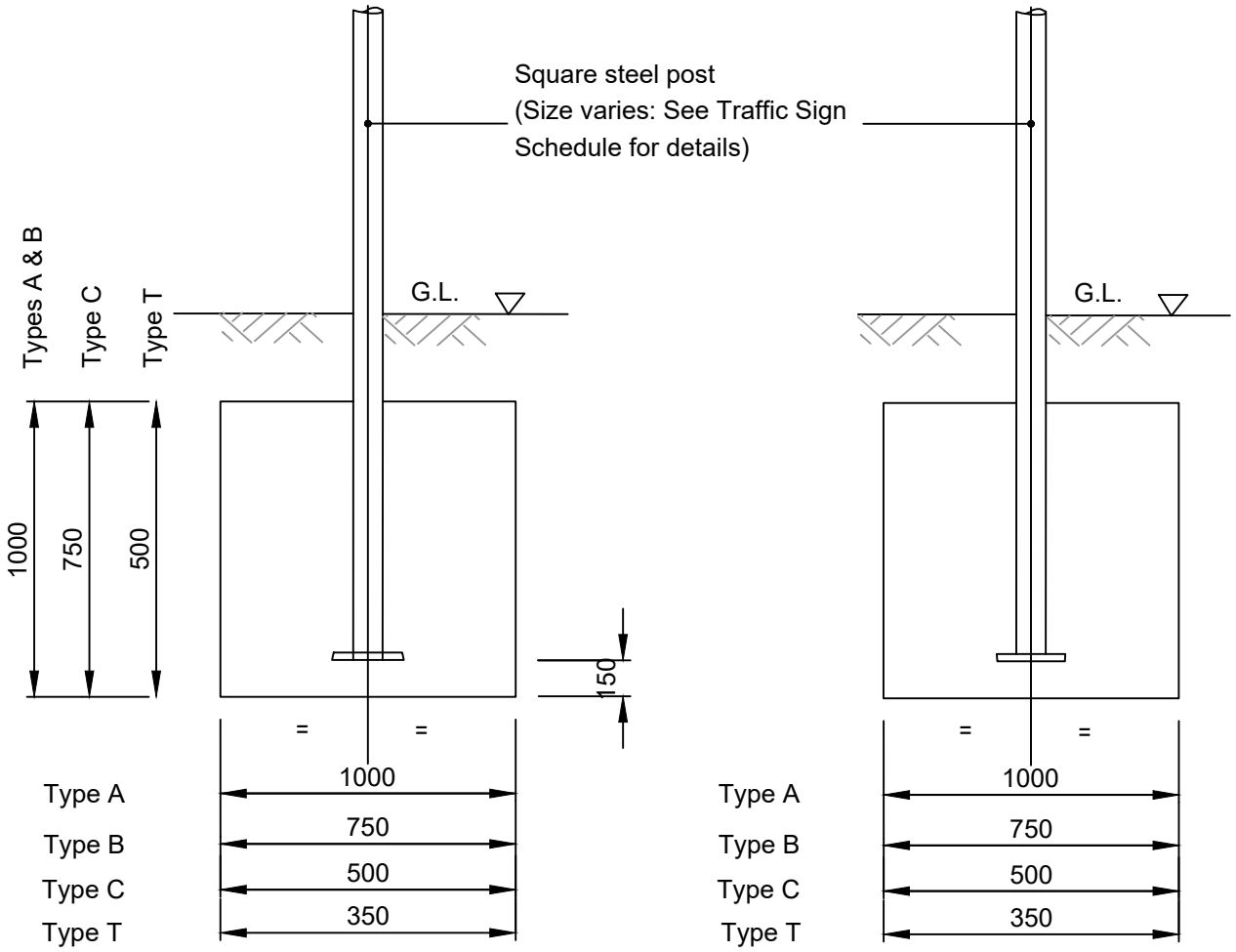
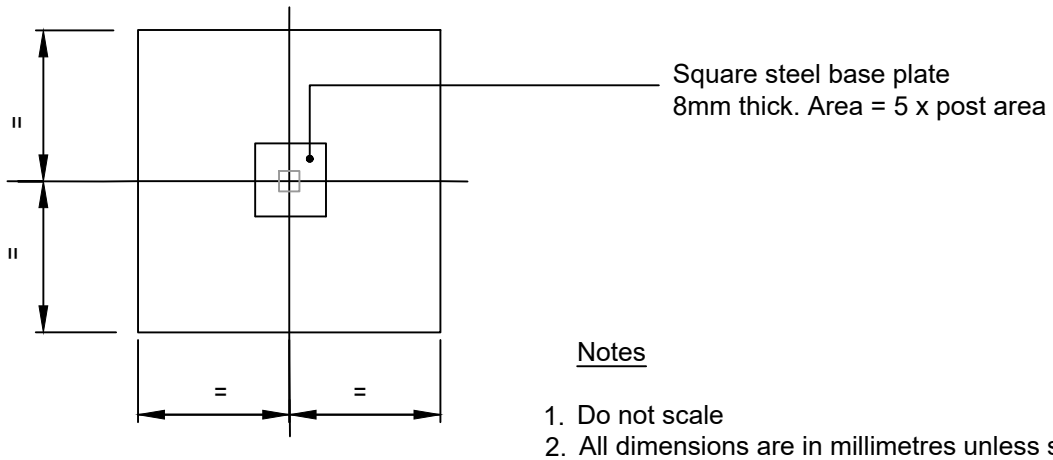
Original frame size A4 (210 x 297mm) 2cm



Elevation

Section



Plan

Notes

1. Do not scale
2. All dimensions are in millimetres unless stated otherwise
3. All discrepancies are to be reported to the Engineer
4. Concrete bases to be mix ST2

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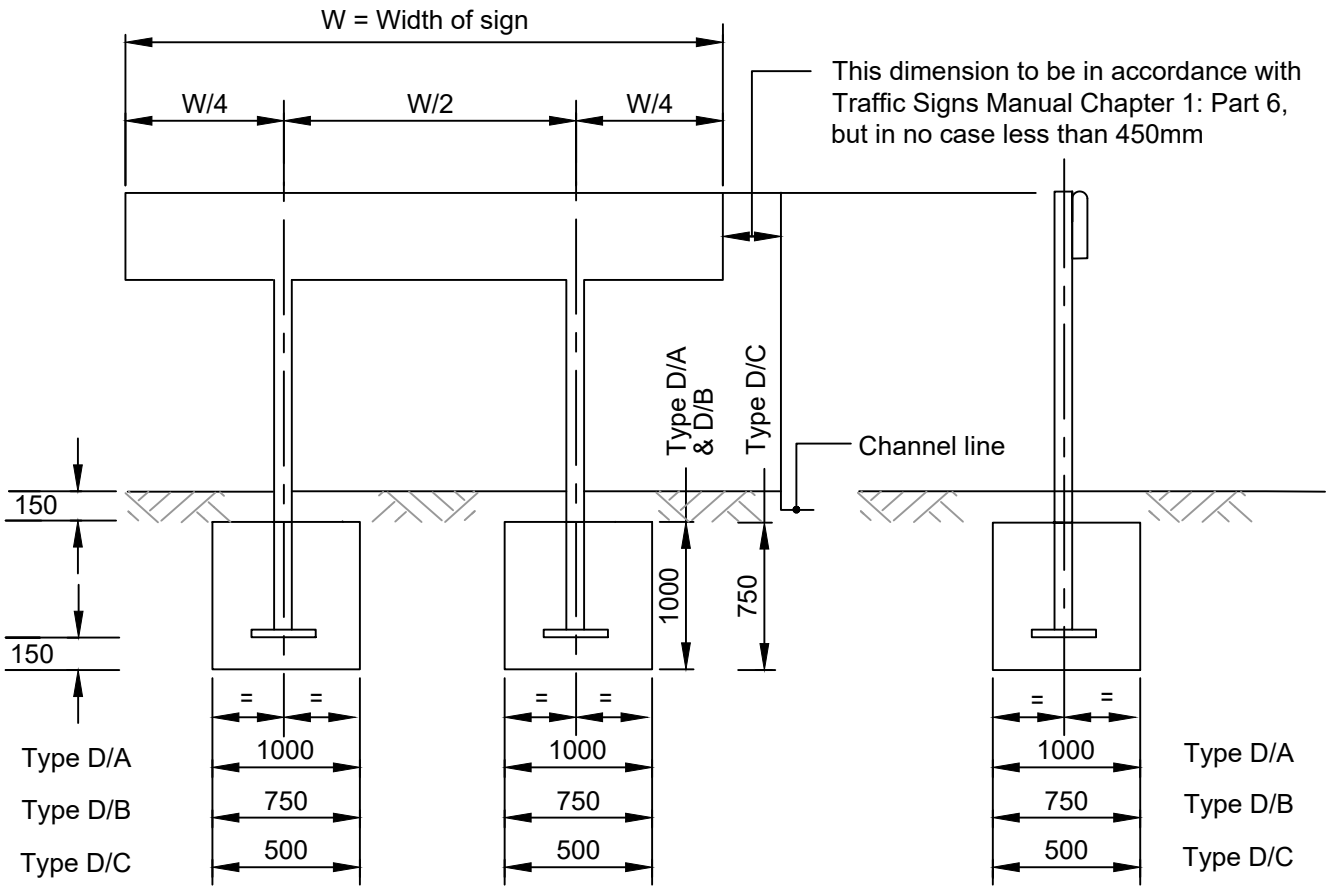
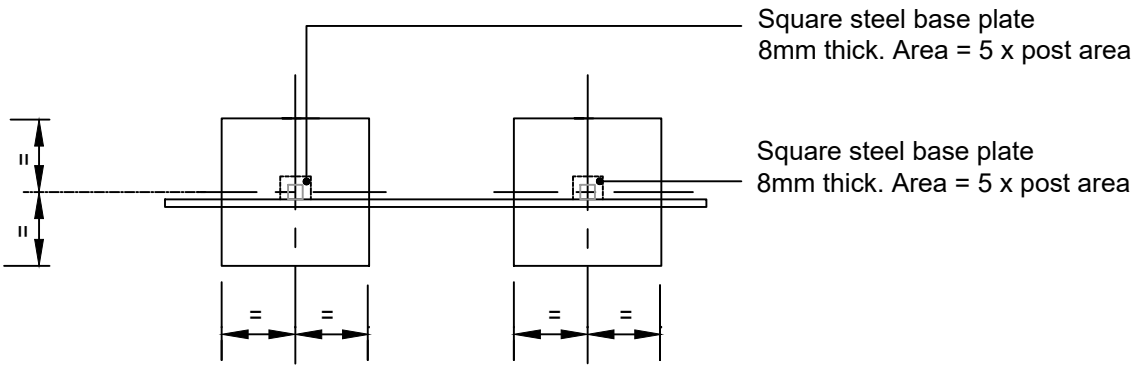
Scale	Scheme	Technical Services Standard Details	
NTS			
Drawn	Title	Traffic Sign Bases Sheet 1	
CL			
Date	CAD	Checked	Authorised	Drawing Number	Revision
Sept 23				TS/SD1200/20	

Original frame size A4 (210 x 297mm)





Plan

Notes

1. Do not scale
2. All dimensions are in millimetres unless stated otherwise
3. All discrepancies are to be reported to the Engineer
4. Concrete bases to be mix ST2
5. For illuminated signs 75mm Ø duct is to be provided through concrete base to suit cable hole in sign post

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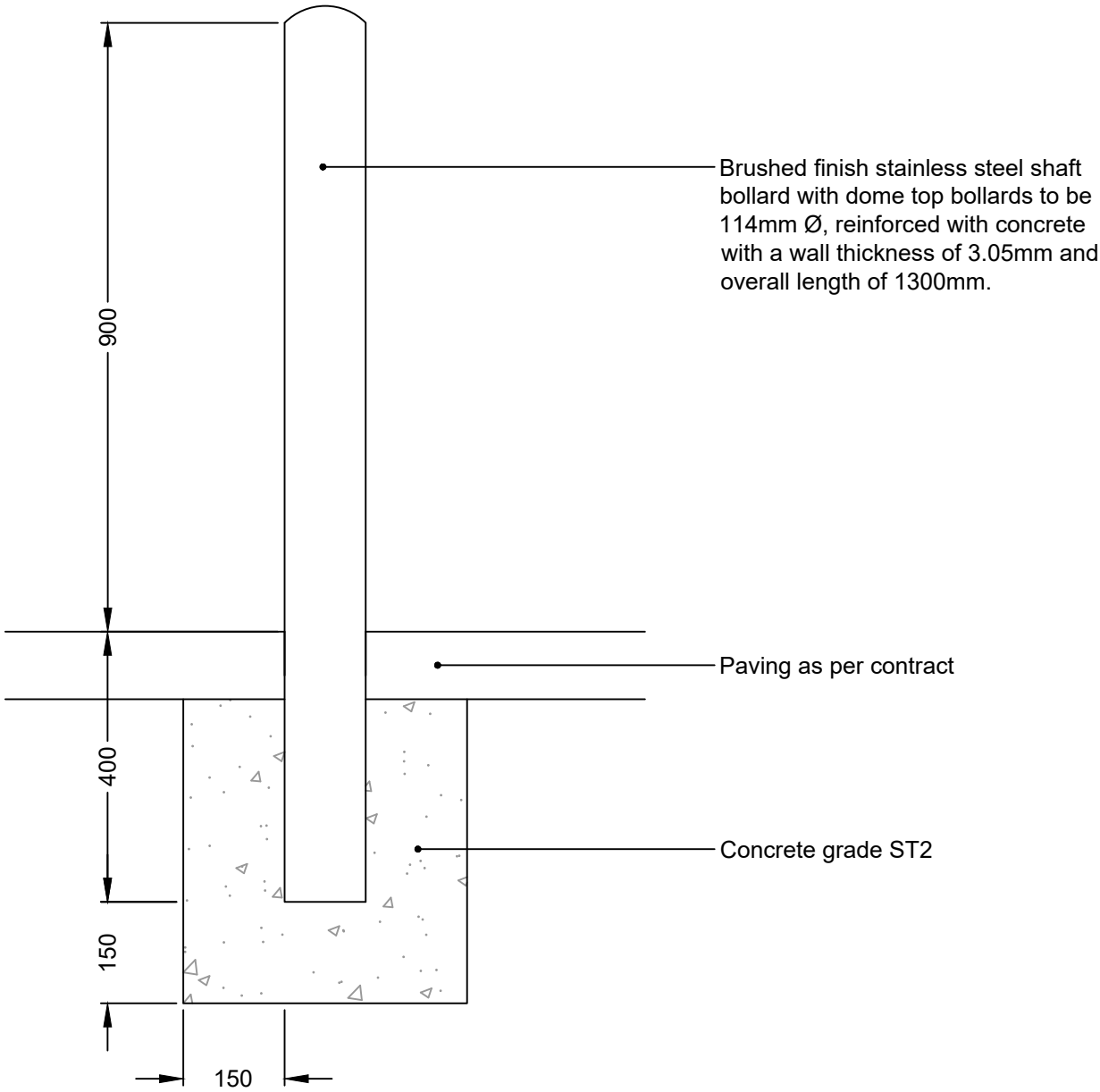
Scale	Scheme	
NTS	Technical Services Standard Details	
Drawn	Title	
CL	Traffic Sign Bases Sheet 2	
Date	CAD	Checked	Authorised	Drawing Number	Revision
Sept 23				TS/SD1200/30	

Original frame size A4 (210 x 297mm)



Notes:

1. Do not scale.
2. All dimensions are in millimetres.
3. All discrepancies are to be reported to the Engineer.
4. Bollard to be in accordance with Nottingham City Councils Streetscape Manual.

Scale: 1:10	Scheme: Technical Services Standard Details				
Drawn: DWM	Title: Stainless Steel Bollard				
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1200/60	Revision

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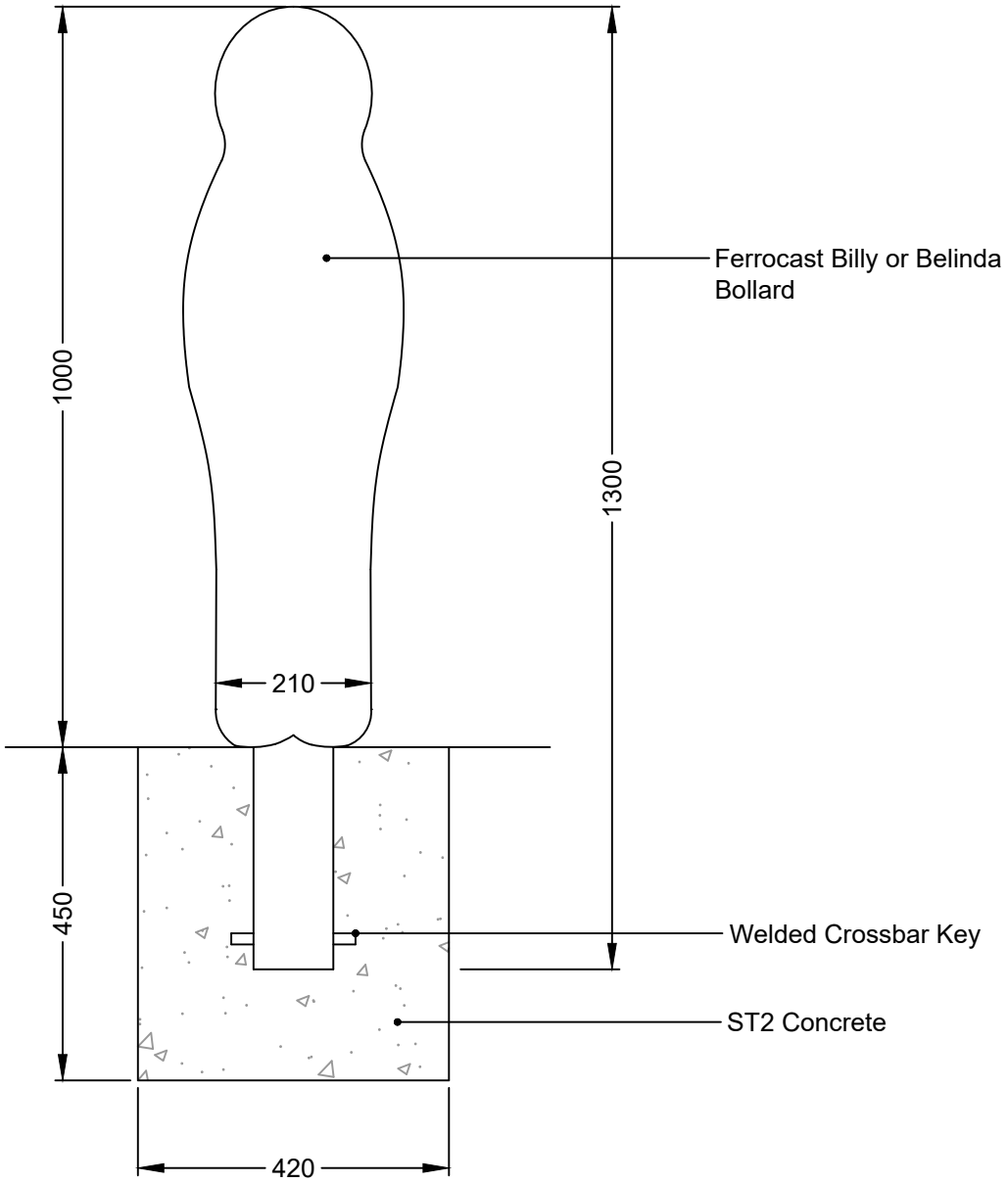
Original frame size A4 (210 x 297mm) 2cm



Notes

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to reported to the Engineer.

Scale: 1:10	Scheme: Technical Services Standard Details					
Drawn: DWM	Title: Billy/Belinda Bollard - Typical Detail					
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1200/70	Revision	

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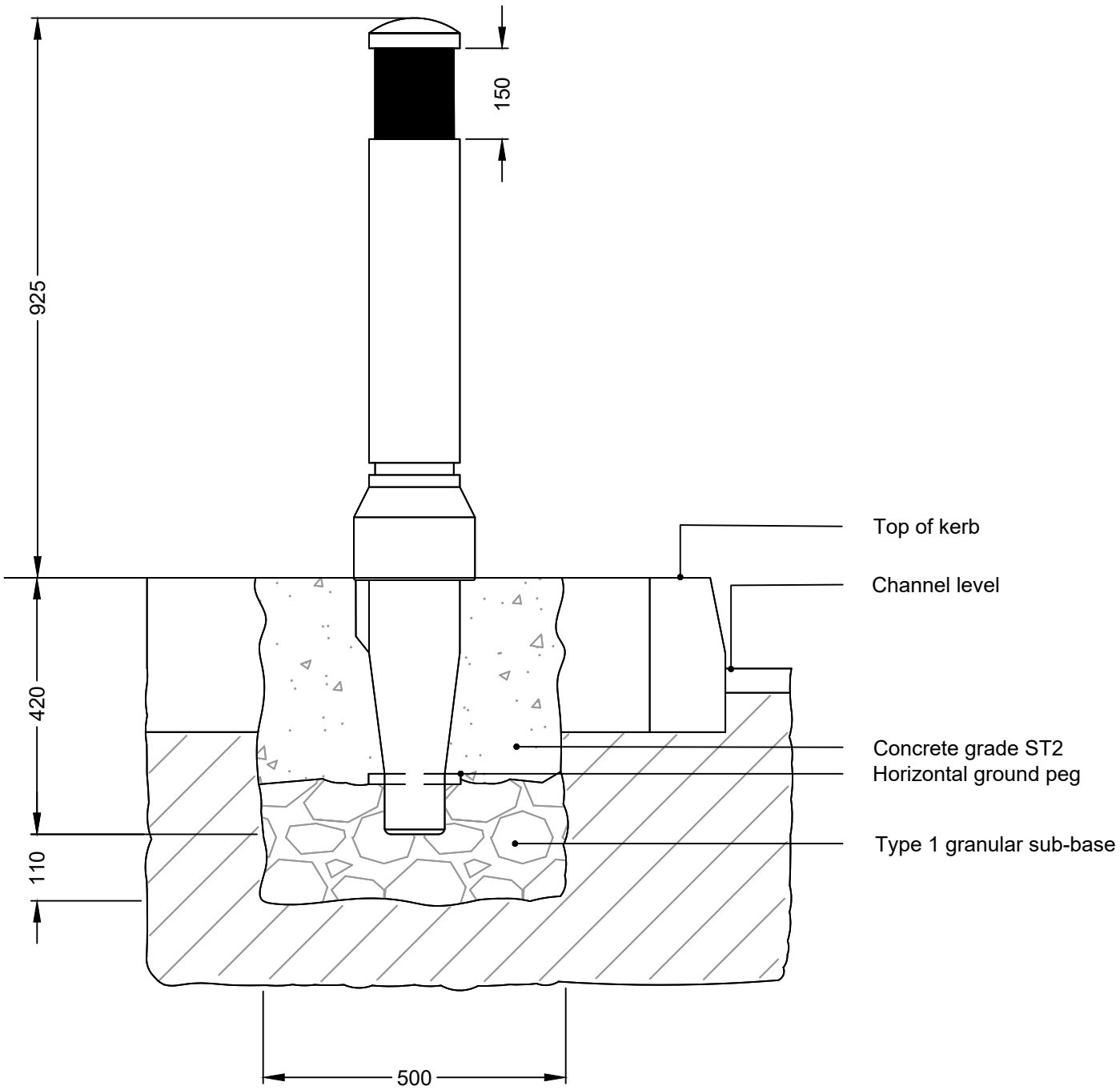
Original frame size A4 (210 x 297mm) 2cm



Notes

1. Do not scale.
2. All dimensions are in millimetres unless stated otherwise.
3. All discrepancies are to reported to the Engineer.

Scale: 1:10	Scheme: Technical Services Standard Details					
Drawn: DWM	Title: Glasdon Rebound-Post (or similar) - Typical Detail					
Date: Aug 23	CAD	Checked	Authorised	Drawing Number: TS/SD1200/80	Revision	

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Original frame size A4 (210 x 297mm) 2cm