**Ground Surfacing**

**Introduction**

For the purpose of this handbook, the term ‘ground surfacing’ encompasses all horizontal ‘hard’ surfaces that are used by pedestrians, cyclists and vehicles.

The design, construction and maintenance of these ground surfacing materials is instrumental in defining the character of urban streets and spaces. Ground surfacing materials provide the plinth on which buildings are set and the context within which they are seen.

Mayfair and Belgravia’s streets evolved in response to the particular demands and aspirations of its original occupiers and were characterised by materials that were sympathetic to the estates’ buildings. The principal materials comprised 900x600mm sedimentary Yorkstone slabs in pedestrian areas and granite setts and kerbs in vehicular areas. The warm colour palette, variations of colour, structure, texture and proportions of these materials reflected the tones and proportions of adjacent buildings, were visually stimulating and created an underlying sense of order and harmony.

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**Fig 3.3.1**
Quality in the design, construction and maintenance of ground surfacing is essential to the achievement of quality people places.

**Fig 3.3.2**
Good quality surfacing can look attractive and accommodate a diverse range of transport modes, New Street, London.
This established background character has been undermined during more recent decades through the use of small scale paving, unrelated rhythms and discordant colours or patterns. The Handbook advocates a more contextual and coordinated approach that links the streets and spaces of both estates in a consistent manner through the application of a sympathetic palette of high quality materials. Although the Handbook recognises the benefits that diversity can bring, it seeks to ensure that this is considered within the context of each estate as a whole, and that alternative materials are only utilised where there is a strategic imperative for doing so.

In this section the Handbook presents:

Detailed guidance on the selection of materials and construction techniques.

Detailed illustrations as to how these materials might be employed.

The diagrams and text illustrate an aspiration for the hierarchical application of materials across each estate and provide guidance on paving layouts, materials, unit sizes and bonding within the context of a representative range of different scenarios.

Fig 3.3.3
Place de Terreaux, Lyon, France is a good example where the surfacing adds another dimension to the space and complements the surrounding architecture.

Fig 3.3.4
Ground surfacing does not have to be restricted to providing a horizontal surface to walk upon it can provide interest, humour and enjoyment.
Materials and Techniques

Materials Palette

A palette of high quality and robust materials has been selected to form a seamless floorscape that complements the high quality of buildings within Mayfair and Belgravia and that is responsive to the scale and nature of each estate’s streets and spaces.

The general aspiration is for the primary streets of Mayfair and Belgravia to be composed from a combination of Yorkstone pavements, granite kerbs and asphalt carriageways. It is proposed that each estate’s intermediate grid of streets follows the same principles, but that the scale of the paving units used will be smaller as a reflection of the reduced scale and width of these streets. Mews, Yards, Lanes and Alleys will adopt more of a shared space approach with a predominant use of granite setts in Mews and Yards and a predominant use of stone flags within Lanes. As an additional character differential, strategic spaces within Mayfair and Belgravia should be sensitively expressed to emphasise their status and assist orientation within each estate. The expression of strategic places may not necessarily involve the use of contrasting materials but may be based on characterisation gained through the use of furniture, planting, lighting or events. Streets and spaces within Mayfair and Belgravia are classified within figures 3.2.38 and 3.2.39.

Careful consideration has been given to keeping the number of different materials used within each estate to a manageable minimum. This will help to ensure that surfacing materials create an underlying sense of order and harmony. It will also help to ensure that they relate to, and enrich, the character of the street or space in which they are placed, and will simplify long-term management and maintenance.

For the purpose of clarity, WCC use the term ‘English Pennine Stone’ to describe what is commonly referred to as Yorkstone. This handbook will use the term Yorkstone and will seek to ensure that Yorkstone used within the estates is sourced from the English Pennines.

Pavements

Rectangular diamond sawn Yorkstone paving slabs laid in interlocking rows, and set out perpendicular to the predominant street line, are proposed for pavements across both Mayfair and Belgravia. Perpendicular bonding will mitigate the need for complicated and unnecessary cutting arrangements, will increase the apparent width of pavements, will reflect historic precedent and will help to ensure that pavement patterns are sympathetic to their context.
Whilst the consistent use of Yorkstone will help to give coherence and unity, it is proposed that variations in unit size are introduced to subtly differentiate between primary larger scale streets and intermediate smaller streets, lanes and alleyways. This will help to ensure that the public realm reflects changes in street scale and will help to enrich the townscape value of each estate.

Yorkstone slabs should be random lengths by 600mm wide and have a thickness of 63mm. Where slabs are vulnerable to breakage shorter lengths should be utilised. Slabs are to be laid as a stretcher bond with a minimum overlap in bond of 150mm (ideally set at half the minimum course width). Pavement construction will require mechanical assistance to meet regulations on manual handling.

Pavements within intermediate streets, lanes and alleyways are to utilise interlocking rows with a more random appearance comprised of alternating gauges (300, 450 and 600 mm) and random lengths (refer to figure 3.3.42 for guidance on the alternation of courses).

It is important that particular attention is paid to pavement features (including coal holes), utility covers, building or spatial thresholds and boundaries. The paving bond is to be adjusted and cutting employed to neatly accommodate all interfaces.

Where individual pavements meet at intersections there are two approaches that should be considered:

- In the case of wider or dissimilar pavement widths the perpendicular bonding of paving on primary streets should take precedence over that in secondary streets, lanes, alleyways, service entrances and forecourts (refer to figure 3.3.54).
- In the case of narrower equally sized pavements where there is high visibility, a fanned pattern is preferable.

Pavement joints should be set at a nominal width of 5-7mm. All jointing mortars should be neutral in colour to reflect the pavement’s calm background role and to ensure that future maintenance works are consistent in appearance.
Ground Surfacing

Channels within Pavements

Channels within pavements are to be constructed from Yorkstone in Yorkstone pavements, ASP in ASP pavements and granite where adjacent to granite sett surfacing. Channels are to have 5-7mm joints, are to be laid flush to avoid trip hazards, and are to be set 5-7mm above gullies. The line and level of finished surfaces is to be smooth and even, with regular falls to prevent ponding.

Kerbs, Trims and Channels within Carriageways

Kerbs, trims and channels within, and containing, the estate’s carriageways are to be constructed from granite. Granite is an important part of Mayfair and Belgravia’s vernacular, with both estates containing significant quantities of kerbing of varied module widths (100, 200, 250 and 300mm) and significant areas of granite sett surfacing. 300 x 200mm kerbs are the predominant typology across the two estates.

Kerbs, trims and channels fulfil an important role in defining patterns of use, the application of different materials and in informing character. Care will be required in the positioning of kerbs, trims and channels to ensure that a sensitive balance is achieved between the benefits that can be derived from moving these lines away from buildings to create more space for pedestrian activity, and the role that they fulfil in defining the scale and proportion of individual streets and spaces.

Careful consideration should be given to the heritage value of granite units around the estate and retaining existing units in-situ. Where this is not possible or practicable (e.g. in large or grouped schemes) they should be lifted and sorted into groups according to material, dimension (+/-2.5mm), colour, texture and condition and utilised in rational groups elsewhere with new (matching) material.
All reclaimed kerbs, channels and trims should have their ends neatly cut and all exposed faces, or faces that will abut adjacent surfacing, should be tooled / shot blasted to create an attractive finish with tight and neat joints.

A coordinated approach is proposed with respect to the type of granite used in new schemes and unit dimensions. Whilst localised refurbishment or repair should build upon the characteristics of the established palette within any individual street or space, new projects should utilise 300mm wide x 200mm deep (300mm deep where across a vehicular crossover) kerbs, channels and trims. Only in exceptional circumstances should smaller dimensions be employed.

The height of kerbs will vary in accordance with the function of individual streets and specific features including pedestrian crossings or vulnerable premises, vaults, etc. The predominant kerb height should maintain a traditional 100mm exposed face to help protect pedestrians and reinforce the delineation between vehicular and pedestrian areas.

Strategic places, such as the mid section of Elizabeth Street, may warrant an exception to this approach and the creation of a more pedestrian friendly ‘shared space’ feel. The retention of a kerb line in the form of a sloped face may be appropriate in these locations to ensure that historic lines within the street are respected and that ‘safe areas’ (particularly important to the partially sighted) are defined.

There will be a number of other special units required across each estate. Of particular note are transition, radius, quadrant, dropped and dropper kerbs. All curved channel lines with a radius of less than 12 metres are to be formed from curved channel units to ensure smooth and sinuous lines. The use of dropped and dropper kerbs will fulfil an important role in ensuring that there are smooth transitions from paved areas onto pedestrian crossings and that the public realm is accessible to all.
Ground Surfacing

Mews

Mews are often characterised by the absence of raised footways and the extension of the carriageway up to the facades of surrounding buildings. The traditional surfacing material in mews consisted of granite setts and where these still exist they are worn and polished in their appearance.

Enhancement works within mews should seek to reinstate this traditional character wherever it has been lost.

Repairs will involve specialist repointing. Where there is no localised precedent in terms of the bond, colour or size of granite setts, proposals should seek to utilise staggered 150mm wide reclaimed granite setts in random lengths (180mm minimum to 320mm maximum) as the predominant material, and staggered 150mm wide random length (180-320mm) fine picked granite setts to the periphery of mews and along important pedestrian desire lines. The use of fine picked setts with a continuity of bond throughout the mews as a whole will help to create alternative smooth routes for people with mobility problems whilst respecting the character of these historic places. Fine picked setts should have cropped sides with the top 25mm sawn to create a neat finish.

The width of mortar pointed joints should reflect established precedent within individual mews. Where there is no established precedent, joint widths should be set at a constant 10-12mm and new setts should have cropped sides to reflect the plan pattern of existing materials.

There are many mews that contain narrow strips of private forecourt to their surrounding buildings. These areas should be kept at their original level and should maintain the use of granite setts wherever practicable. Proposals should minimise clutter without unnecessarily restricting the personalisation of these forecourts. Any lighting or signage should avoid the use of posts for mounting.

Fig 3.3.17
Typical Granite Setts within a Mews
Figs 3.3.18 - 3.3.19
Granite sett surfacing within Boscobel Place, Belgravia and Mount Street Mews, Mayfair.
Standard Carriageways

The majority of the carriageways within Mayfair and Belgravia are, and should continue to be, formed from black hot rolled asphalt (HRA). HRA is robust, economic and visually appropriate. Its use across the majority of streets will help to ensure that contrasting enhanced streets and strategic spaces are more clearly defined. Important carriageway exceptions include mews and strategic spaces identified as being suited to the creation of ‘shared spaces’.

Road markings used to regulate traffic should be clear, well positioned and kept to the minimum. The need for painted lines should be carefully assessed, as in some instances they are not required or could be replaced by a change of material or other more visually attractive alternative. Anti-skid surfaces and coloured coatings, such as those used for bus and cycle lanes, should be avoided wherever possible.

‘Shared Space’

There are locations within each estate where the creation of a ‘shared space’ is considered to be appropriate. This would help to give different street users ‘equal entitlement and priority to the space. Shared space strives to combine rather than separate the functions of streets. It seeks to improve the living environment for people, without needing to restrict or banish motorised traffic, by reducing traffic speeds through design ...... A well-designed shared space will remove unnecessary clutter, while at the same time retaining navigable clues for visually impaired people. This could involve demarking ‘safe zones’ normally near the building line, where blind and partially sighted people and other vulnerable pedestrians know it is safe to walk’ (Cabe 2008, Civilised Streets).

Shared space and/or shared surfacing could be considered in many locations within the Estates where there is a strong desire to reinforce a sense of place and reduce traffic dominance. Although this approach might be considered suitable for almost any street within the Estate, each street must be considered on its own merits, and in relation to all other streets within each Estate.

Examples where a shared space concept might be developed could include the central section of Elizabeth Street, Motcomb Street, the streets within Brown Hart Gardens and Carlos Place. Carriageways could be formed from staggered 150x250mm fine picked mixed mid-dark granite setts with cropped sides (top 25mm sawn) and 10-12mm mortar pointing laid to minimise tyre noise and difficulties for people with mobility problems. Safe zones could be identified through colour contrast or the use of a 300mm wide angled kerb.

Figs 3.3.20 - 3.3.21
Before and after views across Duke Street to Brown Hart Gardens’ deck showing how Duke Street’s broad carriageway with unacceptable road markings could be replaced with a ‘shared space’ and improved environs to this important space.
Ground Surfacing

**On-Street Parking Areas and Delivery Bays**

It is proposed that high quality mixed mid-dark grey granite setts are also used within on-street parking and delivery bays.

The use of mid-dark granite will help to provide colour differentiation between areas occupied by vehicles and ‘safe areas’. The use of granite as opposed to asphalt will help to reduce the apparent width of carriageways and will help to create a more attractive and traffic ‘calmed’ environment.

The materials used within on-street parking and delivery areas should consist of 150x250mm fine picked mixed mid-dark grey granite setts with cropped sides (top 25mm sawn) and mortar filled joints set at a nominal width of 10-12mm.

Parking within the carriageway or in adjacent bays often attracts intrusive signage. It is necessary to investigate more continental techniques to reduce the impact of signs and markings. Schemes should also seek to avoid the use of mains power where renewable/low voltage sources of electricity or reflective materials can be employed and are sufficient to give the information needed.

**Pedestrian Cross-overs, Delivery Pads (within paved areas) and Barrel Drop Areas.**

It is proposed that a high quality mixed buff coloured granite surfacing is used at pedestrian crossings, in delivery/service pads and in areas used as barrel drops.

The use of buff granite will help to convey a strong sense of pedestrian priority and will help to identify areas where vehicles are allowed to pass on occasion or at certain times. Crossings will generally be made from a combination of granite trims and 150x250mm granite setts as an infill to both the crossing and its immediate approach. As a general rule, crossings at bellmouth’s to mews and minor streets should be lifted to form a cross-over rather than relying on the down and up of a dropped kerb. The robust nature of granite setts and trims will help to ensure that crossings are able to cope with the stresses associated with vehicular use.

The use of time managed ‘delivery pads’ in paved areas will help to ensure that delivery and emergency vehicles can be sensitively accommodated on robust surfacing and that these areas can be given a pedestrian priority at all other times. The surfacing to be utilised within these areas is to comprise 150x250mm fine picked buff coloured granite setts with cropped sides (top 25mm sawn) and 10-12mm mortar joints. These buff coloured setts should also be used within areas allocated as barrel drops.
Historic Street Surfacing

Historic surfacing materials, such as Yorkstone paving, granite kerbs and granite setts, are evident in both Mayfair and Belgravia. These historic surfaces, their designs and their details, have a special quality and an intrinsic charm that should be retained in-situ and integrated within new proposals wherever possible.

Specifications should require that stone slabs which need to be lifted are raised refurbished and carefully replaced. Where natural stone is damaged, the damaged section of a stone slab should be cut away and remaining pavement stone repaired. An infill panel should be cut to the size required and inserted in any gap. Stone slabs often survive around coal holes - new material should match and coursing should be set out from these surviving features with a random width course used to accommodate any awkward spacing.

Where existing units are to be lifted and relaid, their ends should be saw cut to permit the creation of a tight and neat joints.

Drainage and Utilities

Streets and spaces must be designed to facilitate the efficient discharge of surface water and the requirements of, or potential conflicts with, utilities. Careful consideration should be given to issues of location, efficiency, traffic loading, maintenance and aesthetics.

Generally, drainage cross falls should be between 1 in 20 to 1 in 80 (preferably 1:40 to 1:60) and long falls to channels should be no gentler than 1:100. The catchment area for any single gully should not exceed 200m².

All gullies are to be specified with regard to the loading they will experience and should be selected to suit the materials in which they are placed. Where possible, road gullies should neatly align with and relate to the channel in which they are placed. Where linear drainage systems are considered to be appropriate they should be designed to neatly accommodate adjacent paved surfaces.

Covers and frames to utility inspection chambers are to be recessed and dimensioned to receive adjacent finishes. Covers must be specified in relation to anticipated loadings, should be laid flush with adjacent finishes, and should be aligned with the prevailing pavement bond.

Where possible, ducts should be provided to help alleviate the need for paving to be lifted in the future.
Access and Mobility for All

It is important that careful attention is given to the 12-13% of the population who have a degree of impairment, to people with prams and small children, and to the elderly. Removing barriers to movement for people with impairments can improve the visual appearance of both estates and will help promote access and mobility for all.

Important considerations include:

- Pavements should be constructed to a desirable minimum width of 2000mm to allow two wheelchairs or pushchairs to pass one another comfortably. This should increase where flows converge on busy destinations and can reduce to an absolute minimum of 1000mm (ideally 1200mm) at localised pinch points and 1500mm over a constriction of 3-6 meters in length (ideally no more than a 3 metre constriction in busy streets).
- Clear routes should be provided with gentle cross falls (ideally gentler than 1:40 and not exceeding 1:20)
- Ramps and associated railings should be carefully integrated within the public realm and with adjacent buildings. All ramps and railings are to be attractive and of a high quality.
- External steps should have a minimum riser of 150mm and a maximum riser of 170mm.
- Discrepancies in level between internal and external spaces in new developments should be accommodated within the envelope of each individual building. External ramping should be avoided wherever possible.
- Gaps in pedestrian gully grates and other pedestrian surface finishes are to be designed to ensure that openings are restricted to a maximum of 13mm. Gaps should also be aligned at right angles to the predominant direction of pedestrian movement.
- The back edge of footways should be kept reasonably free of obstructions to help cane users use this for reference and navigation. Exceptions will include shops and businesses that need to transact with the street and mews where residents are permitted and encouraged to personalise the frontage of their properties.
- Tactile paving should only be used where it is absolutely necessary, should be well designed, should be constructed to ensure that it sensitively relates to its contextual surfacing and bonding and should neatly accommodate awkward junction geometry, changes in level and inspection covers.
- Tactile paving within Mayfair and Belgravia should be tooled from Yorkstone and should be ground to create flat top blisters that accord with DETR guidance. Aesthetic and slip considerations preclude the use of brass or stainless steel alternatives.

The strip of tactile paving warning used should be parallel to the perceived obstacle or movement facility. The width of any tactile warning will vary between 800 and 1350mm. A depth of 800-900mm preferred. The use of a limited depth and the avoidance of tails is supported by English Heritage’s London Streetscape Manual ‘Streets for All’.

The use of tactile paving is to be avoided at crossings to private mews and at all other minor cross-overs.

A significant issue relates to the use of tactile paving within the public realm. Westminster Way recognises that the application of tactile paving disadvantages people with other disabilities than visual impairment, adversely impacts upon the unity of the streetscape, and that its design language is confused. Westminster City Council has long insisted on deleting the tails that reach back across the footway and the use of pink and yellow colours.

Tactile paving should not be used at crossings to private mews and at all other minor cross-overs.

Figs 3.3.28 - 3.3.29
Tactile paving tooled from yorkstone
Fig 3.3.30
All cutting is to be neat and utilise a masonry saw or disc cutter - Cavern Quarter, Liverpool
Construction Techniques

Surfacing Materials

A rigid construction build-up is favoured for all Yorkstone and granite surfacing within Mayfair and Belgravia.

Yorkstone surfacing is to be primed to its base and laid on a BS compliant mortar bed and a cured concrete base. The thickness of the base will depend on use and the bearing capacity of its formation. The joints between individual units are to be neatly pointed using a zinc shield and rubber squeegee. Mortar must completely fill any voids and must create a rigid and integrated construction. High quality joint construction is particularly important in areas that may be subject to vehicular use or the use of mechanical cleaning equipment.

Granite sett surfacing must also be primed and laid on a BS compliant mortar bed and a 200mm cured concrete base. As with Yorkstone the thickness of the base will depend on the bearing capacity of its formation. The joints between individual setts are to be pointed with a slurry applied mortar that ensures the elimination of all voids and creates a rigid and integrated construction.

Correctly installed, paving will have a high longevity and durability, but can be difficult to lift and replace. Consideration must be given to the ability for paving to be lifted, cleaned and re-used in the future without damage or breakage. Where British standards permit, mortar bedding and jointing should not be so strong as to preclude future utility, or other invasive, works.

The visual quality of paving should not be compromised by unnecessary or untidy cutting. All schemes should seek to ensure that the number of mitred and overrun cuts within street surfacing is kept to a minimum. All cutting should be achieved through the use of a masonry saw or disc cutter.

Areas that may be subject to significant staining or lichen / algal problems, may warrant the application of a surface treatment immediately after laying and after deep cleansing to remove construction detritus. Restorative coatings should be employed on a 5-7 year cycle.

All paving specifications should be in accordance with BS7533 ‘Pavements Constructed with Clay, Natural Stone or Concrete Pavers’ (particularly parts 7, 10 and 12) and BS EN 1341 ‘Slabs of Natural Stone for External Paving - Requirements and Test Methods’. Large and heavy slabs, kerbs, trims and channels are to be mechanically handled.
Material Typologies for Streets within Mayfair and Belgravia

To be read in conjunction with diagrams 3.3.31 and 3.3.32

Primary streets
- Yorkstone pavements, 600 x random length units.
- Hot rolled asphalt, carriageway.
- Granite kerbs.
- Refer to Figs 3.3.38-39

Intermediate streets
- Yorkstone pavements, alternating gauges of 300, 450 + 600mm + random lengths. Hot rolled asphalt, carriageway.
- Granite kerbs.
- Refer to Fig 3.3.40

Mews/Yards
- Reclaimed granite setts with fine picked new setts to periphery and along important pedestrian desire lines.
- No kerbs.
- Refer to Fig 3.3.41

Places
- Typically areas appropriate for a shared surface. Whilst solutions will vary in squares, streets will be characterised by: yorkstone pavements, (predominantly 600 x random length units) and fine picked granite sett carriageways.

Lanes
- Yorkstone pavements, alternating gauges of 300, 450 + 600mm + random lengths
- Fine picked buff granite setts to central zone and channel line.
- No kerbs.
- Refer to Fig 3.3.42

Alleyways
- Yorkstone pavements, alternating gauges of 300, 450 + 600mm + random lengths
- Yorkstone channel line.
- No kerbs.
- Refer to Fig 3.3.43
Fig 3.3.31 Material typologies for streets in Mayfair

Fig 3.3.32 Material typologies for streets in Belgravia
Ground Surfacing

Illustrative Examples

This section provides illustrative recommendations of how the materials guidance should be put into practice. Additional guidance is provided on layout, material size, type and bonding under the following headings:

- Primary Streets with asphalt carriageways (Fig 3.3.38).
- Primary Streets with Enhanced Carriageways (Fig 3.3.39).
- Intermediate Streets (Fig 3.3.40)
- Mews (Fig 3.3.41)
- Lanes (Fig 3.3.42)
- Alleyways (Fig 3.3.43)
- Parking Bays (Figs 3.3.44-3.3.45).
- Pedestrian crossings over carriageway (at grade and raised) (Figs 3.3.46-3.3.47)
- Pedestrian crossovers at entrances to Primary Streets (Fig 3.3.48)
- Pedestrian crossovers at entrances to Intermediate Streets (Figs 3/3/49-3.3.50)
- Pedestrian crossovers at entrances to Mews (Figs 3.3.51-3.3.52)
- Standard Pavement (Fig 3.3.53)
- Paving at street corners (Fig 3.3.54)
- Delivery Pads (Fig 3.3.55)
- Barrel Drops (Fig 3.3.56)
- Private Forecourts and Cellar Lights (Fig 3.3.57)
- Upstands (Fig 3.3.58)

Fig 3.3.33
Distinctive mews are often characterised by shared surfaces and granite setts.

Fig 3.3.34
Yorkstone is proposed as the predominant pedestrian surfacing within the estates - Folgate Street, London.

Fig 3.3.35
Yorkstone is an historical characteristic of the estates - Weighhouse Street, Mayfair.

Fig 3.3.36
Yorkstone slabs can be complemented by a granite sett carriageways in strategic locations - Monmouth Street, Covent Garden, London.

Fig 3.3.37
Alternative surfacing may be appropriate in strategic locations.
Primary Streets

Fig 3.3.38

A. Yorkstone paving, 600mm x random length x 63mm thick, diamond sawn, 5-7mm joints.

B. Hot rolled asphalt carriageway

C. Granite Setts, 150 x 250 x 150mm deep, fine picked top, mix of mid and dark grey colour, 10-12mm joints, stretcher bond. Separated from carriageway by flush granite channel, typically 300 x 200 x 900mm

D. Semi mature trees in frame

E. Granite kerbs, typically 300 x 200 x 900mm, cloudy grey colour to match existing

F. Granite channel, typically 300 x 200 x 900mm cloudy grey colour to match existing

G. Enhanced private forecourt/cellar lights
Primary Streets with Enhanced Carriageways

Fig 3.3.39

A. Yorkstone paving, 600mm x random length x 63mm thick, diamond sawn, 5-7mm joints.

B. Granite Setts, 150x250x180mm, fine picked top, mix of mid and dark grey colour, 10-12mm joints, stretcher bond laid perpendicular to vehicle flow.

C. Granite Setts, 150x250x150mm, fine picked top, mix of mid and dark grey colour, 10-12mm joints, stretcher bond laid perpendicular to vehicle flow.

D. Semi-mature tree in frame

E. Granite kerbs, granite typically 300 x 200 x 900mm, cloudy grey colour to match existing

F. Granite channel, typically 300 x 200 x 900mm cloudy grey colour to match existing
Intermediate Streets

Fig 3.3.40

A Yorkstone paving, alternating gauges of 300, 450 + 600mm, diamond sawn, 5-7mm joints. (Refer 3.3.42 for sequence) 297 and 600mm widths to be laid adjacent to tactile paving

B Hot rolled asphalt carriageway

C Granite Setts to pedestrian crossings, 150 x 250 x 180mm, fine picked top, mix of light beige/buff colour, 10-12mm joints. Bordered by flush granite kerb, typically 200 x 300 x 900mm

D Granite kerbs, typically 300 x 200 x 900mm, cloudy grey colour to match existing

E Enhanced private forecourt

F 2 courses of Yorkstone tactile surfacing. 297 x 416 x 63mm deep.
Mews
Fig 3.3.41

150mm wide reclaimed granite setts in random lengths (180mm minimum to 320mm maximum)

150mm wide x random length (180-320mm) fine picked granite setts to the periphery of mews and along important pedestrian desire lines

Colour: to match existing. Where there are no existing granite setts the setts shall consist of a mix of five and seven colours to replicate the hues found in natural English granite.

Setts to have cropped sides with 10-12mm joints. Setts to be laid in a stretcher bond that is perpendicular to vehicle flows.
Lanes
Fig 3.3.42

Heel safe gully cover to align with width of coursed sett channel

Yorkstone slabs, random lengths x random coursing of gauges consisting of 300, 450, and 600mm, 63mm depth, diamond sawn

Header coursed sett channel, 2 rows, stretcher bond, 150 x 250 x 150mm, mix of beige/buff granite with a fine picked finish.

Central infill, stretcher bond, 150 x 250 x 150mm, mix of beige/buff granites with a fine picked finish.
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Alley Way
Fig 3.3.43

Yorkstone slabs, random lengths x apparent random coursing of gauges consisting of 300, 450, and 600mm, 63mm depth, diamond sawn

Heel safe gully cover to align with width of 300mm

Yorkstone channel

Yorkstone channel, 300 x 600 x 63mm depth, diamond sawn

Paving bonds to align across channel line.
Angled Parking Bays
Fig 3.3.44

A
Yorkstone paving, 600 x random length x 63mm thick, diamond sawn, 6-7mm joints.

B
Granite Setts, 150 x 250 x 180mm, fine picked top, mid-dark grey colour, 10-12mm joints, stretcher bond and laid perpendicular to vehicle flow.

C
Road kerbs and channels, granite typically 300 x 200 x 900mm, cloudy grey colour to match existing
Parking Bays at 90 Degrees
Fig 3.3.45

Yorkstone paving, 600 x random length x 63mm, diamond sawn on primary streets

Granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing

Granite Setts, 150x250x150mm, fine picked top, sawn sides, mid-dark grey colour, 10-12mm joints and stretcher bond

Flush channel, granite typically 300x200x900mm, cloudy grey colour to match existing
Pedestrian crossings at grade over Carriageway

Fig 3.3.46
(Preferred design treatment)

Yorkstone units, 600 x random length x 63mm, diamond sawn

Granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing

Asphalt or setted carriageway depending on location.

Flush granite kerb 300 deep x 200 wide

Granite Setts, 150 x 250 x 180mm, fine picked top, light beige/ buff colour, 10-12mm joints, stretcher bond laid perpendicular to vehicle flow.

Tactile paving tooled from Yorkstone, two rows minimum, 3 rows maximum, 297 x 416 x 63mm with joints aligned with adjacent paving
Pedestrian Raised Crossings over Carriageway

Fig 3.3.47

Note: This approach should only be used where additional measures are required to reduce traffic speeds and should be avoided if it would detract from the character and historic topography of the street.

Yorkstone units, 600 x random length x 63mm, diamond sawn

Asphalt or setted carriageway depending on location.

Flush granite kerb 300 deep x 200 wide

Granite Setts, 150 x 250 x 180mm, fine picked top, mix of light beige/buff colour, 10-12 mm joints, stretcher bond laid perpendicular to vehicle flow.

Granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing

Tactile paving tooled from Yorkstone, two rows minimum, 3 rows maximum, 297 x 416 x 63mm with joints aligned with adjacent paving.
Pedestrian crossovers at entrances to Primary Streets
Fig 3.3.48

Granite Setts, 150 x 250 x 150mm, fine picked top, mix of mid-dark grey colour, 10 - 12 mm joints, stretcher bond laid perpendicular to vehicle flow.

Yorkstone units, 600 x random length x 63mm, diamond sawn

Tactile paving tooled from Yorkstone, Cut blisters to be tooled smooth, two rows minimum, 297 x 416 x 63mm. Any cut blisters are to be tooled smooth.

Dropped granite kerbs, 300 x 200 x 900mm, radii to vary to suit location cloudy grey to match existing

Asphalt or setted carriageway depending on location.
Pedestrian crossovers at entrances to Intermediate Streets

Fig 3.3.49

- Asphalt or setted carriageway depending on location.
- Yorkstone units, 600 x random length x 63mm, diamond sawn
- Granite kerbs, 300 x 200 x 900mm, cloudy grey or to match existing
- Tactile paving tooled from Yorkstone, two rows minimum, 3 rows maximum, 297 x 416 x 63mm with joints aligned with adjacent paving
- Granite Setts, 150 x 250 x 180mm, fine picked top, mix of light beige/buff colour, 10-12mm joints, stretcher bond
Pedestrian crossovers at entrances to Intermediate Streets

Fig 3.3.50

Asphalt or setted carriageway depending on location.

Yorkstone paving, 600 x random length x 63mm, diamond sawn

Granite kerbs, 300 x 200 x 900mm, cloudy grey or to match existing

Tactile paving tooled from Yorkstone, two rows minimum, 3 rows maximum, 297 x 416 x 63mm

Granite Setts, 150 x 250 x 180mm, fine picked top, mix of light beige/buff colour, 10-12mm joints, stretcher bond
Pedestrian crossover at Mews entrance - level

Fig 3.3.51
(Preferred method of treatment).

Granite kerbs, laid flush
300 x 200 x 900mm, cloudy grey
to match existing

Granite Setts, 150 x 250 x 180mm,
fine picked top, mix of light beige/buff
colour, 10-12mm joints, stretcher
bond laid perpendicular to flow

Yorkstone units, 600 x random
length x 63mm, diamond sawn

ramp up

level crossing for pedestrians
Pedestrian crossover at Mews entrance - lowered
Fig 3.3.52
(To be used where the preferred level crossover treatment is unsuitable or inappropriate).

Granite kerbs, drop kerb unit
300 x 200 x 900mm, cloudy grey
to match existing

Yorkstone slabs,
600 x random length x 63mm,
diamond sawn

Granite Setts, 150 x 250 x 180mm,
fine picked top, mix of light beige/buff
colour, 10-12mm joints, stretcher bond
Yorkstone units 600 x random length x 63mm, minimum 150mm overlap, diamond sawn finish

Granite kerbs, 300x200x900mm with 100mm upstand, cloudy grey to match existing
Paving at Street Corners
Fig 3.3.54

Preferred Method:
Site should be surveyed to obtain precise measurements for radial units to be cut off site.

Alternative Method:
The paving to the principal street is to take precedence. Staggered bond with 300mm overlap, paving laid perpendicular to pedestrian movement.

- Yorkstone units, 600 x random length x 63mm, diamond sawn
- Granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing
- Radial units to be used for all corners with a radii of 12m or less
  For radii in excess of 12m 600mm straight kerbs can be used
- Granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing
- Yorkstone units, 600 x random length x 63mm, diamond sawn
- Radial units to be used for all corners with a radii of 12m or less
  For radii in excess of 12m 600mm straight kerbs can be used
Ground Surfacing

Delivery Pads

Fig 3.3.55

Yorkstone units, 600 x random length x 63mm, diamond sawn

Angled granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing

Granite setts, 150 x 250 x 150mm, fine picked top, mix of light beige /buff colour, 10-12mm joints, stretcher bond.

Granite trim, 150 x 300 x 900mm, fine picked top, mix of light beige /buff colour.

Transition kerb
Barrel Drops
Fig 3.3.56

Yorkstone units, 600 x random length x 63mm, diamond sawn

Granite kerbs, 300 x 200 x 900mm, cloudy grey to match existing

Granite setts, 150 x 250 x 150mm, fine picked top, mix of light beige /buff colour, 10-12mm joints, stretcher bond laid in the same direction as the adjacent paving.
Private Forecourts and Cellar Lights
Fig 3.3.57

Consideration should be given to:
• The creation of a unified aesthetic
• That materials should respect the streetscape and materials in their context
• Durability
• Maintenance
• Ease of application
• Basement demise and waterproofing risks

Three approaches could apply:
1. Remove existing cover layer and replace with natural stone tiles.
2. Remove existing cover layer and replace with a high quality mosaic.
3. Remove existing cover and apply a new thin screed from the building facade to 10mm brass or steel strip.
Upstands
Fig 3.3.58

Consideration should be given to:
• The creation of a unified aesthetic
• That materials should respect the streetscape and materials in their context
• Durability
• Maintenance
• Ease of application
• Basement demise and waterproofing risks

Three approaches could apply:
1. Remove existing finishes and clad with natural stone tiles over an epoxy mortar bedding. Stone to reflect location and architectural style. This approach may include for the provision of a natural stone edge.
2. Remove existing finishes and clad with a high quality mosaic. This approach may include for provision of a matching stone edge.
3. Trim back existing cover material (often asphalt or screed although some have been clad and become worn and unsightly) and neatly refurbish. This approach may include for the provision of a steel or brass edge plate.