

Adoptable highway material palette

We have a standard palette of materials for highway construction to create a high quality, coherent public realm and to ensure that the highway can be adequately, cost effectively and safely maintained. The type of material used should be confirmed with officers at the planning stage as this will impact on the overall street scene.

A standard palette has a number of benefits:

- ensures that there is a coherent language of materials throughout the city, rationalising and simplifying the street scene;
- provides for a more efficient maintenance of materials; and
- provides developers with a certainty of what is likely to be required within any given development site.

Each scheme will rely on the surrounding context and environment and some approaches may not work in a given area. Some locations will require a different setting specification subject to their surroundings in both a current and future strategy context. For instance, streets with an historic character may call for a different approach. In new developments, each street type will be informed by the overarching design framework for the site.

In all cases, advice should be sought from us on existing and future public realm strategies and materials at the early design stages.

Design considerations

Materials beyond the scope of this palette are likely to be resisted as they are difficult to maintain and create a proliferation of different materials

across the city. Should any alternative materials be proposed, the developer will be required to justify the reasoning for any departures from standard details, and these will be likely to be subject to an additional commuted sum payment.

Proposed alternatives will be expected to meet or exceed the properties of the standard materials in terms of:

- BS/EN standards
- Maintenance requirements
- Durability
- Safety
- Sustainability
- Site location
- Recycled materials
- Site specific context and matching existing adjacent materials

Paving containing limestone will not be approved on the highway in any circumstances.

Street furniture and utilities need to be planned to reduce clutter and obstruction. Highway features above ground level should be aligned and any proliferation of signs and utilities should be avoided.

Please see the Highway Features section for further information about street furniture considerations.

The standard palettes for Residential Streets, High Streets, City Centre and Conservation Areas are outlined below. These tables are to be read in conjunction with the *Standard Details*.

Residential Streets

Component	Material <i>(all materials to be non-limestone)</i>
Carriageways – Major Roads	Bituminous: <hr/> HRA 30/14F surf 40/60 with 14/20mm pre-coated chippings minimum 55 PSV non limestone
Carriageways – Minor Roads	Bituminous: <hr/> HRA 30/14F surf 40/60 with 14/20mm pre-coated chippings minimum 55 PSV non limestone Blocks PCC blocks non limestone: <hr/> <ul style="list-style-type: none"> ● 200x100x 80 with chamfered edge laid 45° herringbone with stretcher bond edge ● Colour: brindle (main carriageway) charcoal (parking bays and crossovers) Tumbled concrete paving: (eg Tegula / Woburn Rumbled), non-limestone <hr/> <ul style="list-style-type: none"> ● Laid in 2 stone integrated 45° herringbone pattern. Header Trim ● 80mm depth ● Colour: Traditional, pennant grey Pennant or Granite setts: <hr/> <ul style="list-style-type: none"> ● typically 200 x 200 x 100 (or similar sizes) laid transversely Reclaimed pennant stone <hr/> <ul style="list-style-type: none"> ● size agreed on inspection
Anti skid	Cold Lay Type 1 approved epoxy resin surfacing for coloured or anti- skid surfaces, colour in stone <ul style="list-style-type: none"> ● Colour: Buff for approaches to traffic signals / zebra crossings laid Chinese bauxite through colour buff stone ● Grey for high speed bends laid with Grey Chinese bauxite ● Red for cycle and 24-hour bus lanes with through colour red harden granite

Component	Material <i>(all materials to be non-limestone)</i>
Footways	Bituminous
	<ul style="list-style-type: none"> ● 20mm surface course AC6 close surf 100/150, nom agg 6mm
	PCC Slab Paving non limestone
	<ul style="list-style-type: none"> ● No slab size greater than 400x400 in plan. ● Depth shall be 65mm minimum. ● Laid from kerb to back edge, staggered parallel to kerb
	Block work PCC non limestone
	<ul style="list-style-type: none"> ● 200x100x65 pcc blocks with chamfered edge in herringbone pattern with stretcher bond edge
	<ul style="list-style-type: none"> ● colour grey
	<ul style="list-style-type: none"> ● (For vehicle crossovers see carriageway construction)
	Tumbled concrete paving non limestone
	<ul style="list-style-type: none"> ● Laid in 2 or 3 stone stretcher bond or 2 stone integrated herring bone pattern.
	<ul style="list-style-type: none"> ● Traditional colour preferred, pennant grey
	Blister tactile paving
	<ul style="list-style-type: none"> ● 200 x 133 x 65mm
	<ul style="list-style-type: none"> ● Stretcher bond
	<ul style="list-style-type: none"> ● Colour buff for uncontrolled crossings or between standard carriageway construction to shared surface
	<ul style="list-style-type: none"> ● Red for controlled crossings
Kerbs and channels	Standard PCC HB2 kerb and channel
	<ul style="list-style-type: none"> ● Length 914mm
	Pennant
	<ul style="list-style-type: none"> ● Sawn welsh pennant stone kerb, bevelled top edge
	<ul style="list-style-type: none"> ● 125 wide x 250 x 700mm – 1000mm random length
	<ul style="list-style-type: none"> ● Pennant channel

Component	Material <i>(all materials to be non-limestone)</i>
Segregated cycleways	<p>Bituminous</p> <ul style="list-style-type: none"> ● 20mm surface course AC6 close surf 100/150, nom agg 6mm ● Stepped cycle track – Bristol Cycle Kerb 50mm segregating pedestrians and cyclists ● Where two-way – centre line markings 50mm wide, thermoplastic ● cycle symbol road markings, thermoplastic ● 400 x 400mm Buff segregated shared cycle track/footway tactile paving <p>Block Paved – (for use in high quality public spaces):</p> <ul style="list-style-type: none"> ● small unit paving according to the context of the new public realm – laid in line with direction of travel ● central white reflective blocks ● cycle roundel incorporated into paving block
Bollards	<p>Standard Steel polyurethane Manchester bollard</p> <ul style="list-style-type: none"> ● 850–1000mm high ● fitted with Class 1 red/white reflectorised paint or tape 50mm collar <p>Timber bollard</p> <ul style="list-style-type: none"> ● 250mm dia ● Woodscape or similar approved ● Class 1 retro-reflective tape <p>School Pencil Bollard</p> <ul style="list-style-type: none"> ● Marshalls ferrocast pipencil polyurethane ● Colour: blue at main pedestrian accesses, red at other locations
Inspection Chamber covers	<ul style="list-style-type: none"> ● As required by Utility Company ● Where sited in in block paving, inlaid with block paving to match street scene
Cycle parking	<ul style="list-style-type: none"> ● Stainless steel Sheffield stands with black visibility banding ● Tapping rail on outer stands

Component	Material <i>(all materials to be non-limestone)</i>
Bus stops	<p>Bus Kerbs</p> <ul style="list-style-type: none"> ● PCC Concrete ● 180mm height (guided bus access kerb) <p>Safe Haven – local bus stops</p> <ul style="list-style-type: none"> ● Tumbled concrete paving (non limestone) colour red brindle ● Blue clay brick pavers 200 x 100 x 65mm ● Red clay brick pavers 200 x 100 x 65mm ● 400mm x 400mm 63mm bar faced concrete slabs <p>Safe Haven MetroBus stops</p> <ul style="list-style-type: none"> ● Tumbled concrete paving (non-limestone) colour pennant grey ● Staffordshire blue clay brick pavers 200 x 100 x 65mm ● Red clay brick pavers 200 x 100 x 65mm ● 400mm x 400mm x 63mm bar faced concrete slabs
Tree pits	<ul style="list-style-type: none"> ● To be installed as per standard detail
Lining	<ul style="list-style-type: none"> ● Thermoplastic white lining as per TSRGD ● All yellow lining thermoplastic primrose – 50mm for waiting restrictions
Street lighting	<ul style="list-style-type: none"> ● Refer to Lighting Specification
Bins	<ul style="list-style-type: none"> ● Glasdon Brunel TM ● Glasdon Evolution ● Fitted with stubber plates

High Streets

Component	Material <i>(all materials to be non-limestone)</i>
Carriageways – Major Roads	Bituminous <ul style="list-style-type: none"> ● HRA 30/14F surf 40/60 with 20mm pre-coated chippings minimum 55 PSV non limestone
Anti skid	<ul style="list-style-type: none"> ● Cold Lay Type 1 approved epoxy resin surfacing for coloured or anti- skid surfaces ● Colour: Buff for approaches to traffic signals/zebra crossings laid Chinese bauxite through colour buff stone ● Grey for high speed bends laid with Grey Chinese bauxite ● Red for cycle and 24-hour bus lanes with through colour red harden granite
Carriageways – Minor Roads	Bituminous <ul style="list-style-type: none"> ● High stone content HRA 47.5/10F surf 40/60 minimum 50 psv non limestone
Footways	PCC Slab Paving non limestone <ul style="list-style-type: none"> ● No slab size greater than 400x400 in plan ● Depth shall be 65mm minimum ● Laid from kerb to back edge, staggered parallel to kerb Block work PCC non limestone <ul style="list-style-type: none"> ● 200x100x65 pcc blocks with chamfered edge in herringbone pattern with stretcher bond edge ● colour brindle, natural or charcoal <p>For vehicle crossovers see carriageway construction for residential streets</p> Blister tactile paving <ul style="list-style-type: none"> ● 200 x 133 x 65mm ● Stretcher bond ● Colour buff for uncontrolled crossings or between standard carriageway construction to shared surface ● Red for controlled crossings

Component	Material <i>(all materials to be non-limestone)</i>
Kerbs and channels	Standard PCC HB2 kerb and channel <ul style="list-style-type: none"> ● Length 914mm Pennant <ul style="list-style-type: none"> ● Sawn welsh pennant stone kerb, bevelled top edge ● 125 wide x 250 x 700 – 1000 random length ● Pennant channel
Segregated cycleways	Bituminous <ul style="list-style-type: none"> ● 20mm surface course AC6 close surf 100/150, nom agg 6mm ● Stepped cycle track – Bristol Cycle Kerb 50mm segregating pedestrians and cyclists ● Where two-way – centre line markings 50mm wide, thermoplastic ● Cycle symbol road markings, thermoplastic ● 400 x 400mm Buff segregated shared cycle track/footway tactile paving Block Paved – (for use in high quality public spaces): <ul style="list-style-type: none"> ● small unit paving according to the context of the new public realm – laid in line with direction of travel ● central white reflective blocks ● cycle roundel incorporated into paving block
Inspection Chamber covers	<ul style="list-style-type: none"> ● As required by Utility Company ● Where sited in in block paving, inlaid with block paving to match street scene
Bollards	Standard Steel polyurethane Manchester bollard <ul style="list-style-type: none"> ● 850-1000mm high ● fitted with Class 1 red/white reflectorised paint or tape 50mm collar
Cycle parking	<ul style="list-style-type: none"> ● Stainless steel Sheffield stands with black visibility banding ● Tapping rail on outer stands

Component	Material (<i>all materials to be non-limestone</i>)
Bus stops	Bus Kerbs
	<ul style="list-style-type: none"> ● PCC Concrete (guided bus kerb) ● 180mm height
	Safe Haven – local bus stops
	<ul style="list-style-type: none"> ● Tumbled concrete paving (non-limestone) colour red brindle ● Blue clay brick pavers 200 x 100 x 65mm ● Red clay brick pavers 200 x 100 x 65mm ● 400mm x 400mm 63mm bar faced concrete slabs
Tree pits	Safe Haven Metrobus stops
	<ul style="list-style-type: none"> ● Tumbled concrete paving (non-limestone) colour pennant grey ● Staffordshire blue clay brick pavers 200 x 100 x 65mm ● Red clay brick pavers 200 x 100 x 65mm ● 400mm x 400mm x 63mm bar faced concrete slabs
	To be installed as per standard detail
Lining	<ul style="list-style-type: none"> ● Thermoplastic white lining as per TSRGD 2016 ● All yellow lining thermoplastic primrose – 50mm for waiting restrictions
Street lighting	Refer to <i>Lighting Specification</i>

City Centre

Component	Material <i>(all materials to be non-limestone)</i>
Carriageways – Major Roads	Bituminous <ul style="list-style-type: none"> ● HRA 30/14F surf 40/60 with 20mm pre-coated chippings minimum 55 PSV non limestone
Anti skid	<ul style="list-style-type: none"> ● Cold Lay Type 1 approved epoxy resin surfacing for coloured or anti- skid surfaces ● Colour: Buff for approaches to traffic signals / zebra crossings laid Chinese bauxite through colour buff stone ● Grey for high speed bends laid with Grey Chinese bauxite ● Red for cycle and 24-hour bus lanes with through colour red harden granite
Carriageways – Minor Roads	Bituminous <ul style="list-style-type: none"> ● High stone content HRA 47.5/10F surf 40/60 minimum 50 psv non limestone
Footways	York Stone <ul style="list-style-type: none"> ● Sawn York stone coursed paving slabs ● 450–600 mm wide and random lengths ● laid perpendicular to kerb ● Depth 63mm minimum or 75mm where vehicular overrun likely ● Specification to be approved by Engineer Pennant <ul style="list-style-type: none"> ● Flamed Welsh blue pennant stone paving slabs ● 450–600 mm wide and random lengths ● laid perpendicular to kerb ● Depth 63mm minimum or 75mm where vehicular overrun likely ● Specification to be approved subject to submission of technical data PCC Slabs non limestone <ul style="list-style-type: none"> ● Conservation textured paving slabs ● 400mm x 400mm x 65mm ● Colour silver grey Blister tactile paving <ul style="list-style-type: none"> ● 200 x 133 x 65mm ● Stretcher bond ● Colour buff for uncontrolled crossings or between standard carriageway construction to shared surface ● Red for controlled crossings

Component	Material <i>(all materials to be non-limestone)</i>
Kerbs and channels	<p>Cast Iron Kerb</p> <ul style="list-style-type: none"> ● Reclaimed or newly fabricated cast iron kerb (supplier to be confirmed by BCC) ● Pennant or Granite Stone channel <p>Pennant</p> <ul style="list-style-type: none"> ● Sawn welsh pennant stone kerb, bevelled top edge ● 125 wide x 250 x 700 – 1000 random length ● Pennant channel <p>Granite</p> <ul style="list-style-type: none"> ● Tooled Portuguese granite kerbs – ● 300mm wide x 250mm deep x 700-1000mm long <p>Bus kerbs</p> <ul style="list-style-type: none"> ● Granite (chamfered 300 x 250 180mm upstand)
Inspection Chamber covers	<ul style="list-style-type: none"> ● As required by Utility Company ● Where sited in block paving, inlaid with block paving to match street scene
Bollards	<p>Steel</p> <ul style="list-style-type: none"> ● Marshalls Rhino RS001 stainless steel bollard ● 850–1000mm high ● (to be fitted with Class 1 red/white reflectorised paint or tape 50mm collars) <p>Steel Polyurethane</p> <p>(to be fitted with Class 1 red/white reflectorised paint or tape 50mm collars)</p> <ul style="list-style-type: none"> ● Manchester ● Docks – Architectural Street furnishing ASF 115 ● Old City – Corn St/Queen Square bollard ● Fixed – Broxap BX 1696-RT. ● Removable – Broxap polyurethane BX 1696-RM <p>Cast Iron</p> <ul style="list-style-type: none"> ● to be used in non trafficked areas only

Component	Material (<i>all materials to be non-limestone</i>)
Seating	<ul style="list-style-type: none"> ● Stainless Steel with arm rests
Tree pits	<ul style="list-style-type: none"> ● To be installed as per standard detail
Lining	<ul style="list-style-type: none"> ● Thermoplastic white lining as per TSRGD ● All yellow lining thermoplastic primrose – 50mm for waiting restrictions
Lighting	<ul style="list-style-type: none"> ● Match to existing street scene – refer to <i>Lighting Specification</i>
Cycle parking	<ul style="list-style-type: none"> ● Stainless steel Sheffield stands with black visibility banding ● Tapping rail on outer stands

Conservation Areas (and other areas where historic materials are present)

Component	Material <i>(all materials to be non-limestone)</i>
Carriageways – Major Roads	Bituminous <ul style="list-style-type: none"> ● HRA 30/14F surf 40/60 with 20mm pre-coated chippings minimum 55 PSV non limestone
Carriageways – Minor Roads	Bituminous <ul style="list-style-type: none"> ● High stone content HRA 47.5/10F surf 40/60 minimum 50 psv non limestone ● Cobbled and setted streets and pennant stone crossovers
Footways	York Stone <ul style="list-style-type: none"> ● Sawn York stone coursed paving slabs ● 450-600 mm wide and random lengths ● laid perpendicular to kerb ● Depth 63mm minimum or 75mm where vehicular overrun likely. ● Specification to be approved. Pennant <ul style="list-style-type: none"> ● Flamed Welsh blue pennant stone paving slabs ● 450-600 mm wide and random lengths ● laid perpendicular to kerb ● Depth 63mm minimum ● or 75mm if considered to be in vehicular overrun area. ● Specification to be approved subject to submission of technical data PCC Slabs (non limestone) <ul style="list-style-type: none"> ● Marshalls (or similar) conservation textured paving slabs, 400 x 400 x 65 ● Colour silver grey Bituminous <ul style="list-style-type: none"> ● 20mm surface course AC6 close surf 100/150, nom agg 6mm Blister tactile paving <ul style="list-style-type: none"> ● 200 x 133 x 65mm ● Stretcher bond ● Colour buff for uncontrolled crossings or between standard carriageway construction to shared surface ● Red for controlled crossings

Component	Material <i>(all materials to be non-limestone)</i>
Kerbs and channels	<p>Cast Iron Kerb</p> <ul style="list-style-type: none"> ● Reclaimed or newly fabricated cast iron kerb (supplier to be confirmed by BCC) ● Stone or granite channel <p>Pennant</p> <ul style="list-style-type: none"> ● Sawn welsh pennant stone kerb, bevelled top edge ● 125 wide x 250 x 700 – 1000 random length ● Pennant channel 300 x 700-900 x 150 <p>Granite</p> <ul style="list-style-type: none"> ● Tooled Portugese granite kerbs ● 300mm wide x 250mm deep x 700 – 1000mm long <p>Conservation Kerbs</p> <ul style="list-style-type: none"> ● Standard conservation kerbs to be agreed with Engineer <p>Bus kerbs</p> <ul style="list-style-type: none"> ● Granite (chamfered 300 x 250 180mm upstand)
Inspection Chamber covers	<ul style="list-style-type: none"> ● As required by Utility Company ● Where sited in in block paving, inlaid with block paving to match street scene
Bollards	<ul style="list-style-type: none"> ● Polyurethane Steel core in trafficked areas / Cast Iron (non trafficked areas only) to be fitted with Class 1 red/white reflectorised paint or tape 50mm collars ● Manchester ● City Docks – Architectural Street furnishing ASF 115 ● Old City – Corn St/Queen Square bollard Fixed – Broxap BX 1696-RT Removable – Broxap polyurethane BX 1696-RM
Seating	<ul style="list-style-type: none"> ● Stainless steel – with arm rests
Cycle parking	<ul style="list-style-type: none"> ● Stainless steel Sheffield stands with black visibility banding ● Tapping rail SD on outer stands
Tree pits	To be installed as per standard detail

Component	Material <i>(all materials to be non-limestone)</i>
Lining	<ul style="list-style-type: none"> ● Thermoplastic white lining as per TSRGD 2016 ● All yellow lining thermoplastic primrose – 50mm for waiting restrictions
Lighting	<ul style="list-style-type: none"> ● To tie in with existing surroundings. ● Seek advice from Street Lighting