northampton

Section 3 : Performance Specification
This section of the PRIF sets out guidance on the detail design, management and maintenance standards for various components of the public realm. The intention will be for simplicity of design and layout, common sense approaches to reducing the clutter on the street and ensuring that procedures for specifying, laying, installing and maintenance are made easy and cost effective.

This section identifies how the street and public space hierarchy concepts described in Section 2 can be delivered ‘on the ground’. It presents detailed specification approaches for all the elements listed below.

Setting exemplar design standards will create a desirable and attractive public realm which is well considered, and can be easily maintained in the future. These standards will set the guidelines for future development in the public realm, whilst allowing flexibility for a level of skilled interpretation.

Detailed Guidance is given on:-

- Surface Treatment
- Street Furniture
- Signage and information
- Mobility Requirement
- Street Trees and Planting
- Lighting
- Public Art
The streets and their connecting spaces will act as a platform for street activity, providing the foreground from which the architecture and street furniture will stand.

The floorscape will be the element that unifies the town and therefore a key objective of the PRIF is to ensure that the high quality palette of materials is specified and applied with traditional skills and workmanship required, for example when working with natural stone.

The PRIF requires that the underlying engineered construction build up should be constructed to provide the best support to the surface veneer.

General policies that have influenced the Northampton Palette and its application to surfaces are listed;

### General Principles

- Minimise the number of different materials used.
- Paving should reflect the traditional relevance of surface materials, patterning and scale.
- Invest in robust, quality materials and good craftsmanship.
- Historic paving that brings benefit to the character of the town should be maintained and restored where possible.
- Arrange the kerb line parallel to the building line, avoiding possible build outs and nibs.

Buff coloured Farrar Yorkstone flag paving is to be used in Palette Zones One and Two within the footways.

Within Palette Zone Three, natural stone aggregate pavers should be used where there is a clear interface with natural stone. Size and layout should be consistent with natural stone.
Paving Principles

Specification of paving materials should ensure a strong relationship to the character of the street or space:

- The Implementation Framework Plan (Section 2) creates a paving vocabulary that is legible and unifies the public realm. This will establish an order for future street intervention.
- Refer to the Northampton ‘Implementation Framework Plan’ when designing a street. (Section 2 page 69)
- Streets and spaces should be designed to specifically respond to place, movement, use, scale and technical standards.
- Interesting details of street design can enrich the overall framework, and encourage idiosyncrasies in the street.
- Surface treatments and streetscape proposals will help to demarcate different functions along the street.
- Important building thresholds and boundaries to spaces should be delineated.
- Key features within the public realm should be highlighted.

The PRIF encourages simplicity, by avoiding elaborate paving patterns, contrasting and unnatural colours and materials.

Variety and character should be revealed subtly by:

- Varying the size of the surface materials,
- Alternating the widths of pavers within the surface treatment,
- Using subtle variations in colour and marking of natural stone.
- Changing the scale and orientation of paving material. (eg small units in the carriageway, larger on footways)
- Integrating detail and artwork, where appropriate.

It will be important to consider the interface between adjacent streets and spaces.

- Provide a continuity of surface treatment from the public realm into the private domain where appropriate.
- Ensure that the transition between palettes and street hierarchy interfaces are seamless.

Street design should be in accordance with current national and local accessibility polices:

- Ensure surfaces are even, avoiding tumbled cobble arrangements. This will increase accessibility for the physically impaired.
- Setts should be sawn cut on the facing side to ensure a level surface.
- Accessibility should be at the forefront of design development and

Granite Setts are to be used on streets within Palette Zone One and in shared use surfaces and crossing points creating a contrast to the footway and providing a durable finish.

Along historic streets the existing surface materials should be retained to reflect the streets traditional character.

This example in Manchester demonstrates the use of yorkstone setts and flush channel detailing.

Materials should maintain accessibility for both wheelchair users and pedestrians.
Paving Specification

Appropriate material selection

As identified in Section 2 of the PRIF, natural stone which reflects the local vernacular will be the preferred choice for Northampton. The materials specified can stand the test of time to prevent repetitive and unnecessary installation of the surface material. Natural stone is proven for its longevity if laid in the correct manner.

The proposed primary stone material applied as Palette Zone One for Northampton should be readily available in the future. Keeping the palette to a restricted number of materials, will reduce the pressure on council stock piles and simplify the replacement process.

Health and safety

Potential hazards with regard to the process of paving operations can include hazards associated with manual handling, or being struck by a mobile plant. Other issues can relate to the use of sealants and cement based mortars.

Actions that can be taken into the design to address these issues will be the use of paving flags less than 32 kg in weight, to allow 2 person manual handling, using appropriate machinery to cut paving units, and the use of sufficient well trained operatives to carry out the works.

Recycle existing materials

The PRIF will assess and establish areas where existing materials can be utilised within the public realm. Recycling existing materials that are in good condition will create variety and retain the existing charm of a street.

Surface finish

The surface treatment should accord with context, use and location. Retaining a traditional street pattern with retained materials can benefit the historic charm of a street. The traditional riven finish now unreliable due to current accessibility standards can be substituted for flamed, picked or bush hammered finishes to create more weathered finishes. Along contemporary streets, diamond sawn finishes can be more appropriate.

Construction methods

In order for the surface material to function correctly the supporting of material below must be laid correctly to the engineers specification. Two types of engineering build up have been considered, each with their own issues and advantages.

Flexible construction techniques will not favour the intensive cleaning regimes found within the town, whilst a rigid construction system can be difficult to implement within an existing environment of shallow services. Following specific site investigations the resident engineer should take a decision on the most appropriate form of build up.

The build up of the street will be influenced by the type and amount of traffic that passes over a street resulting in various build-up options. It will also alter depending on the category of street outlined in BS 7533 part 12, a guide for the structural design of trafficked pavements.
Paving Laying Procedure

General Principles

- Larger paving flags will be applied to the pavements and smaller module setts applied to the carriageways.
- Paving should be consistently laid perpendicular to the kerbs and/or the buildings along the street. This will prevent complicated and unnecessary cutting arrangements and provide better visual alignments.
- At junctions the street hierarchy should take precedence with primary streets overriding the patterns from intersecting minor streets, access or service entrances.

Bonding

- There should be a presumption against stack bond patterns as these draw the eye towards joints in the direction of travel, and highlight imperfections in the paving. Stretcher bond will be the preferred arrangements.
- Joints should be nominally 6-8mm for sawn sided setts, 10-12mm for cropped and dressed sided setts. Pavement joints should have a tolerance of 3-5mm when the construction method is flexible, and 5-7mm above a rigid construction build up.
- All jointing mortars should be neutral in colour. This will ensure that when maintenance is carried out in the future the results will be consistent to the original aesthetic. It will also eliminate the risk of contrasting slurry colours being used within the public realm.
- Within flexible construction a sealant should be applied to the surface to lock in the sand jointing.
- A fanned paving bond within the Georgian Quarter is preferred at corners, which will complement the paving line and any corner entrances to the buildings.

Paving Patterns

- Careful consideration should be made when designing paving layouts. Design should ensure that the number of mitred cuts and overrun cuts within the floorscape are kept to a minimum, as this can generate small ‘bridging’ pieces which can look messy, increasing the chances of becoming loose.
- The visual quality of the paving should not be compromised alongside street furniture, lighting, utility covers and building lines with unnecessary cuts within the paving.
- Interesting features such as detail inlays, art or quotes set into the paving, can be considered to enrich the visual character of the street. This detailing can be implemented around pieces of art and key features within the public realm.
- Ensure a considered and co-ordinated approach when combining different elements of floorscape and streetscape. The Implementation Framework Plan will provide guidance on ensuring seamless interface between street classifications.

Shared Surfacing and Delineation of Space

- Shared use streets should retain the traditional layout of pavement and carriageway. This approach will break down a space to a more human scale, and create visual structure and order. It will also help to organise the layout of street furniture.
- Streets allowing access for service vehicles should be designed to accommodate the weight of such vehicles across all areas where vehicles can encroach.
1. Continue paving up to the building line with the ownership boundary marked subtly with studs.
2. Incorporate the traditional grooved channel details/ metal gullies that catch surface water from the drain the down pipes.
3. Bespoke radial kerb units.
4. Align the street furniture parallel to the kerb edge and co-ordinated with paving alignments.
5. Paving patterns (a random pattern created by varying unit lengths and course widths.)
6. Utility covers should have recessed covers and where possible be realigned with paving joints. Ensure that the joints are considered in relation to utility covers.
7. Kerbs and channels will strengthen the form and shape of the street.
8. All paving to be laid perpendicular to the kerb.
9. Channels should be lined up with the gullies.
10. Feeder pillar set back in the street against the building facade.
Kerbs and Channels

The kerb lines provide structure to the streetscape, providing a strong shadow line that reinforces the building line and sub dividing the floorscape into useable spaces relevant to movement and function. The kerbs and channels should be the unifying element throughout the town centre. The kerbs are key to maintaining the scale and proportion of the street. It is important to reinstate the original kerbs where possible to maintain the character and form of the street.

Kerb Requirements

Kerbs can be used to:-
- mark out the highway edge
- provide an edging treatment to buildings and features
- demarcate changes in level in the form of steps
- set out the different uses, boundaries and spaces within the townscape.
- highlight and classify the scale and character of the street.
- mark out the interface between the private and public domain

Design Principles

- A co-ordinated approach should be taken in the design of kerbs and channels throughout Northampton to link all streets and spaces together. Variations to kerbs and channels are expected within the type of street influencing heights and widths, and feature drainage channels. By keeping to a standard model, the kerbs will become the unifying element throughout the town centre.
- Palette Zone One and Two will be a mid grey granite.
- On priority streets the kerbs will be 300mm wide to respond to the streets’ grand scale. On smaller scale streets kerbs are set at 150mm wide to relate to the reduced scale. This is the traditional approach taken historically in the town, giving the priority streets a sense of importance, distinguishing the character and type of street.
- In the historic core bespoke granite kerbs will be commissioned to provide smooth geometry and line around corner locations.
The height of kerbs will depend on the function of the street. Within highly trafficked streets, such as St. Peter’s Way or along ‘The Mounts’ the kerb should be higher (125mm upstand) to protect the health and safety of the pedestrian and to reinforce the delineation between the highway and the pedestrian areas.

As the priority moves towards pedestrian use the kerb height will reduce. Recommended heights for ‘priority streets’ within ‘The Cross’ (see Section 2) will be a 80mm upstand. Along key retail streets flush kerbs or low 25mm bull nosed kerbs will encourage pedestrians to roam freely.

**Drop Kerbs**

- There should be a smooth transition from the footway onto the carriageway via a drop kerb. These components will help to create a walkable public realm for all users. Drop kerbs will ensure an accessible environment for the physically impaired, for those who use wheelchair, pushchairs and whom are visually impaired. Drainage should be considered to avoid pooling at the base of the drop kerb.

- A traditional way of achieving a dropped crossing is by using dropped kerbs. This technique creates mitre cuts to achieve the level change. A 90 degree kerb with a quadrant section (‘Return Kerb’) is an alternative treatment; this approach will reduce the number of cuts required in the paving material. (This is illustrated in the following pages ‘Typical Details - principles for setting out’)

**Bullnose Kerbs**

Bullnose kerbs provide a softer edge making accessibility for pedestrians easier.

**Idiosyncrasies within the town**

The surface treatment in particular the channel and kerb arrangement within character areas such as the Georgian streets can contribute significantly to the character of the area.
Carriageways

The majority of the carriageways in Northampton are surfaced with tarmac. For reasons of robustness and economy this treatment will continue for all the major carriageways predominantly within the outer core of Northampton. However, within the town centre there are opportunities for alternative surface treatments, particularly within the historic core to reflect pedestrian use and aesthetic relevance with the character of the town. This approach will also help to reinforce the definition of street hierarchy, and help to apply special characteristics to important streets.

Design Principles

- The Cross: Priority streets will be defined by use of granite setts within the carriageway to encourage pedestrian use. This will reinforce the perception of movement within a pedestrian dominated street.

- The importance of crossing points and major junctions will be highlighted by varying the surface treatment.

- Parking bays, taxi ranks and bus lay-bys should be delineated from the carriageway by developing an alternative surface treatment.

- Cycleways are important elements within the town. The design of these routes should be an integral part of the overall design and character of the streets through which they run. In all locations within the historic core coloured surfacing should be avoided, focusing on the management of shared streets and removing the need for segregation.

- In residential streets and spaces, hot rolled asphalt with a high density of granite chip can provide an unobtrusive surface for the carriageway. The granite chips provide an important colour contrast with a high degree of reflectivity. However, their skid resistance qualities are reduced with polishing by vehicle traffic.

- Use smaller pavers within the carriageway such as setts, which are more robust than larger flags.

- Alternative carriageway surfacing using setts enhances quality of the street.

- Refrain from using coloured road markings, as this has an insensitive impact on the appearance of the streetscape.
(1) Flush granite channel unit should be used to define the bus pull-in.

(2) Parking, loading services, taxi and bus laybys should be surfaced using granite setts to delineate the space from the carriageway.

(3) Flush granite channel unit to define the parking bay, following the line of the carriageway.

(4) Tarmac treatment to be laid into the carriageway on specified streets. A combination of tarmac with a quality granite kerb and/or channel will create a practical, robust and retain a high quality solution.

(5) Where a minor street joins a primary street the surface of the junction can be highlighted using granite setts. Where a minor street with a tarmac surface joins a primary street laid with granite setts the tarmac surface should be stopped short to minimise a conflict in surfacing styles. Granite setts should be laid into the pedestrian crossing zone to act as a transition between the two street types.
Design Principles

- Where possible the position of inspection covers should align with the direction of paving. (1)
- Paving should appear to seamlessly pass across the surface of the utility covers.
- T-section design with a continuous outer flange so paving can butt up to the cover for a clean finish. (A)
- The depth of the outer frame should accommodate the depth of the paving and bedding mortar. (B)
- The material of the access cover should be manufactured to withstand high load bearing capacities.
- Deflection should be kept to a minimum. The infill of the frame should resist movement when subject to wheel loading.
- Easy lift access covers with a minimum weight for each access cover.
- Heavy gauge construction, guards against damage in service. The galvanised finish should be an appropriate thickness to protect against salt laden surface water.
- The shortest edge of any paver should be no less than 100mm.
- An unturned cover with ghost cuts within a large paver(2)
Depending on its situation trays need to allow for varying paving depths.

**AVOID** - Secondary reinforcement flanges should be avoided as they prevent paving sitting up against the tray causing unsightly infill joints.

- **DDA compliant lifting points**
- **Steel frame fully flanged**

A Ghost joint to align with the direction of the paving. 5mm deep and a 5-7mm width gap.

- **Avoid Infill**
- **Secondary reinforcement flange**

A clean finish at junction

Incorporate paving and sub-base
Typical Details - principles for setting out

Laying up to a feature - example shown is a down pipe drainage channel

Design Principles

- When setting out paving ensure that the shortest edge of any paver is no less than 200mm.
- If a subsequent gap is below 200mm, then the previously placed paver should be cut down to compensate for the fine gap.
Surface Treatment

Issue

Paving less than 200mm should be avoided and replaced with larger units (see below).

Preferred option

A larger module should replace the 450mm paver. This will be cut down to accommodate the gap.
When setting out paving ensure that the shortest edge of any paver is no less than 200mm.

When paving up to a building and the next gap is below 200mm the paver previously placed will have to be cut down to compensate for the fine void.

Cut back and give 200mm flag width against building.
Surface treatment - corner treatments.

Design Principles

- At junctions, primary streets should take precedence, overriding the patterns from intersecting minor streets or access/service entrances.
- A fanned paving bond can be used within the Georgian Streets to highlight the distinctive character.
Typical Details - principles for setting out

Laying of Straight edge kerbs

- The dimension of straight kerbs should be a maximum length of 900mm.
- 150mm wide straight kerbs should only be used on a kerb radius of 12+ metres.
- Wide top (300mm) straight kerbs should only be used on kerb radii of 11+ metres.

Preference

Mitred chamfer to the straight edge kerbs, excess removed, ensuring an even gap.

Even gap

Design Principles

- Kerbs laid end to end uncut.

Issue

Un-Even gap
Surface Treatment

Design Principles

- The image describes how to combine different kerb radii in order to create the required pavement edge.
Typical Details - principles for setting out

Pedestrian Crossing Arrangements - example of a ‘Return Kerb’ crossing

Design Principles

- The surface treatment at crossing points should fit logically and line up with the crossing. The pavers should be laid so they fit accurately within the crossing point, lining up with the kerb edges (at ‘Return Kerb’ crossings) or at the start and end of the traditional drop kerb. (A)

- A ‘Return Kerb’ crossing design will be the preferred option within the town centre. If this treatment is not possible the traditional dropped crossing arrangement will be the favoured alternative, shown to the right.

- When designing a ‘Return Kerb’ crossing ensure that the paving is set out so that it runs in-line with the drop kerb to prevent awkward and unnecessary cuts. (B)

- Design the paving layout adjacent to the crossing so that full size pavers are used, to avoid any unnecessary cutting. (C)
Surface Treatment

Design Principles

Controlled crossing
- The depth of blister surface should be:
  - 1200mm in the direct line of travel
  - 800mm in other controlled crossings
- The stem should be at right angles to the direction of the crossing. (Where the crossing is not at right angles to the kerb the surface should be no less than 800mm in depth at any point)
- At controlled crossings only, a stem of the surface 1200mm wide should extend back from the tactile surface, in line with the direction of travel.
- Surface laid to the full width of the dropped kerb.

Uncontrolled crossing
- Crossings should extend the full width of the drop kerb.
- The depth of blister surface should be:
  - 1200mm in the direct line of travel (near a junction)
  - 400mm not in the direct line of travel (near a junction)
  - 800mm (away from a junction)

The DfT publication provides a series of illustrative diagrams on a range of different crossings and pedestrian islands.
**Typical Details - principles for setting out**

**Design Principles**

- Paving flags should be core drilled 3mm larger than the post. This will create a clean finish.
- If required make a perpendicular split so that fitting the paver around a lighting column, bollard or fingerpost is made easier. This split should be consistent with the adjacent paving joints.
- Bollards should be placed every 1600-1800mm to prevent vehicle access. Consideration should be placed on preventing street clutter where possible.
Surface Treatment

**Design Principles**

- (A) Core drill the paving flag to 3mm larger than the post to create a clean finish.
- Street fixtures such as lighting columns and bollards should act as setting out points for the laying of paving lines.
- (A) Where possible whole pavers should be placed over the bollard position with a minimum width of 100mm from the bollard edge to the paver edge.
- Where bollards / posts are placed within areas laid with setts a special unit could be cut and laid round the bollard / finger posts. The joint should line up with the paving line. (B)
- If required, make a perpendicular split so that fitting of the paver around the lighting columns, bollards or fingerposts is made easier. This split should be inline with the other paving joints, (C).
Typical Details - principles for setting out

Vehicle Route with a Pedestrian Crossing

- Avoid unnecessary cutting
- Graded to make up change in level
- Line up paving joint with the tactile edge
- Raised Crossing flush with adjacent paving

Design Principles

- This layout should be adopted in situations where vehicle routes intersect the footway, requiring access over the pedestrian footway. This treatment can also be used when minor streets intersect primary streets, with a considerable amount of vehicle activity.
- Raised uncontrolled crossing points will allow for an uncompromised route, promoting pedestrian movement.
This approach should be adopted in situations where vehicles need access across the pedestrian footway. Examples include access into service yards or private space such as carparks. There will be a higher level of vehicle movement than in a secondary access scenario.

The Crossing will be raised to allow for an uncompromised route, promoting easy pedestrian movement.

A return kerb design with a 30mm up stand can be used as the ramp will be for vehicle use. This will reduce the distance of the gradient and increase the zone for free pedestrian movement.

Design Principles

- This approach should be adopted in situations where vehicles need access across the pedestrian footway. Examples include access into service yards or private space such as carparks. There will be a higher level of vehicle movement than in a secondary access scenario.
- The Crossing will be raised to allow for an uncompromised route, promoting easy pedestrian movement.
- A return kerb design with a 30mm up stand can be used as the ramp will be for vehicle use. This will reduce the distance of the gradient and increase the zone for free pedestrian movement.
Typical Details - principles for setting out

Vehicle access (secondary) crossing a pedestrian route.

Design Principles

- This approach should be adopted in situations where vehicles need access over the pedestrian footway. These will be for access into private space such as driveways.
- A drop kerb is used to take up the level change. In most situations two kerbs will be used to account for the level change. Kerbs ‘specials’ will be designed for application throughout the town. There will be two types depending on whether a 80mm or 125mm height kerb is used.
- Paving is graded at a max. 1:21 gradient to be DDA compliant.
- Paving from the priority street continues across the access route to demarcate the importance of the street.
- Paving edge will be finished with a granite trim.
- In areas where services are shallow the detail should be in accordance with engineers specification whilst maintaining a consistent treatment with the surrounding surfaces.
- The construction of vehicle access should be in accordance with engineers specification and will be subject to site conditions.
Surface Signage - Entrance way

Design Principles

- Entrance feature with brass inlay detailing acting as surface signage to demarcate features within the public realm.
- The paving feature radius will depend on the dimension of the entrance way proposed to be highlighted.
- The number inlaid within the castle symbol could tie into a heritage trail used town wide.
Typical Details - principles for setting out

**Surface Signage - at a cross roads**

- **Castle symbol etched into the stone with a brass inlay.**
- **Street name etched into the stone with a brass inlay.**
- **1800 x 1800 paving flag arrangement with brass inlay detailing acting as surface signage to guide pedestrians though the town.**
- **Arrows illustrate the direction of the street etched below it.**
- **The symbol in the centre contains a number that could reference to a guide book/leaflet containing factual information. This numbering system could be implemented throughout the town to provide a guided walk through all the historic and interesting sites through Northampton.**

**Design Principles**
Surface Signage - significant point of interest

(C) 300 x 450 x 75mm paving slab with brass inlay detailing acting as a reference to a heritage trail within Northampton town centre.

(B) 680 x 450 x 65mm paver indicates focal points, key destinations and landmarks within the public realm. Width will be defined by the length of word to be inlaid.

(A) 300 x 450 x 75mm paver

Design Principles

- (A) 300 x 450 x 75mm paving slab with brass inlay detailing acting as a reference to a heritage trail within Northampton town centre.
- (B) 680 x 450 x 65mm paver indicates focal points, key destinations and landmarks within the public realm. Width will be defined by the length of word to be inlaid.
- (C) 300 x 450 x 75mm paver
Typical Details - principles for setting out

Surface drainage from a down pipe

Design Principles

- Take water over footpaths to gully drainage system within carriageway.
- Prevent water spilling over footpaths which could cause hazards to pedestrians.

Example of a drainage channel set into the paving
**Tree grille design and co-ordination with paving**

- Tree grilles should line up with the paving lines. (A)
- A universal brand of tree grille will be implemented throughout the town.
- Dimensions 2718 x 1838mm.
- The design of the tree grilles should incorporate the thickness of the paving inlay and the bedding layer.
- When co-ordinated with a paving pattern with course widths of 600, 450 and 300 mm the tree grille should fit exactly with paving.
- The tree grille is designed to incorporate a 3mm sealant edge. This enables 300mm pavers to be laid without a need for cutting. (B)

**Design Principles**

- An artisan could create the design of the internal inlay.
Drainage

The Foresight Future Flooding report indicated that urban flood risk could rise significantly in the future.

A range of bodies currently has responsibility for various aspects of drainage or sources of flooding, but there is currently no requirement to view the problem as a whole.

Integrated urban drainage pilots are to be set up to determine the best way to tackle urban flooding in a joined-up manner.


General Approach

The street should provide an efficient means of discharge for surface water and foul water drainage. The street also provides the conduit for the storage or disposal of rain water.

The planning and management of surface water discharge from buildings and highways should take a coordinated approach, developing an integrated urban drainage strategy.

The design of drainage systems should take into consideration location, efficiency, traffic loading, maintenance and aesthetics.

Impermeable Surface Drainage

- A point style drainage system will be the preferred method of drainage for pedestrian areas in Northampton Town centre, where specified paving will be natural stone.
- Gullies should be designed to line up with the drainage channels.
- The slots should be less than 13mm width apart in accordance with current DDA requirements.
- Gully tops for vehicular and pedestrian areas should be in accordance with BS EN 124. This standard includes design requirements, type testing, marking and quality control.

Slot Drains

- An alternative linear drainage system in the form of a slot drain will also be incorporated where appropriate.
- The top unit depth of a slot drain should accommodate pavement construction.
- The width of a slot should be less than 13mm in order to comply with DDA requirements.
- Generally, cross falls should be between 1 in 40 to 1 in 80, whilst the maximum drained distance to any linear drain should typically not exceed 50m.
Drainage Operation

Inspection and maintenance of storm sewer lines and open ditches will be the responsibility of the street drainage division. Storm water inlets should be inspected and cleaned after periods of heavy rain fall. Periodic re-grading will be required when swales are silted to maintain flow.

Sustainable Urban Drainage Systems (SUDS)

Within the residential areas of Spring Boroughs in particular, there may be opportunities to combine development with more sustainable forms of drainage. The amount of green space is considerably greater than in the core of the town and therefore would benefit from a more sustainable approach.

Sustainable urban drainage systems replicate the natural drainage processes, removing pollutants from surface runoff within the urban realm at the source.

SUDS have a valuable role in reducing the rate of run off from development and can also be used to:

- provide a habitat in urban situations for wildlife.
- protect/enhance water quality
- manage runoff flow rates
- integrate within a landscape setting
- encourage percolation of ground water

SUDS can be a positive contribution when calculating a BREEAM assessment, rated ‘A’ in the BRE green guide. A high BREEAM rating is required by developers aiming for environmentally sustainable sites.

Guidance

A government response to surface water runoff is included in the DEFRA publication ‘Making Space for Water’, whose aim is to manage the risks from flooding by employing an integrated portfolio of approaches which reflect both national and local priorities, so as:

- to reduce the threat to people and their property
- to deliver the greatest environmental, social and economic benefit, consistent with the Government’s sustainable development principles
- To secure efficient and reliable funding mechanisms that deliver the levels of investment required to achieve the vision outlined in the publication.

Other policies and guidance include:

- Planning Policy Statement 25:Development and Flood risk
- The Interim Code of Practice for Sustainable Urban Drainage Systems
- A practice guide companion to PPS25 ‘Living Draft’
- CIRIA publication C609 sustainable drainage systems
- BS EN 1433:2002 - Drainage channels for vehicular and pedestrian areas.
Mobility for all

‘The Government is committed to comprehensive civil rights for disabled people...a barrier free pedestrian environment is fundamentally important to delivering that commitment.’

Inclusive Mobility, Department of Transport 2002.

Designing for mobility

Removing or reducing barriers to movement can encourage a walkable town, by making the journey through the town easier for all. This includes the 12-13% of the population that has a degree of impairment, people with prams and small children, people who are momentarily impaired by carrying heavy luggage, or with temporary injuries and the elderly.

Level changes

1 in 20 gradients should be the maximum fall when designing to levels. Steeper gradients are defined as ramps and will require handrails.

When designing external steps the maximum riser should be 170mm with a minimum of 100mm.

Within new development, discrepancies in level between internal and external spaces should be made up inside the building. There will be a presumption against external access ramping into building thresholds where possible.

Paving cross falls

Crossfalls should be between 1-2% with a maximum gradient of 1 in 40.

Visual impairment

Design should consider those with visual impairment. Guidance places responsibility on the designer to provide contrasting strips on steps and bollards.

Hazard warning strips should be laid so the bars run transversely across the direction of pedestrian travel. Examples of their application are at the top and bottom of steps, at level crossings and where a footway joins a shared route. In situations where furniture is not fixed at the base, a textured paving should be placed along the tap line so the pedestrian is aware of the potential hazard.

Wheel chair users

Wheelchair users should be able to move comfortably and safely through the public realm. A footpath width of 2000mm allows for two wheelchairs to pass one another comfortably. Gaps within tree grilles and gully grates and other surface finishes should be designed so that openings are a...
Mobility for all

maximum of 13mm and at right angles to the predominant direction of travel.

**Tactile Paving**

The arrangement of tactile paving at pedestrian crossings has been described in ‘Typical Details - principles for setting out’.

The DfT has published guidance on the use of tactile surfaces. The following paragraph summarises the guidance given, but designers should consult the document. In addition BS7997 has established the construction standards for these features in concrete, clay and stone.

Tactile paving should be well designed and executed to avoid awkward junctions with the surrounding streetscape. Within conservation areas tactile paving should reflect the qualities of the street, allowing for natural stone finishes. Colour should co-ordinate with the adjacent materials, whilst providing sufficient contrast for the visually impaired. This will be in accordance to BS8300:2001 “The Design of Buildings and their approaches to meet the needs of Disabled People - Code of Practice”, and The Building Regulations, Part M.

At uncontrolled crossings ensure that tactile paving complements the surrounding paving whilst retaining a level of contrast.

- Within Palette Zones One and Two (described in Section 2 of the PRIF) the treatment should be a light grey granite stone with a flame texture and a flat top blister profile.
- Within Palette Zone Three, buff concrete slabs with a flat top blister profile cast into the slab should be specified.

Controlled crossings,

- Within Palette Zones One and Two, dark grey flame textured granite should be used. It is possible to deviate from the typical red colour outlined in the DfT if the tactile has undergone illuminance testing with a rating of 30% or above.
- Within Palette Zone Three, red concrete slabs with a flat top blister profile cast into the slab should be specified.
Mobility for all

At controlled crossings only, the tactile stem should extend to the building line. In circumstances where the pavements are extensively wide, long tactile stems can detract from the aesthetic value of the pavement. Therefore, stems should be no more than 1200mm wide from the paving line and 5000mm in length.

Generally, when achieving contrasting tones and colours, careful consideration through design should be applied, to avoid creating patchwork surfaces and retaining the integrity of the street scene.

**Maintenance**

Surfaces should be maintained to ensure an even and flush surface finish. The reinstatement of paving after street repairs/works should be restored to the original high standard to avoid trip hazards and uneven surfaces. Maintenance is explored in more detail further in this Section.

**Other Obstructions**

Temporary obstacles within the public realm such as ‘A’ frame signs, bin bags, litter should be kept to a minimum through enforcement to ensure clear pedestrian routes are maintained.

**Design**

An independent DDA assessment should be undertaken within all parts of public realm design.

**Guidance**

- Revised Guidelines for Reducing mobility handicaps towards a barrier free environment IHT 1991
- BS 8300 Design of buildings and their approaches to meet the needs of disabled people.
Introduction

Future aspirations in changing Northampton’s approach to streetscape design will be considered with care to ensure that a distinct and clear identity for the streetscape in Northampton is established.

Street furniture when coordinated appropriately in style, carefully sited and with minimal intrusion can be used to strengthen the town’s identity and develop a special brand for the town centre.

Branding

By providing a family of furniture that will act as a linking element throughout the town, a cohesive approach will be achieved that visually unites the town within a common brand. The ‘Northampton Brand’.

For this brand to successfully work, the quality of street furniture should promote the visual quality of the streetscene. Poor branding will have the reverse effect.

High quality streetscape can be created by:
- ensuring a tasteful and thoughtful design approach whilst fulfilling functional and future maintenance requirements.
- responding contextually to different character areas and to the overarching Vision for the town.
- locating furniture intelligently so that it relates to the function of buildings and spaces and reduces clutter in the street.
- responding to the street hierarchy framework.

Design and General Principles

The initial stage of the street furniture strategy will be to prepare an audit of the existing conditions and strip out all surplus furniture.

Introduce a bespoke street furniture design solution that is specific to Northampton. The design should provide historical, social and cultural references with the town, reinforcing local distinctiveness and ‘sense of place’.

Within Palette Zones One and Two off-the-shelf products will be avoided and a ‘Northampton Brand’ will be used.

In areas identified within Palette Zone Three, where off-the-shelf products are cost effective, they should be simple, tasteful and relate to the ‘Northampton Brand’.

Design of street furniture should be sustainable in terms of maintenance, allowing for an ongoing strategy of replacement. This chapter will demonstrate how bespoke elements can be designed, developed and incorporated into the public realm.
Design Approach

The process for establishing a bespoke 'Northampton Brand' will be developed using the local authority, an artist and an identified street furniture manufacturer.

The initial phase will include developing design solutions to reach a single approved design style. This will involve a design team working closely with an artist and the local authority.

The second stage in the process will involve a street furniture manufacturer and a DDA consultant to take forward the development of design and complete a range of bespoke furniture with a distinct Northampton brand.

The advantage of involving established street furniture manufacturers will be that following the initial design and production of a prototype, reproduction of these elements would be simplified, ensuring that a ‘blueprint’ for Northampton will be established for the benefit of future replacements or maintenance.

The use of the Northampton brand of street furniture has been identified for areas within Palette Zone One and Two.

Areas within Palette Zone Three will consist of 'off-the-shelf' products chosen and approved so that they retain an integrity with the 'Northampton Brand'.

The PRIF recommends that the style of 'off-the-shelf' furniture, will follow these guidelines:

- Furniture should be a simple and elegant design solution.
- The street furniture should be hard wearing, with this in mind a metal construction would be advised due to the robust properties.
- Furniture will be durable and robust in its construction to withstand vandalism and damage from passing obstacles, fading or staining from surrounding surfaces.
- The natural colours and textural qualities will be enhanced wherever possible. Bright coloured paint finishes are to be avoided.
- Furniture should be designed to simplify maintenance requirements.

Above: Illustrates case studies of bespoke furniture adopted by other towns and cities. Top left: Copenhagen Phone Box Top right: Verona Bollard Lower Left: Sheffield Bollard Lower Right: Whitehaven Bench
**Street Furniture Order**

In order to achieve a cohesive and legible public realm the location of street furniture at street junctions and interfaces with other streets and spaces should be well considered.

When laying out street furniture, the relationship and interface between different furniture pieces should be logical and ordered to protect movement corridors and vistas. When two different street furniture styles meet the approach taken should avoid conflict, be complementary, and help to create uncomplicated transitions.

Street furniture within the private domain, that is visible and accessible, should follow the character of adjacent furniture.

When different furniture styles coincide at the junction of a minor street and a primary street, the furniture along the minor street should be stopped short to prevent it conflicting with the furniture set out on the primary street.

When a street is implemented in phases, the integrity of the design as a whole, which will follow the implementation framework plan, should be maintained throughout the process.

The furniture of Northampton should be seen as a collection, whereby each element within the ‘family’ will complement one another.

The elements within this structure should follow a similar theme and complement visual aesthetics, co-ordinating for example, feeder pillars, parking meters, bus shelters and bins.

Street furniture should complement the context and be carefully sited to enrich architectural features, views, microclimate. When siting furniture the following guidelines should be considered, in particular;

- Avoid obstructions to main desire lines
- Security implications to adjoining property
- Avoid isolated seating and locations where there are negative views.
- Avoid areas where anti-social behaviour is expected.
- Seating arrangements should provide interesting and attractive outlooks.
- Avoid, where possible, locating seating by polluted areas, i.e. next to busy roads.
- Provide seating in both shaded and sunny areas
- Provide space for wheelchairs next to seating

Layout principles should not be restricted to within the town centre but considered as an approach to the wider hinterland.

The street furniture should be consistent in style and arrangement
A Family of elements:
A family of furniture elements that complement and have a similar theme. Such elements within the family are benches, bollards, bins, lighting and signage etc.

Street furniture Interface:
Furniture along adjoining minor streets are stopped short to minimise the conflict in styles.

Priority streets will take priority with a co-ordinated ‘family of elements’
Street Clutter: Furniture

Consider the functional requirements of furniture before specifying it for the street. Over supply of street furniture without careful regard to end uses will result in cluttering the street.

Clutter should be reduced within the streetscape. The PRIF proposes to design out street clutter to enable clear open views and greater walkability through the public realm.

Surplus items will be removed following careful audits of the existing streetscape.

The following describes the benefits of good design practice in helping to remove the visual and physical barriers of poor street furniture layout:

- Locate furniture parallel and to the edge of key pedestrian desire lines. Furniture should not create an obstacle to movement. Allow for clear minimum movement widths of between 1.2 and 3 metres in the street. Seating in particular should be located along key desire lines and circulatory routes to provide opportunistic resting spaces.

- In public spaces street furniture and lighting should also follow continuous lines, avoiding corners, key desire lines and junctions. Avoid blocking pedestrian routes with temporary seating and cafes. Street furniture should be placed to help visually enclose spaces.

- Rationalise the number of fixtures in the street, removing for example unnecessary barriers at pedestrian crossings.

Street clutter can have adverse implications on accessibility. To meet DDA requirements the following considerations around furniture layout should be addressed:

- Provide sufficient space alongside seating areas to allow for ease of movement for wheelchair access or prams.

- Avoid placing obstacles next to seating that will create difficulty for using, cleaning or maintaining of the seat.

- External spill out areas from cafes and bars should be controlled to prevent the obstruction of routes.

The Joint Committee on Mobility of Blind and Partially Sighted People provide examples on how to reduce the impact of clutter within the public realm:

- Locate feeder pillars and service inspection boxes within buildings or along boundary walls.

- Mount street lights onto buildings or combine with traffic signals.

- Specify the location and orientation of inspection covers in the footway.

- Ensure that all bins and recycling

In shopping areas allow a zone for window shopping.
facilities are located off the footway.

- Incorporate items of street furniture into one unit including combinations of signs, shelters, CCTV devices and lights.
- Use street furniture to help define a space.

Cleaning and maintenance is an important factor when deciding the placement of furniture. The location of furniture should be away from awkward corners, overhangs or located close to walls which make cleaning around the perimeter difficult. A tolerance of 1-1.5m is recommended between street furniture elements to allow cleaning by street vehicles.

Furniture should not impede on emergency vehicle routes.

The public realm continually changes as a result of repair, maintenance, new regulations and development. Without a coordinated approach even the best ‘reduced clutter schemes’ can become cluttered once more.

The public realm should be monitored to prevent the proliferation of street furniture re-occurring due to poor management and bad design.

A clutter plan, strategy and designated NBC/NCC ‘Officer’ should be established to provide a holistic control over future change.

---

Key

A. Clear pedestrian route along the pavement, allowing unobstructed passage by the pedestrian.

B. Kerbside space 300-400mm

C. Furniture Zone 1 - 3 metres

D. Clear unobstructed zone 1.2 - 3 metres
**General Principles**

All elements within the ‘family’ of street furniture should complement one another using similar materials and styles.

Furniture such as bollards, bins, recycling bin stores, benches, parking meters, cycle stands, CCTV mounting poles and signal control boxes should all blend together. Structures such as bus stops and telephone boxes are considered further on in the study.

**Seating**

Seating should be located within areas well used by pedestrians and in areas where there is sufficient room within the footpath for people to pass without obstruction.

Ensure that a high proportion of seating caters for the physically impaired, by incorporating backs and armrests within most products. Two types of ‘Northampton Brand’ seats should be developed to allow for alternative bench design solutions with backrests and arms and those without. This will ensure benches integrate with location.

In locations outside the ‘Primary Palette’, an off-the-shelf product should be used that integrates with the ‘Northampton Brand’.

Ensure that the design of seating is suited to all users by including alternative sizes and heights of the seating.

Seating should be positioned at regular intervals along the street or space to encourage stopping points. This will encourage users to slow down and linger, promoting the concept of the ‘Walkable Town’.

In well used areas seats should be provided at intervals of no more than 50 metres.

**Litter bins**

Litter bins should fulfil both functional and aesthetic aspirations. A minimum capacity of 100 litres is recommended as these will hold large ‘take away’ style boxes.

Integrate other facilities within the design of a bin, such as cigarette and chewing gum dispensers.

Bins should be accessed via a side door with a universal lock used town wide and be fixed securely to the ground.

Consider position and location, ensuring an even distribution across the town, concentrating numbers at nodal points and well used areas. Bins should always be located alongside seating areas, bus stops and stopping
Individual Elements

points.
Palette Zones One and Two will incorporate a ‘Northampton Brand’ and an off-the-shelf product will be used within Palette Zone Three.

**Bollards**

Bollards should be used sparingly and only when essential to protect the pedestrian from passing traffic or preventing vehicles accessing a particular area.

Consider the application of alternative street furniture to resolve issues previously treated with bollards, for example the placement of litter bins, seating or tree planting, which can already be an intrinsic part of the streetscape.

Bollards should be at least 1000mm high to prevent them becoming a hazard for the partially sighted.

**Pedestrian Guard Rails**

Guard rails can be unsightly and present a barrier within the pedestrian environment. Research shows that barriers can contribute to increased vehicles speeds.

The PRIF therefore recommends that all guard rails are be removed from Northampton town centre. If barriers are needed within the public realm, alternative methods of separation should be used. For example strategically placed signage or interpretation panels, or less intrusive kerb type solutions to direct movement and create an edge treatment.

**Cycle Stands**

Cycle stands should be simple and elegant in form, blending tastefully into the public realm.

Cycle stand provision should be kept to a minimum number whilst retaining adequate provision for cyclists. Numbers should be agreed between SUSTRANS and the local authority.

Cycle stands should be located discreetly to allow ease of movement through the public realm.

The material finish of the cycle stands finish will follow the furniture palette, with a ‘Northampton Brand’ and an off-the-shelf product.

**Historic street Furniture**

Protecting historic street furniture will provide cultural references to Northampton’s history. Where appropriate good quality fittings should be re-cast and included in the streetscape as appropriate.

---

The preservation of historic street furniture should be sensitively and strategically approached to prevent unwanted clutter.

**Temporary Seating**

Temporary seating and table arrangements should be encouraged to allow activity to spill out into the public realm.

A system whereby vendors apply for a licence to the local authority should be put in place to satisfy certain criteria, and ensure the safety of passing pedestrians.

Refer to the Directorate of transportation and highways when considering arrangements and demarcation of space.

**Market Stalls**

Northampton has an established tradition of market trading. An opportunity for developing a better quality of market stall should be created that reinforces the 'Northampton Brand'.

It is important that the market stalls within the centre of the town look attractive and raise image and profile of the markets.

This can influence traditional street awnings to encourage restaurants and cafes to spill out onto adjacent streets.

The design transformation of markets and market stalls is particularly important in transforming the character and 're-brand' of the new central Market Square.

The radical transformation of the Market Square as a place for people, markets and shopping could trigger a catalytic renaissance of the town, and therefore the approach taken with the Market branding could be crucial to this.

Visiting fayres, seasonal markets, jazz festivals, European markets can all help to add interest and vitality to the central heart of Northampton.
Individual Elements

**Banners**

- These should be fixed onto lighting columns with a similar colour metal bracket.
- Banners should be viewed as flexible design solutions, replaced at regular intervals to add interest to the street by highlighting events in the town, festivals, or art exhibitions.

**CCTV**

- Should be combined with other elements of street furniture in order to reduce street clutter. Solutions for relocation can be to mount fittings on buildings or by combining with lighting to reduce the numbers of columns required.

**Utilities**

- Utility companies should agree to national and local guidelines and legislation.
- Proposed feeder pillars should be located underground where possible or out of sight. These fixtures in the street should be unobtrusive.
- If located on the street they should be set back to the edge of the footway to prevent blockages to the flow of movement.
- Feeder pillars should also be of a designated colour or painted black.
- BT street cabinets are restricted to a standard product. Relocation of BT cabinets are time consuming and costly. The additional costs can be prohibitive and their location should be considered early on in the design process.

**Traffic Signals**

- Collaboration with the signalling authority should aim to reduce the number of signal heads and in particular the secondary signals that are seen as discretionary
- Where possible, fittings should be combined onto lamp posts to reduce street clutter. Back boards of the traffic light heads should be removed to support the philosophy of a clutter free town.
<table>
<thead>
<tr>
<th><strong>Items</strong></th>
<th><strong>Palette Zone 1</strong></th>
<th><strong>Palette Zone 2</strong></th>
<th><strong>Palette Zone 3</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Banners and Hanging Baskets</td>
<td>Develop standards Fixed onto lighting columns with a similar colour metal bracket</td>
<td>Develop standards Fixed onto lighting columns with a similar colour bracket</td>
<td></td>
</tr>
<tr>
<td>Bins</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Stainless Steel Suite</td>
</tr>
<tr>
<td>Bollards</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer Clutter reduction method - Sign bollards to be used where appropriate.</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer Clutter reduction method - Sign bollards to be used where appropriate.</td>
<td>Stainless Steel Suite</td>
</tr>
<tr>
<td>Cycle / Motorcycle Stands</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Drainage Grilles</td>
<td>Northampton ductile iron grille for channels. Bespoke stone grille or flush grate with paving inlay for shared surface areas.</td>
<td>Northampton ductile iron grille for channels.</td>
<td>Northampton ductile iron grille for channels.</td>
</tr>
<tr>
<td>Hand Rails and Guardrails</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Stainless steel suite</td>
</tr>
<tr>
<td>Lamp Columns</td>
<td>Tapered Grey - RAL 9007 powder coated columns. Height should be appropriate to the street i.e. very wide footways requiring lower height columns. Areas of distinctive quality should have specialist poles.</td>
<td>Tapered Grey - RAL 9007 powder coated columns. Height should be appropriate to the street i.e. very wide footways requiring lower height columns. Areas of distinctive quality should have specialist poles.</td>
<td>Tapered Grey - RAL 9007 powder coated columns of appropriate height.</td>
</tr>
<tr>
<td>Planters</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Stainless steel suite</td>
</tr>
<tr>
<td>Seats</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Stainless steel suite</td>
</tr>
<tr>
<td>Signage / Informative Boards</td>
<td>Should coordinate with the Northampton Brand. Bespoke signage in areas of unique character</td>
<td>Should coordinate with the Northampton Brand. Bespoke signage in areas of unique character</td>
<td>Stainless steel suite</td>
</tr>
<tr>
<td>Telephone Boxes</td>
<td>The traditional K6 red telephone boxes should be restored and reinstated where appropriate to retain the areas historic character. Work with the service provider to achieve a sympathetic selection. Consideration of the type, its placement and its incorporation into the street scene.</td>
<td>Work with the service provider to achieve a sympathetic selection. Consideration of the type, its placement and its incorporation into the street scene.</td>
<td>Work with the service provider to achieve a sympathetic selection. Consideration of the type, its placement and its incorporation into the street scene.</td>
</tr>
<tr>
<td>Tree Grilles</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Northampton Brand Suite Collaborative design with Artist and manufacturer</td>
<td>Stainless steel suite</td>
</tr>
</tbody>
</table>
Furniture Summary

- The style of furniture has a significant influence on ‘the image of the town’. Therefore it is important for the future of the town that a successful ‘Northampton Brand’ is created.

- Bespoke pieces should be designed in liaison with an artist and a street furniture manufacturer to ensure a ‘blueprint’ is adopted for future maintenance and replacement.

- Whilst it is important to consider the visual appearance of street furniture, understanding the siting, function and end user is essential.

- Clearing the visual clutter and using best practice design and order techniques will transform the streetscape environment.

- Ensure that the street furniture is accessible to all, including the access for cleaning and future maintenance.

- Consider maintenance when specifying and locating street furniture.

- All street furniture should be durable and robust withstanding the pressures of everyday use.