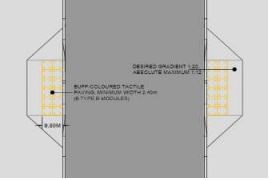

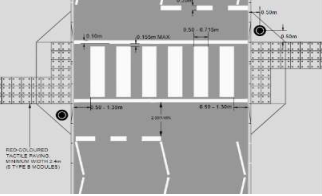

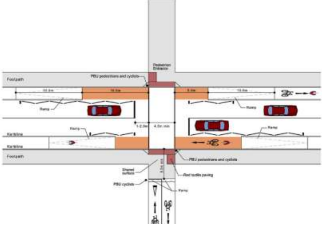

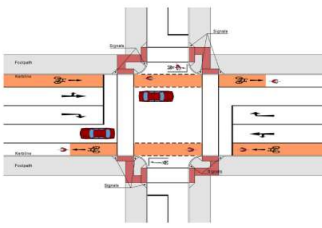

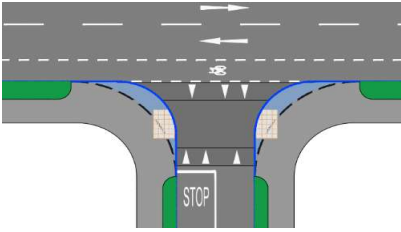

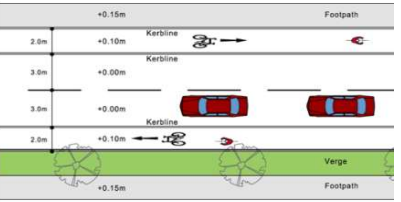

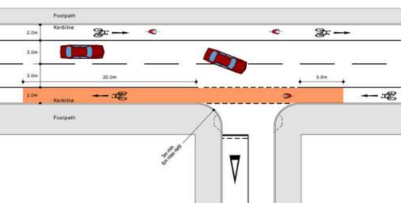



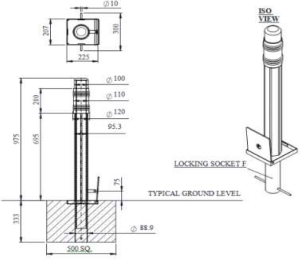




















Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Note: cost ranges below are indicative for approximate estimating purposes only					
Pedestrian Crossing Facilities					
SZ-101	 <p>Uncontrolled Crossing (TII Publications)</p>	 <p>Hartstown Road, Dublin</p>	<p>Description: Uncontrolled crossing (insitu concrete dished footpath and dropped kerb; tactile paving) Dimension: Varies (crossing width minimum 2m wide) Standards/Guidance: DMURS (Section 4.3.2), TII: CC-SCD-5000 Series, National Cycle Manual (NCM) (Section 4.7.1) Colour: Buff colour tactile paving Cost Estimate: €8,000 - €12,000 per item (not including raised table)</p>	<p>Consider gradient from existing footpath to carriageway. Raised table, if desired, is required to be kerb to kerb construction which may incur additional costs due to drainage impacts, budget estimate €7,000 - €10,000, depending on carriageway width.</p>	Multiple suppliers
SZ-102	 <p>Zebra Crossing (TII Publications)</p>	 <p>Belgard Square, Dublin</p>	<p>Description: Zebra crossing (belisha beacons, tactile paving, road markings) Dimension: Varies (crossing width minimum 2m wide) Standards/Guidance: DMURS (Section 4.3.2), Traffic Signs Manual (Chapter 7.16), TII: CC-SCD-5000 Series, NCM (Section 4.7.2) Colour: Red colour tactile paving Cost Estimate: €25,000 - €35,000 per item (not including raised table)</p>	<p>Suitable for lower speed environments with moderate pedestrian and traffic activity. Solar powered belisha beacons could be considered as an alternative to hardwire connections to electricity supply. Raised table if desired, is required to be kerb to kerb construction which may incur additional costs due to drainage impacts, budget cost €7,000 - €10,000 per item, depending on carriageway width.</p>	Multiple suppliers
SZ-103	 <p>Toucan Crossing (NCM)</p>	 <p>Ballyroan Road, Rathfarnham</p>	<p>Description: New Toucan crossing (traffic signals, tactile paving, ramp, road markings) Dimension: Varies (crossing width minimum 2m wide) Standards/Guidance: DMURS (Section 4.3.2), Traffic Signs Manual (Chapter 7.16), TII: CC-SCD-5000 Series, NCM (Section 4.7.2) Colour: Red colour tactile paving Cost Estimate: €50,000 - €80,000 per item</p>	<p>Shared pedestrian priority area should be minimum of 5m wide from end of cycle track to edge of road, with sufficient sight triangles, to give time for traffic and cyclists to see each other.</p>	Multiple suppliers
SZ-104	 <p>Ped. Crossings (National Cycle Manual)</p>	 <p>Carysfort Avenue, Blackrock</p>	<p>Description: New pedestrian crossings on all arms of junction (traffic signals, tactile paving, road markings) Dimension: Varies Standards/Guidance: DMURS (Section 4.4.3), Traffic Signs Manual (Chapter 9), NCM (Section 4.4), TII: CC-SCD-5000 Series Colour: Red colour tactile paving Cost Estimate: €100,000 - €150,000 per item</p>	<p>Consider providing all-red traffic stage to allow for warp around green man pedestrian phase. Toucan crossings may be required on cycle routes. Ensure adequate crossing widths/dwelling areas to cater for pedestrian/cyclist activity.</p>	Multiple suppliers







Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Junction Treatment					
SZ-105	 <p style="text-align: center;">Junction tightening and entry treatment</p>	 <p style="text-align: center;">Pottery Road, Dun Laoghaire</p>	<p>Description: Side Road Tightening (concrete build-outs to reduce road width; reduced corner radii; tactile paving; raised entry treatment)</p> <p>Dimension: Varies</p> <p>Standards/Guidance: DMURS (Section 4.3), NCM (Section 4.9), NTA Advice Note - Junction Tightening Schemes (NTA/TD/AN1, July 2021)</p> <p>Colour: Buff colour tactile paving</p> <p>Cost Estimate: €30,000 - €50,000 per item</p>	<p>May require additional drainage as a result of raised entry treatment. Consider continuing footpath across junction mouth to increase pedestrian priority.</p>	<p style="text-align: center;">Multiple suppliers</p>
Cycling Facilities					
SZ-106	 <p style="text-align: center;">Raised Cycle Track (NCM)</p>	 <p style="text-align: center;">Main Road, Tallaght, Dublin</p>	<p>Description: Raised cycle tracks and adjacent footpaths</p> <p>Dimension: Varies</p> <p>Standards/Guidance: NCM (Section 4.3.4 and 5.6) , TII: DN-GEO-03047</p> <p>Colour: Black SMA surface, option to use red or buff colour surface treatment</p> <p>Cost Estimate: €2M per km (including new footpath, cycle track, drainage, lighting)</p>		<p style="text-align: center;">Multiple suppliers</p>
SZ-107	 <p style="text-align: center;">Red Colour Surface Treatment (NCM)</p>	 <p style="text-align: center;">Hartstown Road, Dublin</p>	<p>Description: 6mm chips broadcast on epoxy resin. Surface treatment only (on existing cycle lane)</p> <p>Dimension: Varies</p> <p>Standards/Guidance: NCM (Section 5.6), TII: DN-GEO-03047</p> <p>Colour: Red coloured surfacing</p> <p>Cost Estimate: €40 - €55 per sq.m</p>	<p>Red colour surfacing across junctions and at conflict locations to improve legibility, per NCM. Consider buff colour surface treatment (away from conflict areas) to highlight presence of cycle lane/track.</p>	<p style="text-align: center;">Multiple suppliers</p>
SZ-108	 <p style="text-align: center;">Shared Pedestrian and Cycling Route</p>	 <p style="text-align: center;">Glounthaune, Co. Cork</p>	<p>Description: Shared surface for pedestrians and cyclists.</p> <p>Dimension: 4m wide minimum</p> <p>Standards/Guidance: NCM (Section 1.9.3); TII Publication: Rural Cycleway Design (Offline) DN-GEO-03047, Traffic Signs Manual (Chapter 5.18)</p> <p>Colour: typically black SMA</p> <p>Cost Estimate: €1M - €1.5M per km</p>	<p>Route should be 4m wide minimum and should include public lighting.</p>	<p style="text-align: center;">Multiple suppliers</p>

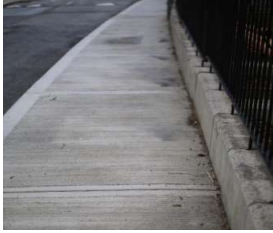




Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Bollards					
SZ-109	 <p style="text-align: center;">Pencil Shaped Rigid Bollards</p>	 <p style="text-align: center;">Barry Avenus, Finglas West, Dublin</p>	<p>Description: Rigid Pencil Bollard (polyurethane cast around a steel core) Dimension: 1000mm high, 80mm Dia. Standards: TII: CC-SPW-01200 Connection: Retention socket or cast in place Colour: SRTS yellow colours only (RAL 1018 or RAL 1023) Cost Estimate: €200 - €250 per bollard</p>	<p>Check footpath width. Bollards should be placed in carriageway if footpath space is insufficient (passively safe bollards are preferred in this case).</p>	<p>Multiple Suppliers including: Shergan Traffic Solutions www.shergansolutions.com and PWS Signs www.pwssigns.com</p>
SZ-110	 <p style="text-align: center;">Pencil Shaped Flexible Bollards</p>	 <p style="text-align: center;">O'Brien's Place, Youghal, Co. Cork</p>	<p>Description: Flexible Pencil Bollard (polyurethane) Dimension: 1000mm high, 80mm Dia. Standards: TII: CC-SPW-01200 Connection: Retention socket or bolt down Colour: SRTS yellow colours only (RAL 1018 or RAL 1023) Cost Estimate: €150 - €380 per bollard</p>	<p>Check footpath width. Bollards should be placed in carriageway if footpath space is insufficient</p>	<p>Multiple Suppliers including: IPL Group (Ireland) www.iplgroup.com Shergan Traffic Solutions www.shergansolutions.com and PWS Signs www.pwssigns.com</p>
SZ-111	 <p style="text-align: center;">Flexible Bollards</p>	 <p style="text-align: center;">Werburgh Street, Dublin City</p>	<p>Description: Flexible Bollard - Cycle segregation Dimension: 800mm/1000mm high, 80mm Dia. Standards: TII: CC-SPW-01200 Connection: Screw/Dowel and glue Colour: typically black or orange (with reflective bands) Cost Estimate: €90 - €105 per bollard</p>	<p>Ideal for quick-build cycle schemes. Ongoing maintenance required to replace missing and damaged bollards.</p>	<p>Multiple Suppliers</p>

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Signs					
SZ-112	<p style="text-align: center;">Driver Feedback Signs</p>	 <p style="text-align: center;">Hartstown Road, Dublin</p>	<p>Description: Vehicle activated traffic sign with interactive display depicting actual vehicle speed. Dimension: N/A Standards: Traffic Signs Manual (Chapter 3.8) Power supply: hardwire connection to electricity supply or solar powered Connection: pole mounted in retention socket or root fixed Colour: N/A Cost Estimate: €2,400 + €450 installation (ex VAT)</p>	<p>Detection can be by means of above-ground radar detection or inductive loops in the carriageway.</p>	<p style="text-align: center;">Multiple suppliers</p>
SZ-113	 <p style="text-align: center;">School Ahead and Amber Warning Signals (can be used with periodic speed limit)</p>	 <p style="text-align: center;">R417 Kilberry, Co. Kildare</p>	<p>Description: Periodic Speed Limit Sign with School Ahead Warning Sign supplemented with Flashing Amber Signals Dimension: N/A Standards: Traffic Signs Manual (Chapter 6.17) Power supply: hardwire connection to electricity supply or solar powered Connection: pole mounted in retention socket or root fixed Colour: N/A Cost Estimate: €1,700 (ex VAT) or €3,850 with periodic speed limit. Including installation.</p>	<p>The warning signals may be used in combination with a periodic speed limit sign where appropriate.</p>	<p style="text-align: center;">Multiple suppliers</p>
Road Markings					
SZ-114	 <p style="text-align: center;">School Zone Road Markings</p>	 <p style="text-align: center;">DCC School Zones, Dublin City</p>	<p>Description: 'Circles' Road Marking (Thermoplastic), sited 8m in advance of a School Zone markings Dimension: Pattern with four fixed size diameter circles; 2m, 1.5m, 1.0m, 0.8m Standards: TII: CC-SPW-01200, Traffic Signs Manual Colour: RAL3027, RAL1024, RAL1016, RAL1023, RAL6017 Cost Estimate: €75 - €150 per item</p> <p>Description: 'School Zone' Road Marking (Thermoplastic) Dimension: Varies, DCC use Standards: TII: CC-SPW-01200, Traffic Signs Manual Colour: White text on yellow background Cost Estimate: €200-250 per item</p>		<p style="text-align: center;">Multiple Suppliers including Ecoflex https://www.ecoflex.ie/copy-of-safetrack-sc-coloured-surfa</p>




Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Road Markings					
SZ-115	 <p data-bbox="271 528 421 549" style="text-align: center;">Virtual Speed Ramp</p>	 <p data-bbox="689 528 853 549" style="text-align: center;">Monasterevin, Kildare</p>	<p>Description: 'Virtual Speed Ramp' Road Marking (Thermoplastic) i.e. no vertical deflection Dimension: Varies Standards: TII: CC-SPW-01200, Traffic Signs Manual Colour: White road marking on red surface Cost Estimate: €200 - €250 per item</p>	<p>The effectiveness of the ramp may diminish over time as drivers become familiar with the road markings.</p>	Multiple suppliers
Road Pavement Surfacing					
SZ-116	 <p data-bbox="219 858 472 880" style="text-align: center;">Cold Applied High Friction Surface</p>	 <p data-bbox="680 858 860 880" style="text-align: center;">Calrendon Street, Dublin</p>	<p>Description: Cold applied high friction surface Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, minimum skid-resistance value (SRV) of 65 Colour: Buff Cost Estimate: €38 - €40 per sq.m</p>	<p>Instant visual impact. The buff surface colour will become darker over time due to traffic wear. Reapplication may be required if services trenches are cut through pavement.</p>	Multiple suppliers
SZ-117	<p>Black SMA with coloured chip</p>	 <p data-bbox="680 1160 860 1182" style="text-align: center;">Frascati Road, Blackrock</p>	<p>Description: Standard black polymer modified bitumen blended with coloured aggregate. Over time the surface bitumen wears off and the natural aggregate is exposed. The exposure process can be accelerated shot blasting the surface approximately one month after initial laying. Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, minimum skid-resistance value (SRV) of 65 Colour: typically buff or red coloured chip Cost Estimate: €55 - €60 per sq.m</p>	<p>The coloured aggregate takes time to get exposed following surface treatment or traffic wear.</p>	Multiple suppliers

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Road Pavement Surfacing					
SZ-118	SMA with coloured binder	 <p data-bbox="725 528 808 544">Dublin Zoo</p>	<p>Description: Coloured pigment blended with coloured aggregate Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, minimum skid-resistance value (SRV) of 65 Colour: typically buff or red Cost Estimate: €50 - €60 per sq.m</p>	<p>Limited examples on heavily trafficked routes. Tends to darken over time due to vehicle tyres.</p>	<p>SIAC Duracolour</p>
SZ-119	 <p data-bbox="181 831 508 847">Hot Rolled Asphalt With Coloured Chippings</p>	 <p data-bbox="658 831 875 847">Main Street, Bray, Co Wicklow</p>	<p>Description: Coloured chippings in HRA Dimension: Varies Standards: TII: DN-PAV-03024, CC-SPW-700 to 1000, Colour: Varies (typically: red, buff, granite colour) Cost Estimate: €10 - €15 per sq.m</p>	<p>Durable solution</p>	<p>Multiple suppliers</p>
SZ-120	 <p data-bbox="241 1094 450 1110">Imprinted Asphalt Pavement</p>	 <p data-bbox="680 1094 853 1110">Western Road, Cork city</p>	<p>Description: Imprinted asphalt pavement Dimension: Varies Standards: DMURS, TII: CC-SPW-700 to 1000 Colour: Varies (typically grey or red) Cost Estimate: €65 -€100 per sq.m</p>	<p>May not be suitable on roads with higher speed or high traffic volumes.</p>	<p>www.hitexinternational.com</p>
SZ-121	 <p data-bbox="241 1358 450 1374">Imprinted Asphalt In Median</p>	 <p data-bbox="680 1358 853 1374">Taff Embankment, Cardiff</p>	<p>Description: Central strip imprinted asphalt Dimension: Varies Standards: DMURS, TII: CC-SPW-700 to 1000 Colour: Varies (typically grey) Cost (Date): €65 - €100 per sq.m</p>	<p>May not be suitable on roads with higher speed or high traffic volumes.</p>	<p>www.hitexinternational.com</p> <p>www.tarstone.ie</p>





Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Road Pavement Surfacing					
SZ-122	 <p style="text-align: center;">Stone Setts Rumble Strip</p>	 <p style="text-align: center;">Western Road, Cork City</p>	<p>Description: Stone Setts Rumble Strip full road width installed as a surface feature Dimension: Varies Standards: DMURS (Advice Note 2) https://www.dkurs.ie/supplementary-material Colour: Natural stone Cost Estimate: €250 - €300 per sq.m</p>	<p>Should be used in lower speed environments only; consider noise impacts particularly in residential areas; use of high-strength mortar bedding (such as SteinTec or equivalent) should be considered.</p>	Multiple suppliers
SZ-123	 <p style="text-align: center;">Traffic Calming Ramp</p>	 <p style="text-align: center;">Beaver Row, Dublin</p>	<p>Description: Speed ramps/raised tables Dimension: Varies with design special considerations should be applied along bus routes to accommodate movements Standards: DMURS Colour: Black SMA Cost Estimate: €4,000 - €6,000 cost per item. Note that drainage and location will affect cost significantly</p>	<p>The flat-top length of the ramp should be extended to 6m on bus routes. On/off ramp gradients should be a maximum of 1 in 20. Note that drainage and location could affect cost significantly.</p>	Multiple suppliers
Footways					
SZ-124	<p style="text-align: center;">Concrete Footpath Reconstruction</p>	 <p style="text-align: center;">Hartstown Road, Dublin</p>	<p>Description: In-situ concrete reconstruction (Remove and replace approximately 100mm deep concrete footpath) Standards: TII: DN-PAV-03026, CC-SPW-01100 Cost Estimate: €200 per m (assume 2m wide footpath)</p>	-	Multiple suppliers
SZ-125	<p style="text-align: center;">Imprinted Concrete Footpath</p>	 <p style="text-align: center;">Dromahane, Cork</p>	<p>Description: Imprinted concrete footpath Standards: TII: DN-PAV-03026, CC-SPW-01100 Cost Estimate: €80 - €105 per sq.m</p>	-	<p>www.hitexinternational.com</p> <p>www.tarstone.ie</p>

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Footways					
SZ-126	Insitu Concrete Footpath - Full Construction	 <p data-bbox="633 496 904 512">Grange Road, Rathfarnham, Dublin</p>	<p>Description: New Footpath Construction Standards: TII: DN-PAV-03026, CC-SPW-01100, The Construction Standards for Road and Street Works in Dublin City Council Cost Estimate: €300,000 - €500,000 per km (including drainage, lighting)</p>	-	Multiple suppliers
SZ-127	Exposed Aggregate Footway	 <p data-bbox="678 754 860 778">Dublin Castle, Dublin City</p>	<p>Description: Exposed Aggregate Footpath 100mm concrete surface, laid on 100mm base constructed on acceptable material. Retardant applied on surface and power washed Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (aggregate/concrete) Cost (Date): €120-170 p/m² (Aug 2021)</p>	Ensure sufficient slip resistance.	Multiple suppliers
SZ-128	 <p data-bbox="226 1024 472 1045">Resin bonded surface treatment</p>	 <p data-bbox="703 1024 828 1045">Dundrum, Dublin</p>	<p>Description: Footpath surface treatment - bound pebble surface (e.g. Daltex Golden Pea Dried Gravel, 1-3mm) Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (typically buff) Cost (Date): €55-65 price per m² (Aug 2021)</p>	-	daltex-golden-pea-1-3mm
SZ-129	Quick-build footway area (rubber kerb and slotted linear drains)	 <p data-bbox="692 1289 842 1310">Capel Street, Dublin</p>	<p>Description: Quick-build footpath built-outs (plastic kerb; coloured asphalt footpath) Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (typically buff colour) Cost Estimate: €200 - €250 per sq.m</p>	-	-

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Footways					
SZ-130	Quick-build footway area (concrete kerb and slotted linear drains)	 <p style="text-align: center;">Dundrum, Dublin</p>	<p>Description: Quick-build footpath build-outs (insitu concrete kerb; coloured asphalt footpath) Standards: TII: DN-PAV-03026, CC-SPW-01100 Colour: Varies (typically buff colour) Cost Estimate: €200 - €250 per sq.m</p>	-	-
Street Furniture					
SZ-131	 <p style="text-align: center;">Cycle Stands</p>	 <p style="text-align: center;">Conyngham Road, Dublin</p>	<p>Description: Cycle Stands (Sheffield Stands) Dimension: 750mm wide x 1000mm tall, 2.5mm wall thickness Connection: varies; bolt down, buried flanged fixing, retention socket Colour: Typically stainless steel; or consider School Zone standard colours RAL1034, RAL3014, RAL1018, RAL6017 Cost Estimate: €300 - €400 per item inc. foundation system</p>	-	Multiple suppliers
SZ-132	 <p style="text-align: center;">Colour Themed Street Seating</p>	 <p style="text-align: center;">Main Street, Killeagh, Co. Cork</p>	<p>Description: Seating and benches Dimension: Varies Standards: Various, siting and fixing of street furniture is of critical importance. Some Local Authorities preferences are determined by its age friendly policy which calls for timber benches (warmer material for year around use) with backs and arm rests (assist less able bodied to sit and rise) so there is a focus on specifying either entirely timber or timber with steel framed seating and benches. People also appreciate where the seating is set out in a clustered arrangement which allow people to face either other when sitting rather than everyone sitting in a straight line. When creating clusters leave gaps where wheelchair users or children in buggies can engage with people sitting on the benches. Try to incorporate tables within the clusters. These give people</p>	-	Multiple suppliers

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
Street Furniture					
SZ-133	 <p data-bbox="230 528 461 549">School Branding Banner/Totem</p>	 <p data-bbox="658 528 882 549">Main Street, Bray, Co. Wicklow</p>	<p>Description: Lamppost Banner Bracket Dimension: Varies Standards: Many Local Authorities install banners on public lighting poles throughout the county. These are generally quick and easy to install, change or remove. Specify durable material as the intention is to leave this in place for a number of years. Colour: Grey with SRTS logo on the drivers entry side to the school zone and school crest on other side Cost Estimate: Selection Specific</p>	<p>Consideration should be given to the suitability of existing columns and increased wind loading</p>	<p>https://www.lampost.ie/ https://baymedia.ie/lamp-post-flags-system/ http://touchpointmedia.ie/lamp-post-banners/</p>
SZ-134	 <p data-bbox="185 831 506 845">Colour Themed School Zone Gateway Poles</p>	 <p data-bbox="663 831 882 845">Coloured Pole Sleeves (PWS)</p>	<p>Description: Coloured sign pole covers Dimension: Diameter to fit 76mm steel sign pole, 300mm long sections. Standards: TII: CC-SPW-01200, Traffic signs manual 2019 Colour: School Zone standard colours RAL1034, RAL3014, RAL1018, RAL6017 Cost Estimate: Selection Specific</p>	<p>-</p>	<p>PWS-Sign pole covers</p>

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
	 <p data-bbox="293 517 396 536">Rain Gardens</p>	 <p data-bbox="680 517 855 536">Alma Road, Enfield, UK</p>	<p data-bbox="981 220 1240 239">Landscape and Urban Design</p> <p data-bbox="981 244 1346 263">Description: Rain Garden, rainwater attenuation</p> <p data-bbox="981 268 1126 287">Dimension: Varies</p> <p data-bbox="981 292 1272 311">Standards: The SuDS Manual (CIRIA)</p> <p data-bbox="981 316 1077 335">Cost: Varies</p>	<p data-bbox="1503 244 1888 284">Guidance on design of rain gardens in Chapter 18 of The SuDS Manual (CIRIA) https://www.ciria.org/ItemDetail?iProductCode=C753F&Category=FREEPUBS</p> <p data-bbox="1503 352 1888 411">Designing Rain Gardens: A Practical Guide https://www.urbandesignlondon.com/documents/85/UDL_Rain_Gardens_for_web_0vwx1Ls.pdf</p> <p data-bbox="1503 437 1888 496">Case Study: https://www.london.gov.uk/what-we-do/environment/climate-change/surface-water/alma-road-suds-project</p>	<p data-bbox="1966 379 2101 399">Multiple suppliers</p>
	 <p data-bbox="259 1134 430 1153">Low Level planting bed</p>	 <p data-bbox="703 1134 833 1153">Dundrum, Dublin</p>	<p data-bbox="981 539 1330 558">Description: Above ground permanent planter</p> <p data-bbox="981 563 1503 772">Dimension: Permanent inground planting beds can benefit from painted steel guards around the edges. Without some form of edging pedestrians, buggy wheels and bike wheels tended to encroach onto the planting, mud gets drawn around the local paths and planting is damaged/lost. We try to retain a 10mm gap between the path edge and the metal edging to ensure rain water can still attenuate into the beds. 125mm high metal edge avoids it being a trip hazard but where there is a cross fall the height may need to be increased so the top edge is horizontal. Where there are lots of kids running about metal edging may not be the idea material.</p> <p data-bbox="981 777 1503 1155">Materials: From DLRCC architects dept "On some of the covid and outdoor dining schemes we have utilised native wild meadow turf. This is installed similar to roll out grass and delivers a wonderful planting mix. The flowers are great pollinator's and ideal for bio diversity but the disadvantage of this type of planting is that it gets cut back in late Autumn and can look bare and scruffy for the winter months. In other locations we have planted herbaceous perennial's and grasses which are good pollinator's and ideal for bio diversity. The grasses turn brown in winter but the planting in the bed retains some body and 3d presence throughout the year. Where possible we also include a variety of spring bulbs in all the planted beds. These deliver flowering colour to the beds through the spring months until the summer blooms take over meaning there is interest in the beds for a significant period of the year. Something we haven't done to date but I would hope to consider in specifying planting for the school zones is considering the scents and sounds created by the plants so the planting appeal to other senses and could be appreciated by visually impaired etc" Standards: The SuDS Manual (CIRIA)</p>	<p data-bbox="1688 836 1697 855">-</p>	<p data-bbox="1966 836 2101 855">Multiple suppliers</p>
	 <p data-bbox="293 1417 396 1436">Tree Planting</p>		<p data-bbox="981 1155 1503 1262">Dimensions: Single stem trees maintain clear visibility at low level but our bigger difficulty on occasion has been choosing a location for the tree which doesn't block sight lines to traffic lights something which may become an issue at a school zones where there are multiple pedestrian and zebra crossings.</p> <p data-bbox="981 1267 1503 1307">Most trees we would specify would be minimum 14/16 cm diameter and these would generally have a 2m clear trunk</p> <p data-bbox="981 1311 1503 1394">Materials: Local Authority parks department can advise, some have specified apple and pear trees in past which deliver interest, with blossoms, leaves and fruit but in additional to loosing leaves these trees lose their fruit which can become a hazard on paths</p>	<p data-bbox="1688 1283 1697 1302">-</p>	<p data-bbox="1966 1283 2101 1302">Multiple suppliers</p>

Ref. #	Design/Visualisation	Constructed Example	Specification	Considerations	Known Supplier (inclusion does not equal endorsement)
		 <p style="text-align: center;">Dundrum, Dublin</p>	<p>Landscaping and Urban Design</p> <p>Description/use: For quick build schemes, in ground planting generally preferred as it is more sustainable and requires less maintenance. Planters deliver immediate results when needed but they will require maintenance and monitoring</p> <p>Dimension: 450/500mm high. That height was chosen can act as a good buffer and can have seating elements incorporated on top. 600mm wide where the planters are freestanding and need to ensure stability. When the planters can be fixed in place width can be reduced to 300mm. Note: One of the big challenges in placing trees in planters in existing streets is finding adequate spaces to accommodate a 1m cube pit for the tree roots which is free of services. Investigate existing services and requirements each provider has in regard to clear distances between the service and trees.</p> <p>Colour: Timber or a neutral colour e.g.grey. Not SRTS colours. Cost: Varies</p>	-	Multiple Suppliers
	 <p>Micro Art Examples (coloured flags, footsteps, games etc...)</p>	 <p>Coloured Paving Clonakilty, Hopscotch Dundrum Dublin,</p>	<p>Description: the Planning/Public Realm/Art Office in Local Authorities should lead any Micro Art inclusions. For ideas see www.aplayfulcity.com https://thewallsproject.ie https://www.creativeireland.gov.ie/en/event/street-art-electrical-boxes/</p> <p>Dimension:</p> <p>Colour: For street markings consider School Zone standard colours RAL1034, RAL3014, RAL1018, RAL6017</p> <p>Cost: Varies</p>	-	Multiple suppliers