

Appendix 4: Nature-based Solutions Typologies and Environmental Benefits

Typology & Description	Environmental Benefit					
	Flood Resilience	Drought Resilience	Water Quality	Biodiversity	Air Quality	Heat Vulnerability
Tree						
<p>Planting new street trees Trees planted within public-right-of-way areas such as sidewalks and streets, managed by the city. Street trees often form canopy roads or avenues and may include sustainable urban drainage systems (SuDS) to enhance stormwater management.</p>	✓			✓	✓	✓
<p>Planting and maintaining woodlands Areas planted with trees either through seeding or planting, actively managed for ecosystem services like climate regulation and resource provisioning.</p>	✓			✓	✓	✓
<p>Planting trees in vacant or derelict land Degraded lands revitalized through tree plantations and preservation, aimed at soil restoration, carbon sequestration and sustainable wood production.</p>	✓			✓	✓	✓
<p>Planting new trees in parks Planting trees in publicly accessible spaces, enclosed and landscaped as parks or gardens, which may be owned or managed by local community groups.</p>	✓			✓	✓	✓

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	Flood Resilience	Drought Resilience	Water Quality	Biodiversity	Air Quality	Heat Vulnerability
Sustainable Drainage Systems (SuDs)						
<p>Detention basins & retention ponds</p> <p>Land depressions used as storage basins for rain and surface water runoff, which mitigate flood risks by slowly absorbing water. These areas serve as wildlife ponds during rains and recreational spaces when dry. Retention ponds are areas of open and shallow water designed to store rainwater and attenuate runoff at a controlled rate during and after a rainfall event. They differ from detention basins as they are intended to hold water permanently, with the water level rising temporarily during heavy rainfall to accommodate for more water.</p>	✓		✓			
<p>Raingardens</p> <p>Shallow depressions planting with water-resilient vegetation that receive runoff, enhancing soil infiltration and filtering out pollutants, typically connected to disengage roof downspouts.</p>	✓		✓	✓	✓	
<p>Swales and filter strips</p> <p>Vegetated channels and slopes designed for temporary stormwater storage and filtration, aiding in reducing peak runoff flows and watercourse sedimentation.</p>	✓		✓		✓	

Typology & Description	Environmental Benefit					
	Flood Resilience	Drought Resilience	Water Quality	Biodiversity	Air Quality	Heat Vulnerability
<p>Permeable and pervious surfaces Systems such as permeable pavements and landscapes areas that facilitate the absorption of runoff – can be grey or green.</p>	✓		✓			
<p>Wetland Ecosystems that are seasonally or permanently flooded, supporting unique processes and slow water flow through aquatic plants, providing natural filtration and flow attenuation.</p>	✓	✓	✓	✓	✓	
<p>Green corridors and belts Managed paths and routes along natural features like rivers and old railways, connecting urban spaces and providing recreational pathways for walking, cycling and riding.</p>	✓		✓	✓	✓	
Gardens						
<p>Pocket garden/park Small, publicly accessible green spaces interspersed throughout urban areas, providing aesthetic and recreational value, including play areas and social spaces.</p>				✓	✓	✓
<p>Vegetable/Community gardens Community spaces dedicated to growing fruits, vegetables and other plants for local food production.</p>				✓	✓	