







KENDALL SQUARE STREETSCAPES

LANDSCAPE VISION DOCUMENT



STREETSCAPE ACTIVATION

Streets have the ability to function as both a connection and a social and active space by establishing a relationship to the places where people live, work and play. Streetscape activation is an approach that enhances current streets by enabling safe, convenient, and comfortable travel, dwelling, and access for users of all ages and all abilities regardless of their mode of transportation. It is a person-oriented design philosophy that seeks to facilitate safe travel and a sense of place for those walking, bicycling, driving an automobile, or riding public transportation.

SIDEWALKS

Sidewalks are the most fundamental element of the walking network, as they provide a dedicated space for pedestrian travel that is safe, comfortable, and accessible.



PAVEMENTS

Sidewalk pavements should be durable, practical from a maintenance standpoint, and safe and comfortable for pedestrians, including those who use wheelchairs. Incorporating different types of pavements can enhance large paved surfaces and denote areas of importance.

Feature strips can help break up large area of pavements that appear vast to the eye. Feature strips can also highlight paved areas outside of businesses, pedestrian gateways, and denote pathway hierarchy.



CAST IN PLACE CONCRETE (For Sidewalks)

Cast in place concrete is an efficient, safe, and feasible option, standard CIP concrete will achieve continuity between Kendall Square and its adjacent roadways with the same style of concrete sidewalks. Concrete sidewalks will use a broom finish and saw-cut joints in a pattern to reduce the scale of surface



BRICK (For Feature Strips)

Brick will be used to be consistent with surrounding streetscape projects. Edges and joints shall create a smooth, continuous surface. The installation design (paving section) shall ensure a level, stable paving surface and in accordance with manufacturer's recommended installation method(s).



ENHANCED CAST IN PLACE CONCRETE (For Feature Strips)

Enhanced concrete may have an exposed aggregate finish for a rich, textured surface, and may incorporate special joint patterns for a more refined appearance. Enhanced cast in place concrete can also be utilized as a pervious surface in areas adjacent to impervious surfaces, and within transition spaces in between vegetated buffers. Integral color and decorative aggregates shall be selected for aesthetic quality and meet accessible design requirements for slip resistance.



LIGHTING

Sidewalk lighting should be located in areas with high pedestrian activity. Various arrangements of lights with different heights, colors, style, and spacing will create different experiences for people in various spaces and corridors. Establishing a hierarchy of light fixtures and lamp sources for gathering spaces and sidewalks with an intentional approach is important to a cohesive nighttime streetscape in Kendall Square. Pedestrian lighting will also increase safety, wayfinding, and creates a sense of drama in the nighttime landscape.

OVERHEAD LIGHTING (Saturn Cutoff LED)

Overhead lighting can illuminate larger pedestrian corridors, bikeway corridors, and primary pathways leading to gathering spaces such as; public plazas, outdoor dining areas, playgrounds, landmarks, or public art.



Saturn Cutoff LED - CAST ALUMINUM HOUSING BLACK FINISH, FORMED SPECULAR ALUMINUM REFLECTOR, LAMINATED GLASS ENCLOSURE WITH CLEAR SECTION BELOW LEDS. LED SINGLE MOUNTED LG3700 700MA@65W TYPE III DISTRIBUTION 5000K 0-1 OV DIMMING DRIVER. STEEL POLE 14' HIGH W/DUPLEX GFI RECEPTACLE MT-D@13'AFG

FOOT LIGHTING

Lighting around your feet is good for intimate spaces and corridors where there is less frequent pedestrian traffic. Light at the ankle height by itself is not meant for pedestrian activities outside of walking and stationary gathering. This type of lighting is good for street lounges, outdoor dining, tertiary pathways, and transition spaces. This style of lighting can also be paired with waist high or overhead lighting to highlight more important or more frequently traveled corridors and spaces. Surface mounted fixtures as shown at right can also be used to help delineate different use zones within the sidewalk, such as the edges between pedestrian areas and the cycle tracks.



FURNITURE

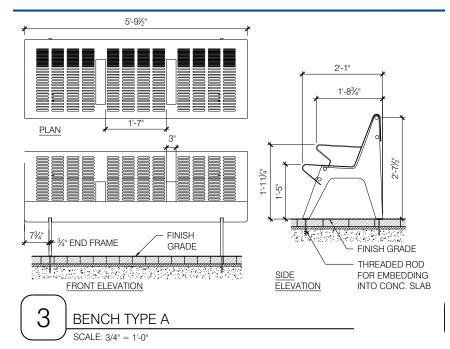
Site furnishings are critical components of creating a socially and economically vibrant streetscape and accommodating a wide range of needs and activities. Providing benches at key rest areas and viewpoints encourages people of all ages to use the walkways by ensuring that they have a place to rest along the way. Bike racks accommodate bicyclists traveling to their destinations. Trash and recycling receptacles promote cleanliness and sustainability. Landscaped planters and movable furniture offer aesthetic and placemaking benefits to the sidewalk.

BENCHES (Red Line Bench)

The standard RedLine Bench shall be located throughout the Kendall Square streetscape to ensure a basic level of seating everywhere, that that anyone can rely on regular places to stop and rest briefly, on any pedestrian route. The RedLine bench is a unifying design element that expresses the value of high quality in the public realm.





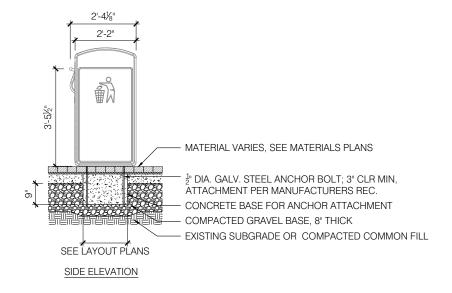


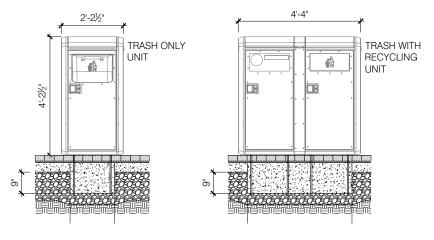
TRASH RECEPTACLES (Big Belly Solar Trash Compactor & Recycling Combination)

Kendall Square waste stations contribute to keeping streets clean and promoting good behavior by people who use them. Their frequent presence ensures a place to put one's waste and exhibits a value of quality and care in the public realm.



BRICK PAVEMENT ON CONCRETE SLAB SCALE: 1 1/2" = 1'-0"





The Big Belly Solar Trash Compactor (Color-Black), and Big Belly Single Stream Recycling (non-compacting) as manufactured by BigBelly Solar (Color-Black) will be used on sidewalk streetscapes. Custom decals will be created for the front and sides of the receptacles to match the Kendall Square Branding.

BIKE RACKS

Bike parking promotes bicycle use through Kendall Square for transportation and recreation. To provide secure short-term parking and express a commitment to cyclist and bike culture, high quality racks shall be located throughout the area, on all streets.







SIGNAGE

Effective signage in addition to contributing to a sense of direction signage also grants a sense of well-being, safety, and security. Signage is used by pedestrians and motorists so they can effectively simplify their routes and develop "mental maps" of the area. Signage can also assist placemaking initiatives.

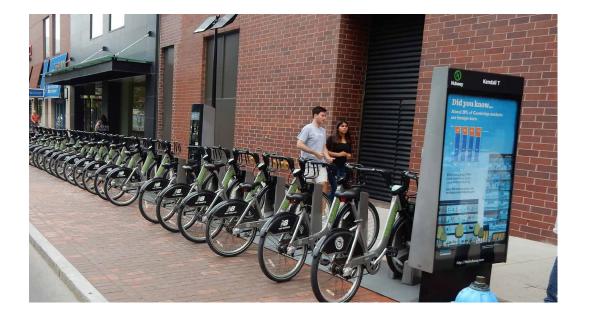
WAYFINDING

Maps and wayfinding signage should exist along pathways and streets so people can easily navigate through Kendall Square. Comprehensive wayfinding systems will efficiently utilize the combination of signs, maps, symbols, and colors. Advanced wayfinding systems will integrate mobile applications, digital displays, and other wireless technologies.



KIOSKS

As hubs between different modes of transportation, bikeshare kiosks and parking kiosks can also incorporate maps into their design to help visitors navigate pedestrian pathways and bikeways.

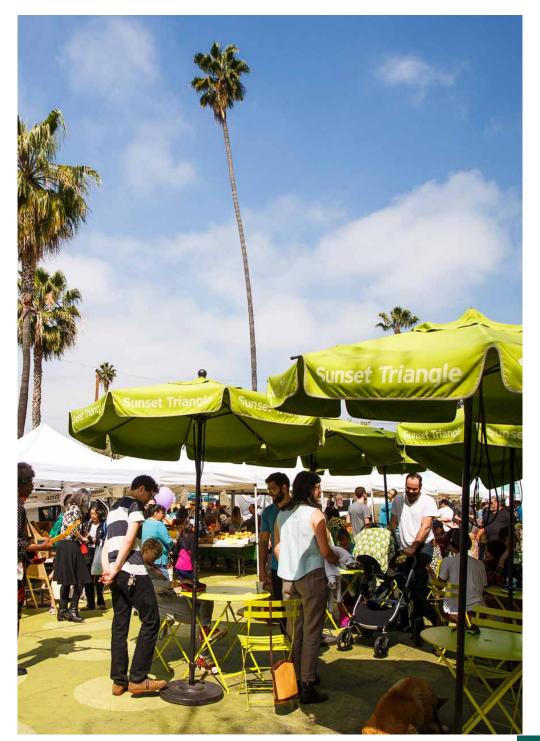






ACTIVITY ZONES

Activity Zones are important implementation areas that grant opportunities to enhance the public realm and transform a space into a vibrant, sociable place that reflects the local culture and environment. These areas should be developed by in coordination with the adjacent buildings to maximize the interplay between the buildings and streetscape. Public input will also be important to develop these spaces.



PAVEMENTS

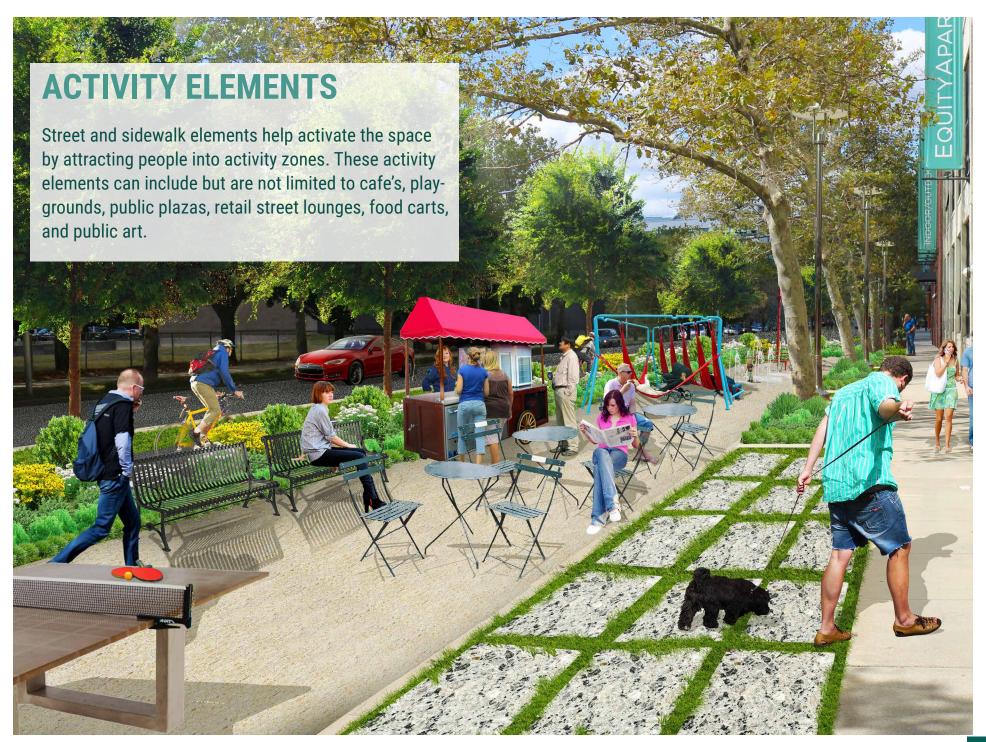
Unique paving materials can greatly contribute to the character of a street. In addition to standard concrete, special paving can be used judiciously to enhance the quality of the space and help define activity zones within Kendall Square.

CONCRETE PAVERS

Unit paving is a modular system that provides an enhanced level of material quality and detail. These pavers can exist as multiple sizes and can be laid in different directions to create unique patterns in the landscape. Pavers can highlight cultural and historical backgrounds as well as denote one activity space from another. Paver color and finish should be selected for aesthetic quality and meet accessible design requirements for proper visual contrast and slip resistance. Paver edges and joints should create a smooth, continuous surface. The installation design (paving section) shall ensure a level, stable paving surface, and in accordance with manufacturer's recommended installation. method(s). Use of unit pavers also provides the opportunity for infiltration between the pavers, which will be important where developing activity spaces within the existing street tree plantings.







CAFE'S + OUTDOOR DINING

Outdoor cafe's or outdoor dining are excellent ways to enliven a street. By creating another space for people to reside along the sidewalk it encourages others to do the same and enjoy the outdoors during the daytime and at night. These spaces can bring a cutting edge flare to a street while also enhancing the local economy. While outdoor seating is naturally located near food vendors (either take-out of sit-down), locations where workers and residents can sit and eat their own food are important as well.



Photo By Elvert Barnes - https://www.flickr.com/photos/perspective/albums/72157681622821813

PLAYGROUNDS

Playgrounds provide a safe and active place for children and adults to enjoy. Creating active spaces grants another destination for families to spend time together in the public realm. A range of playground styles can be designed for various levels of enclosure.



Photo by Ryan Johnson - https://www.flickr.com/photos/northcharleston/albums/72157670654365885

PUBLIC PLAZAS

As both an active pedestrian route and communal front yard for residents, the Public Plaza provides social gathering spaces with seating arrangements for neighbors and visitor. It is a place to have a conversation or eat lunch. A suite of distinctive, matching furniture pieces—such as love seats, comfortable chairs, and coffee tables—invites people to spend time along the street.

RETAIL STREET LOUNGES

A unique feature for a vibrant, social street, Lounges are special, comfortable outdoor "rooms" for shoppers and other visitors to spend time. They are pleasant places to be on the street--to watch people or meet friends. Lounges are clearly defined spaces, and located outside the flow of pedestrian traffic. They provide a comfortable barrier from passing cars and integrated seating, but are also open and flexible, to invite use and adoption by adjacent businesses and vendors.



Photo By Kevin Jarrett - https://www.flickr.com/photos/kjarrett/albums/7215763075318953



Photo By Steven Cantor - http://www.greenroofs.com/content/articles/115-A-Comparison-of-the-3-Phases-of-the-High-Line-NYC-Part-2.htm# WW5e6ojythE

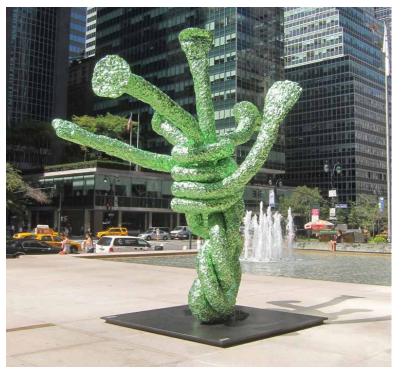
FOOD CARTS

Food carts bring new, affordable, and local food to the area. Food vendors bring foot traffic to commercial districts which increase sales for retail businesses. They can also offer culturally diverse foods that typically do not compete with sit down restaurants. They bring positive activity and can also serve as a positive entry point for individuals wanting to own their own business. Food carts can also more easily be integrated into the confined spaces available in the streetscapes which will be inaccessible to the food trucks that already service the Kendall Square area.



PUBLIC ART

Public art creates a free outdoor gallery for individuals or groups to enjoy. Public art can also be from the local community bringing out a stronger feeling of attachment. This work can create a cultural or historical identity for the city, block, and street. A further discussion of public art is provided under Theme 4.



LIGHTING

SPECIAL LIGHTING OPPORTUNITY

Activity Zones should experience separate lighting from the rest of the site to enhance the spaces while also making them unique. Lighting opportunities can arise around public art, fountains, play spaces, or public plazas. Provision of power connections within the activity zones will also be important, for seasonal displays and to broaden the types of opportunities available.



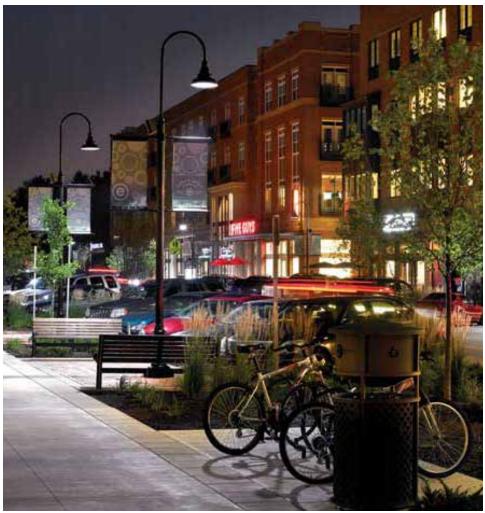


Photo By Praakrit Pradhan https://www.flickr.com/photos/125536921@N05/

WAIST HIGH LIGHTING

Waist high lighting can illuminate secondary paths leading to primary paths and spaces. This more dramatic and lower light is good for highlighting areas outside of businesses, restaurants, street lounges, playgrounds, plazas, and residential areas.



PROTECTED INTERSECTIONS

A protected intersection is an at-grade road junction in which cyclists and pedestrians are separated from cars.



PAVEMENTS

SIDEWALKS + CROSSWALKS

Sidewalks leading to crosswalks should encompass a waiting space for pedestrians. Crosswalks accommodate pedestrian access and mobility, and if well-designed and appropriately placed, they can increase pedestrian safety and comfort. Crosswalks should be installed at grade and across all legs of a signalized intersection, unless pedestrians are prohibited. To increase accessibility, crosswalks shall be paired with curb ramps, detectable warnings, and pedestrian countdown signals.



Painted Crosswalk

White epoxy crosswalk bars (8' minimum length, 16" wide bar with 24" wide space between bars). Provides an inexpensive, highly visible crosswalk treatment for areas where fancier, more expensive options are not required.

BIKE LANES

Bike lanes are designated exclusively for bicycle use and are demarcated with pavement markings and signage. They are located on the roadway directly adjacent to motor vehicle travel lanes and follow the same direction as motor vehicles.

SEPARATED BIKE LANES

A separated bike lane is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A separated bike lane is physically separated from motor vehicle traffic and distinct from the sidewalk.





BIKE BOXES

Bike boxes are a designated spaces at signalized intersections that are exclusively for bicyclists. Bike boxes are located at the head of a traffic lane and allow bicyclists to queue in front of motor vehicle traffic during the red signal phase. Placing bicyclists in front of motor vehicles increases the visibility and safety of both bicyclists and motorists.



Bicycle pavement markings through intersections indicate the intended path of bicyclists through an intersection or across a driveway or ramp. They guide bicyclists on a safe and direct path through the intersection and provide a clear boundary between the paths of bicyclists and motor vehicles in the adjacent lane.





CORNER SAFETY ISLANDS

A corner safety island is a raised area that separates the separated bike lane from the general purpose travel lane and defines the corner radius of the intersection. The island provides comfort for waiting bicyclists and may manage the speed of turning vehicles.



RAISED CROSSINGS

Raising the roadway to meet the sidewalk is encourages where possible to help calm traffic and emphasize the importance of pedestrians and bicycles crossing the streets.



LIGHTING

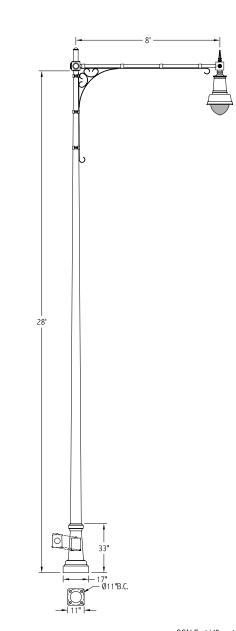
ROADWAY LIGHT

Lighting improves visibility for both pedestrians and motorists - particularly at intersections. Lamp fixtures should be placed at a height of 24-28 feet and poles should be spaced approximately 50-100 feet apart on roadways, depending on the intensity of lights. Lamp fixtures should project light downward in order to provide sufficient illumination of the sidewalk while limiting excess light pollution. Illumination should be warm and moderate, rather than dim or glaring, and should provide a balanced coverage of the corridor and surrounding area for comfort and security.

Appropriately scaled street lighting provides a safer, more visible, and more inviting environment for all roadway users. Pairing pedestrian-scaled street lighting with other improvements, such as street trees, helps alert motorists to the potential presence of pedestrians and bicyclists.



CAMBRIDGE SERIES



SCALE: 1/4" = 1'-0"

CB-17-TS-28-BC-ARM-BC-17

CSI POLE SPECIFICATION

POST

Post shall be tapered smooth steel with a 3" x 3" tenon for crossarm mounting.

The post shall have a cast aluminum wrap around base with an access door for wiring and anchorage. 2" Pipe with 1"X2" scrolled steel supports clamped to pole in 3 locations.

III. ANCHORAGE DETAIL

Post base is furnished with (4) \emptyset 3/4"x24" hot dip galvanized L-type anchor bolts with 3" minimum projection each.

FINISHES

Five Year Powder Coating Warranty

Niland Company factory-applied powder coatings are warranted against peeling, excessive fading and cracking under normal climatic exposure for a period of five years from date of shipment. Damage to finish coating caused by abuse or mishandling during installation is not covered by this warranty. This warranty is limited to the repair or replacement of the material involved and does not include reimbursement of consequential expenses such as installation or removal of equipment or transportation costs.

I. STANDARD FINISH

Satin iron achieved by rotary sanding, blasting and phosphate conversion coating

II. THERMOSET POWDER PAINT FINISH

Pretreatment shall consist of a phosphate conversion coating

FINISH COAT

Thermoset TGIC super polyester powder coat finish electrostatically applied, oven cured and bonded at approximately 420° f to a minimum dry film thickness of 1.6 mils. All Niland powders must pass a minimum 3000-hour salt-spray test for corrosion resistance. The National Association of Architectural Metal Manufacturers, Metal Finishes Manual rates the outdoor life of these powders at 15-plus years.

III. ELECTRICAL

All electrical components and materials shall be UL-recognized and wired by a certified UL technician. All Niland ballasts are high power factor rated for 30°C/-20°F starting. Medium and Mogul base sockets are 5KV rated. The electrical assembly is prewired with quick disconnects for servicing. Fixture shall be UL certified for wet locations and carry all HID listings required. Ballast components shall carry the ballast manufacturers limited warranty of two years. QL induction ballasts and lamps are optional.

WARRANTY

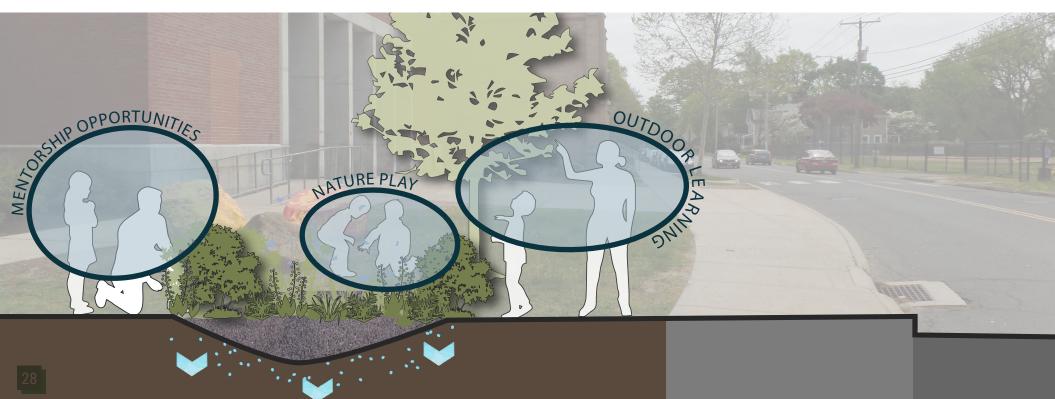
Niland Company warrants to repair or replace, at our option, any equipment that fails due to defects in material or workmanship within one year from date of shipment. This warranty does not include failures as a result of improper installation, mishandling or misapplication. This guarantee is limited to repair or replacement only and does not include reimbursement for expense of installation, removal of equipment, transportation or any other expenses that may be incurred. Authorization must be obtained from Niland Company in El Paso, Texas before any material is returned.



Niland Cambridge 17 Series (1 Light) - CAMBRIDGE 17 SERIES CAST IRON CLAM SHELL-TAPERED SMOOTH STEEL SHAFT-28' 8" POLE HEIGHT-SINGLE 6' CAMBRIDGE ARM WITH SCROLL-BC LED PENDENT FIXTURE-NILAND OSRAM SYLVANIA LED UNIT-4000 KELVIN-125 ACTUAL WATTS-250 WATT 0-10V DIMMING DRIVER EQUIVALENT-VOLTAGE RANGE-TYPE III REFRACTOR-GFI RECEPTACLE WITH WEATHER-PROOF COVER-GLOSS BLACK NEMA TWIST LOCK PHOTOCELL - GLOSS BLACK

SUSTAINABILITY + GREEN INFRASTRUCTURE

Green infrastructure offers an environmentally-friendly approach to managing urban stormwater, and if installed in appropriate locations and maintained over time, can be a viable supplement to or replacement of conventional stormwater drainage infrastructure. Green infrastructure systems are designed to slow, absorb, and filter stormwater at or near its source, thus decreasing the quantity and improving the quality of urban stormwater runoff.





STREET TREES

Trees have the ability to slow stormwater by intercepting rainfall in their leaves and branches and to reduce the volume of stormwater by absorbing water through their root systems. In urban areas, street trees are often confined to planters, which significantly constrain the amount of space, water, and air available to a tree's root system. In particular, soil compaction is a major threat to tree survival in urban areas. To address the constraints of the urban environments, subsurface structures, such as Silva Cells or structural soils. These subsurface modifications suspend pavement systems over soils, significantly increasing the volume, aeration, and water storage capacity of soils, while also accommodating utilities and traffic loads.

BINNEY STREET

Lacebark Elm (Ulmus parvifolia)

GALILEO GALILEI WAY

Red Oak (Quercus rubra)



Littleleaf Linden (Tilia cordata)



Photo by Gardenweb



Photo by Panayoti Kelaidis



Photo by Van Den Berk Nurseries





PLANTING WITH SILVA CELLS

In order for trees to grow large and healthy they require well treated and well nourished soil. Good soil makes a big difference when it comes to planting large tree specimens in an urban environment. It is common for street trees in urban conditions to gather insufficient water and suffer from soil compaction due to a poor growing environment along the street.

The Silva Cell is a modular system of building block that contains healthy soil by supporting traffic loads, reducing soil compaction and granting a quality volume of stormwater for trees along the street. This underground bioretention system prevents unwanted stormwater runoff into our rivers, lakes, and oceans by capturing water for trees and other plants in stormwater management systems like stormwater swales.



STORMWATER SWALES

Stormwater Swales are densely planted linear depressions that are designed to slow, filter, infiltrate, and convey stormwater. Check dams can be incorporated along the length of the swale to slow the conveyance of water and encourage infiltration. Swales can be enhanced with a subsurface gravel layer to increase storage capacity and an underdrain to convey excess stormwater to existing storm drains.





DESIGN + MAINTENANCE

Stormwater swales require well-draining soils and are best suited for areas with a gentle, natural slope. To reduce erosion in stormwater swales, areas with highly erodible soils and where high flow volumes and rates are expected should be avoided. Side slopes should not exceed 30% and longitudinal slopes should range from 2-4%.

ROADWAY CONTEXT

Stormwater swales are flexible green infrastructure treatments that are compatible with most land uses, particularly rural and residential, and can be incorporated into any road functional class, if space allows. In more residential or densely populated areas, where maintenance is more frequent and aesthetic improvements are desired, flowering plants and trees can be used in addition to a variety of native grasses.

STORMWATER PLANTERS

Stormwater planters, which include rain gardens, are manmade depressions in the landscape that slow, filter, and infiltrate stormwater. Unlike stormwater swales, which often parallel a road and have a larger catchment area, stormwater planters are designed to collect water from a discrete, local source, such as a rooftop, driveway, or street corner. Stormwater planters can be planted with perennials, grasses, shrubs, and/or trees and provide a great opportunity to improve streetscape aesthetics.





DESIGN + MAINTENANCE

Stormwater planters are intended to infiltrate stormwater, not collect and store it for long periods of time; therefore, well-draining soils are required. If water is entering the stormwater planter at a discrete location (i.e., inlet), this area should be stabilized to prevent erosion. The inlet should also be designed to allow sediment to settle and should provide easy access for routine sediment removal. Landscape maintenance (e.g., weeding and watering) will be more frequent in the first few years as plants become established; over time, maintenance regimes may be reduced in frequency, but should be tailored to ensure the desired aesthetic is achieved.

ROADWAY CONTEXT

Stormwater planters vary in size and in design, making it relatively easily integrate this type of green infrastructure into different land uses. In rural areas or where space is not a constraint, stormwater planters may have a more organic shape defined by less structural materials, such as an earthen berm. In urban areas, where space is limited and/or a more formal aesthetic is desired, stormwater planters can be integrated into the street-scape in the form of bump-outs, medians, sidewalk buffers, or raised planters.



PLANTS

Utilizing plants where space is available will grant ecological benefits by increasing biodiversity, as well as beautify the public realm.



Photo by Monrovia http://www.monrovia.com/plant-catalog/plants/2555/shamrock-holly/



Photo by Monrovia http://www.monrovia.com/plant-catalog/plants/3353/black-beauty-stonecrop/

INKBERRY (Ilex glabra 'Shamrock')

SEDUM (Sedum 'Black Beauty')



Photo by Monrovia http://www.monrovia.com/plant-catalog/plants/1804/majestic-lilyturf/

Photo by monrovia http://www.monrovia.com/plant-catalog/plants/2096/goldsturm-black-eyed-susan/

LIROPE muscari (Liriope 'Big Blue')

BLACK EYED SUSAN (Rudbeckia fulgida var. sullivantii 'Goldstrum')



JAPANESE BLOOD GRASS (Imperata cyclindrica 'Rubra')



INTERPRETIVE OPPORTUNITIES

In addition to flood storage capacity and water quality benefits, green infrastructure can also help achieve aesthetic, educational, and biodiversity goals, especially when native plants are used. Incorporating a diversity of green infrastructure systems into the streetscape will enable towns and the region to sustainably manage stormwater, improve streetscape aesthetics, combat climate change, create memorable gateways, provide educational opportunities, and calm traffic.

TELLING THE SUSTAINABILITY STORY









HISTORY + CULTURE

The history and culture within a landscape provides great opportunities for visitors to connect with the historical environment. Kendall Square has a rich history in Cambridge that reflects an industrial and educational background. History and culture within a site can be an asset for the local economy and more importantly creates a sense of place.



Faneuil Hall



The High Line in New York City



Kendall Boiler and Tank Company Building



Map of Old Cambridge

Without identifying and exposing a cities history and cultural heritage, places would lose their identity. This historical heritage can be reflected in old buildings, landscapes, or archaeological remains. From these elements visitors can have a look into the areas past and in turn cultivate a sense of pride in the place they are visiting or living.

Investigating the history of a landscape can give light to a previously hidden value. Much of the city of Boston has benefited from the unveiling and celebration of its own cultural history.

Kendall Square has played an important role in the design of Boston, and the rest of the country. From this history we can begin to expose important landmarks and remains from the past to benefit the future

PUBLIC ART

Public Art is an important part to a cities cultural, social, and economic value. It is accessible to anyone, grants a view into the past, present, and future of a city Public art also represents the inner culture of a community to outsiders. The reaction towards public art embeds itself into visitors and effects how they think feel and act.

For cities public art can be icons, or landmarks that a city can be remembered by or frequently visited. The art captures a spirit of the people who created it and in turn can generate an even more creative atmosphere. Without art, we lose our human identity.



hoto By - Phil Roeder - https://www.flickr.com/photos/tabor-roeder,



Photo By - Erik Anestad - https://www.flickr.com/photos/aneswede/





Photo By - Gnaphron - https://www.flickr.com/photos/gnaphron/



Photo By - Jim Bauer - https://www.flickr.com/photos/lens-cap

When people are in an inspiring environment they will produce better work and live happier lives. Public art can reflect a better life and better state of mind within a community. When utilized well by designers, engineers and developers, public art can shape a community into one that generates positive urban growth.

Developing public art programs can jump start a connection between a town and local creative minds. Public art programs can also encourage a younger generation to get involved with the cultural arts within the community.