BEST PRACTISE ADDITIONS

PUBLIC REALM MASTERPLAN FOR THE NORTH LOTTS & GRAND CANAL DOCK SDZ PLANNING SCHEME 2014

Dugthailte Bhaile Átha Cliath Dublin Docklands

Comhairle Cathrach Bhaile Átha Cliath Dublin City Council

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Bhaile Átha Cliath
Dublin City Council

Dublin City Council working group

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Build Cost Quantity Surveyors: Liam Langan.

Cover image: Perspective of the liffey, North Lotts and Grand Canal Dock.

Legal

Date: January 2016
Dublin City Council
Prepared by REDscape Landscape & Urbanism.
77 Sir John Rogerson's Quay, Dublin 2.

REDscape

Content

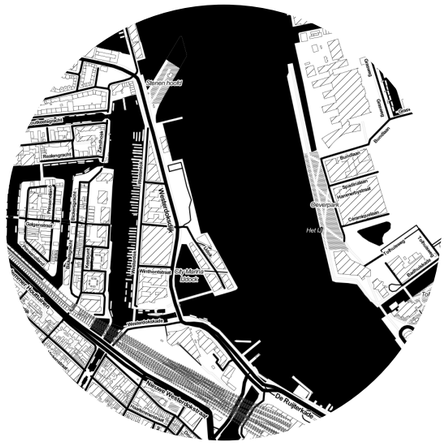
Locations

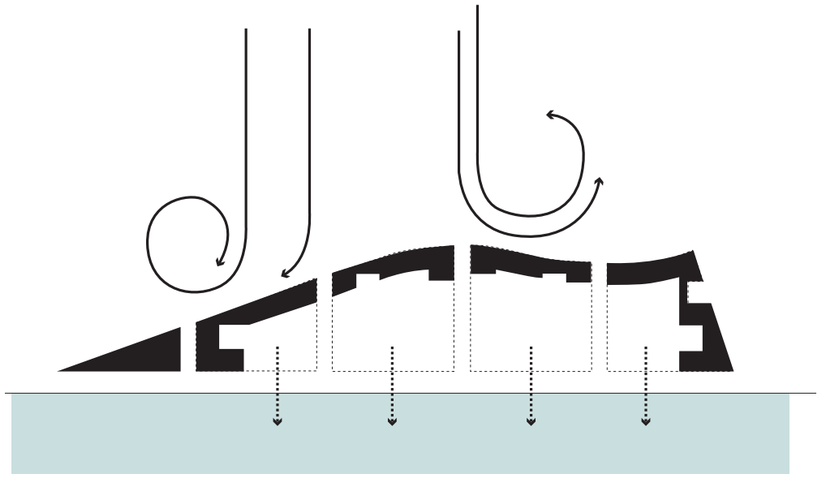
1. Amsterdam - Westerdok
2. Oslo - Bispevika
3. Malmö - Västra Hamnen
4. Hamburg - Hafencity
5. Copenhagen - Christianshavn

Themes

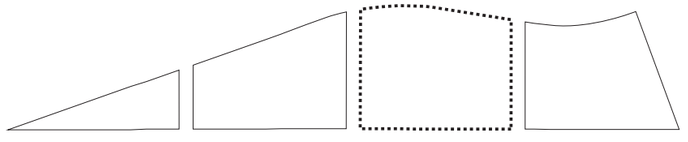
1. Scale study
2. Lighting
3. Physically disabled
4. Stormwater management
5. Shard space
6. Underground infrastructure
7. Planting trees

Locations

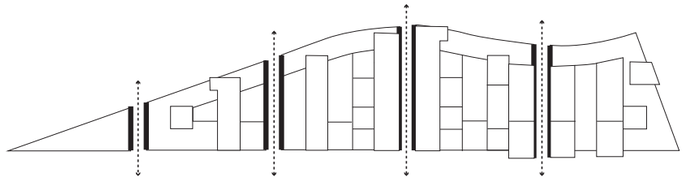


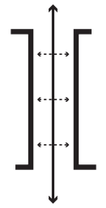


Strong winds from the IJ get broken with the courtyards oriented onto the quay at the south side

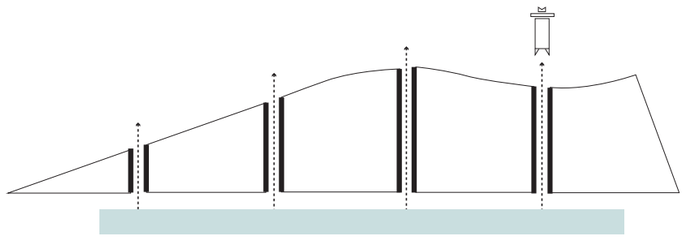


115x90m

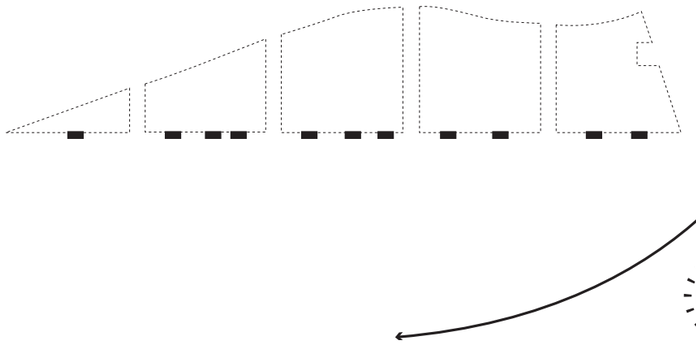




Street passage that provides access to the parking garages

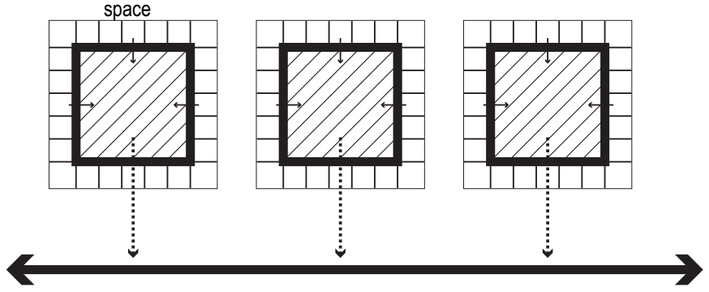


Sightlines towards the inner harbour front and the former Shell tower



Balconies oriented on the sun side

From private space to public space via collective space

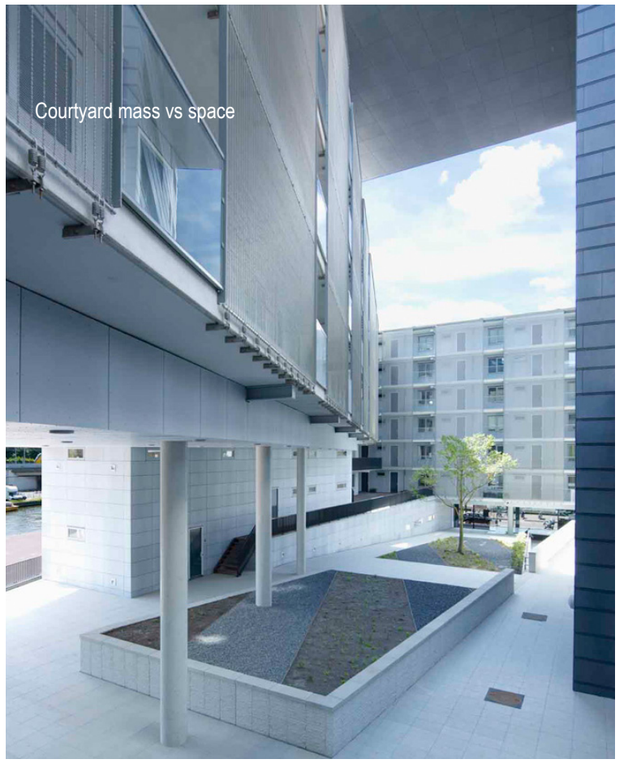


AMSTERDAM - WESTERDOK


Courtyard

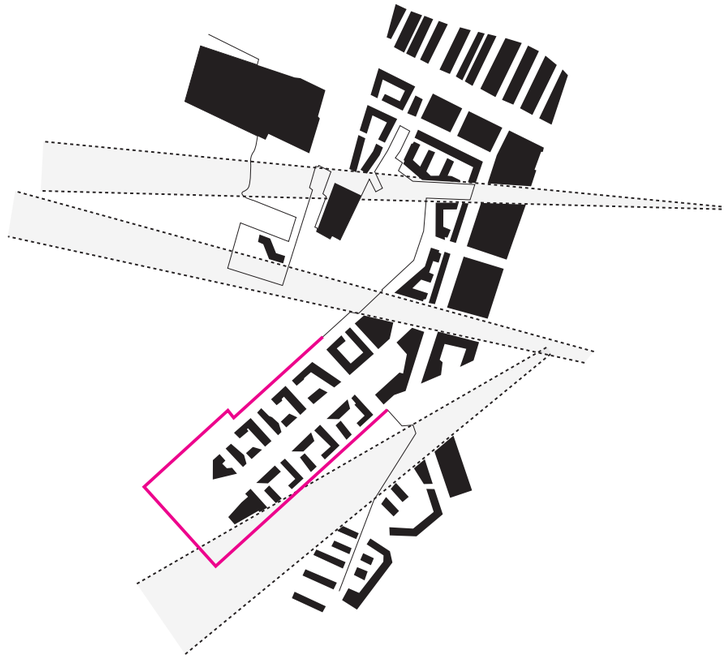

Sightlines through buildings


Mass vs space

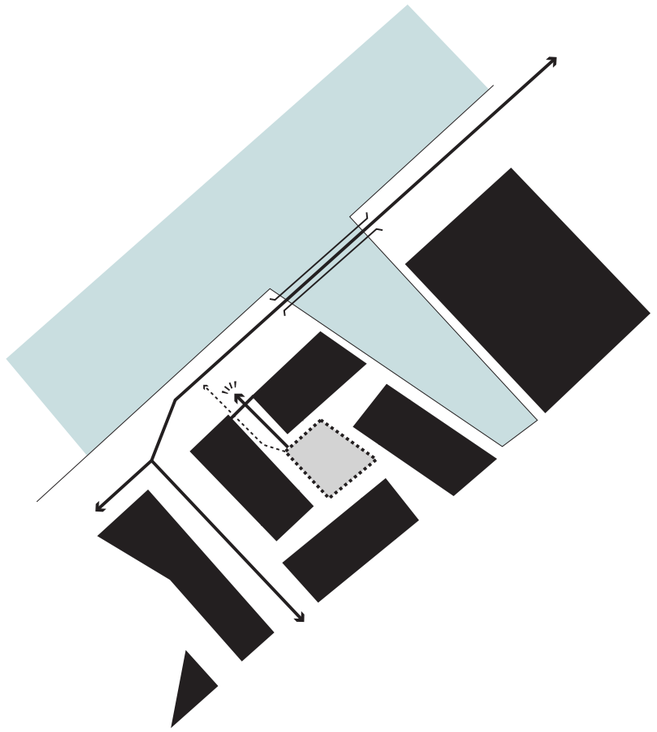

Courtyard mass vs space


Mass vs space

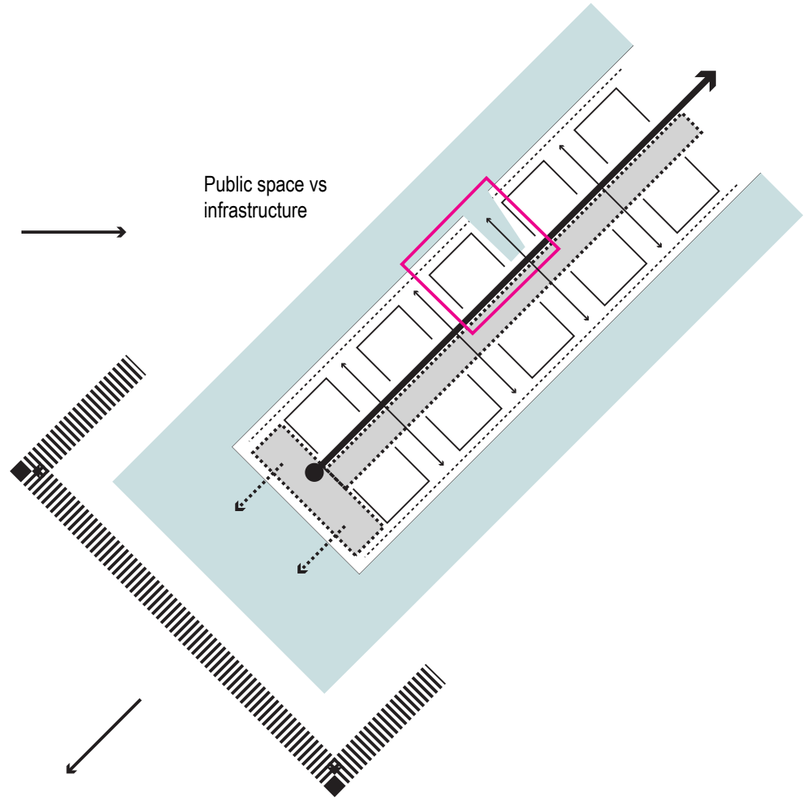
Sightlines on city district scale



Routing
- tunnel towards boulevard
- slope towards viewing point
- bridge across inlet



Public space vs infrastructure



Swimming area

Swimming area

OSLO - BISPEVIKA


Alley towards courtyard


Swimming area

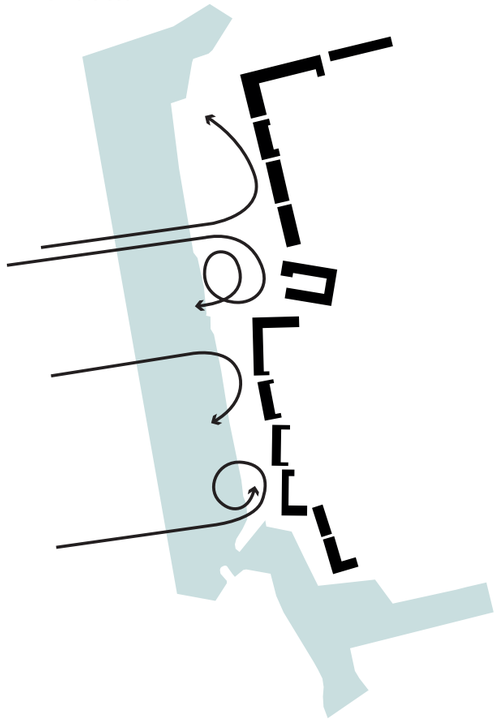

Open courtyard


Closed courtyard

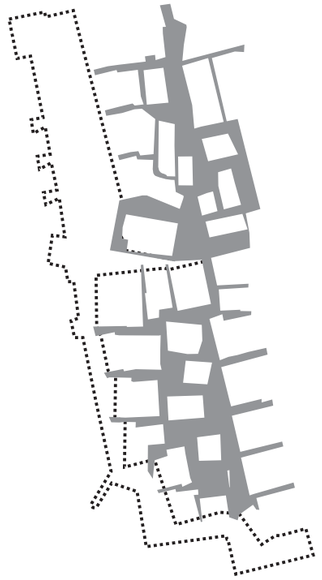

Double entry/exit

REDscape

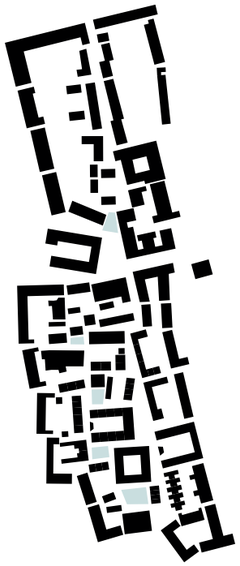
Buildings shield off cold winds
from the sea



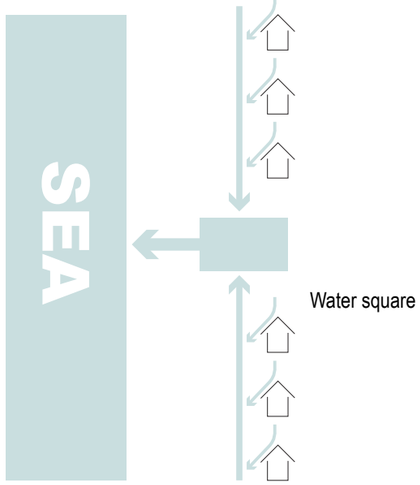
Sheltered public space,
one material

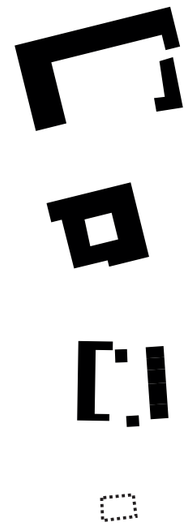


Central squares that
collect the rain water



Principle water storage





95x50m

40x40m

45x50

20x13m water square

MALMÖ - VÄSTRA HAMNEN (1)


Open/ closed environment


Recreational facilities


Water storage in squares


Water square


Entrance


Water square

Parking space

55x50m

65x50m

40x20m

Open courtyards

20x50m

50x50m

MALMÖ - VÄSTRA HAMNEN (2)

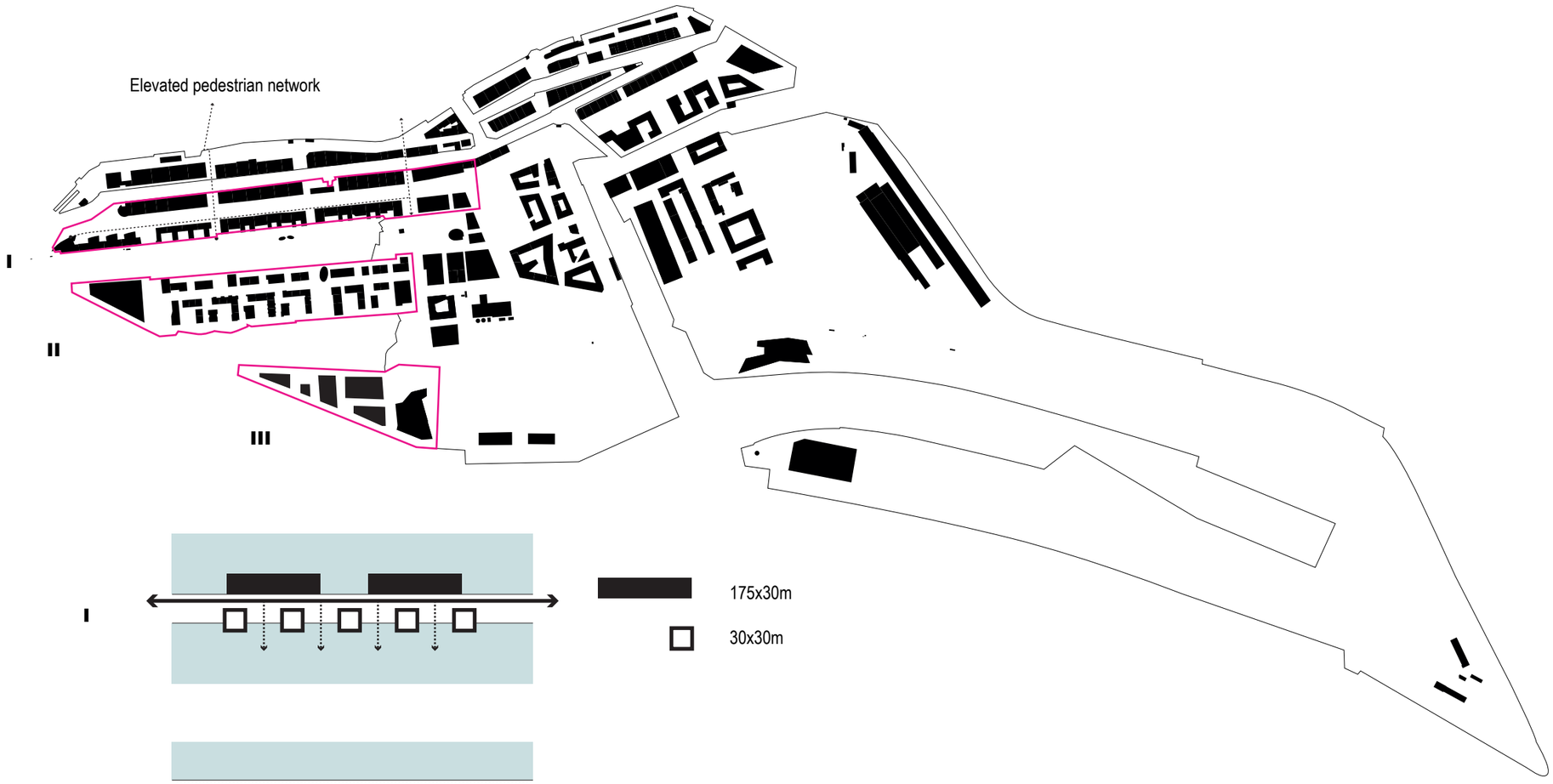
Bold harbour/ industrial character


Recreational area at the final end of the ‘pier’


Boulevard along yachts/ inner harbour

Parking street

HAMBURG - HAFENCITY

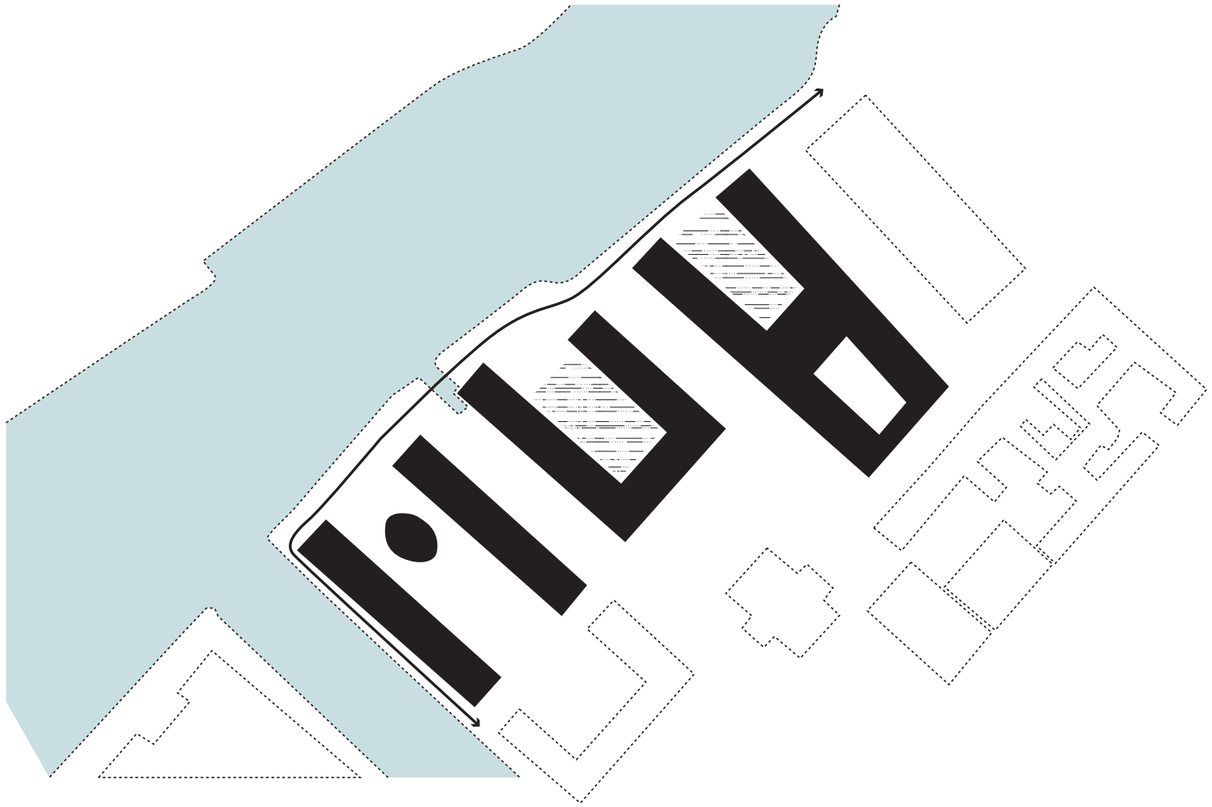


Elevated pedestrian zone

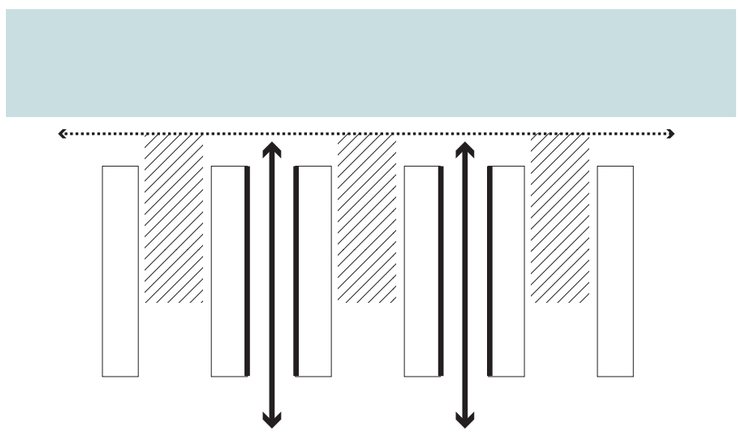
Waterfront park

Elevated pedestrian zone

Situation

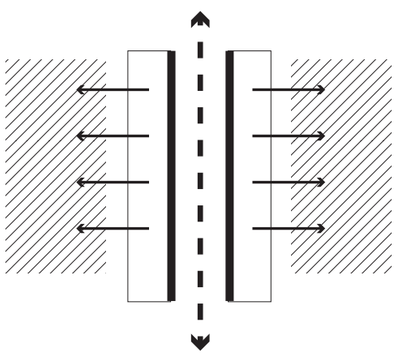


Harsh facade vs softer and greener courtyards



COPENHAGEN - CHRISTIANSHAVN

Glass facades provide connection with greenery while metal construction blocks off the road



88x60m

Building blocks with gardens and roads inbetween

The building opens up towards the park with a glass facade. The park is openly connected to the boulevard along the Kobenhavns Havn river.

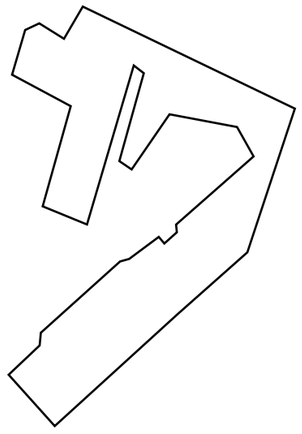
Themes

COPENHAGEN

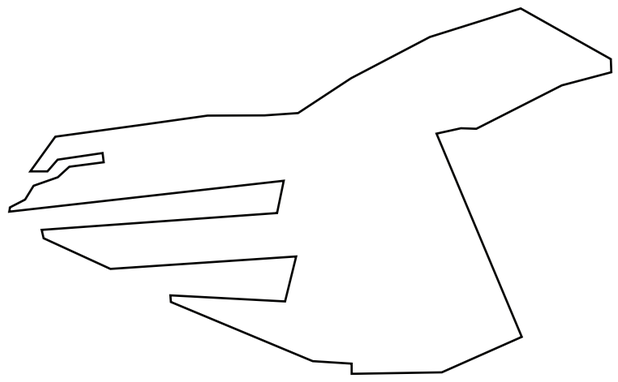
AMSTERDAM

MALMÖ

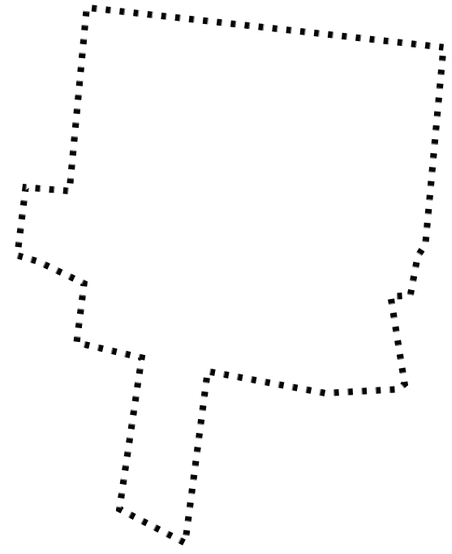
OSLO



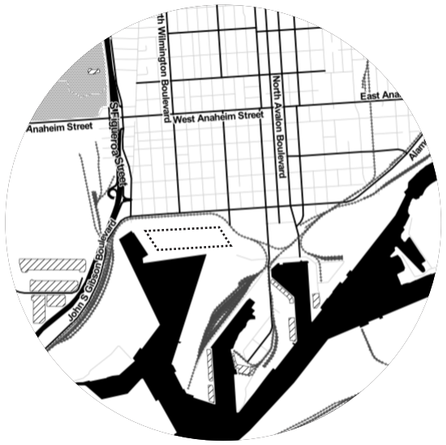
HAMBURG



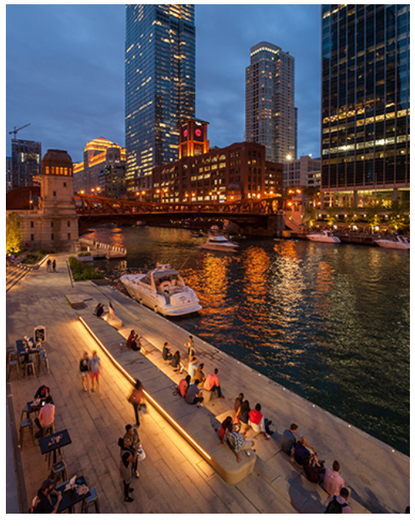
SDZ DUBLIN

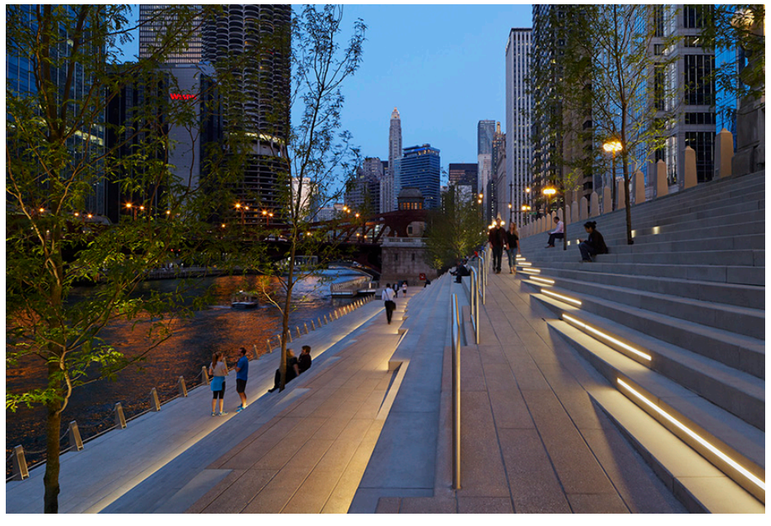


SCALE STUDY



Bench lighting emphasizing terrain differences

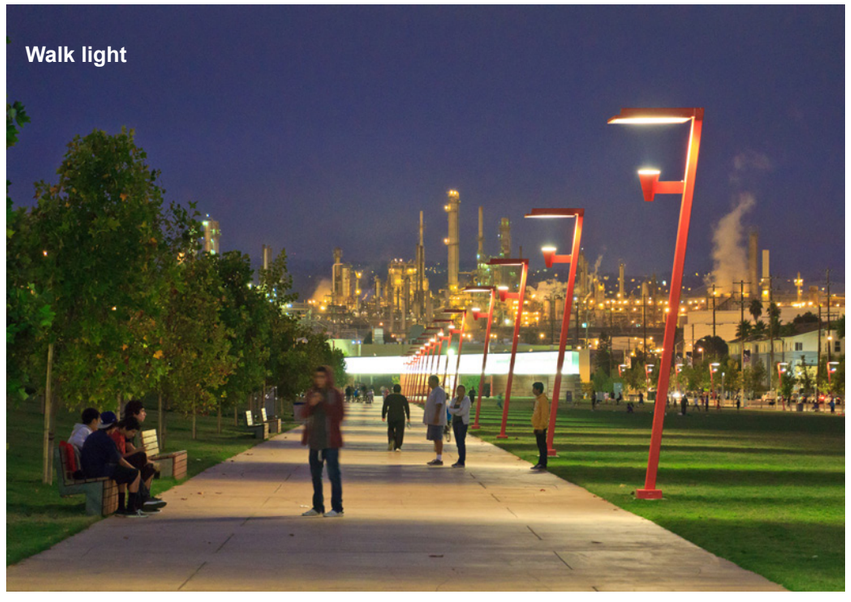


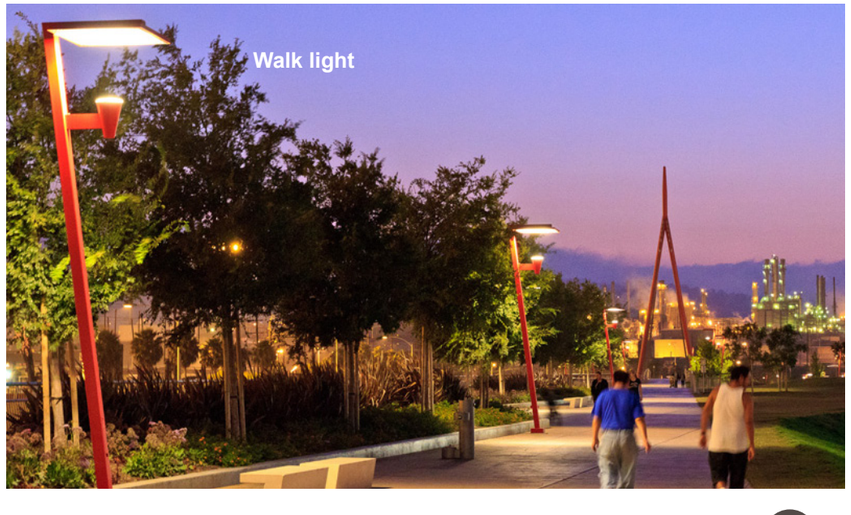


Vehicle lighting
- street light
- historic light
- parking light

Pedestrian lighting
- boulevard light
- park light
- boardwalk light
- walk light

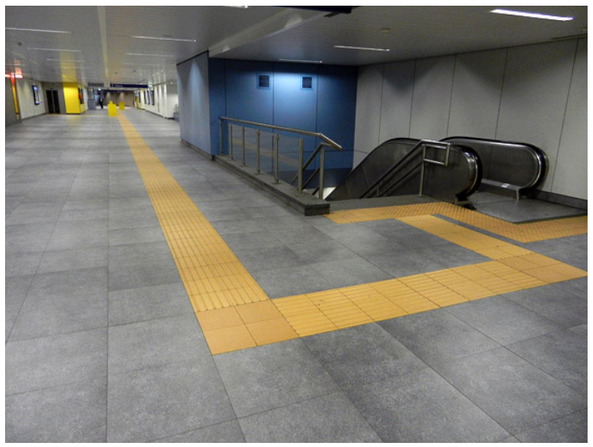
Special lighting
- angel light
- event light
- plaza light
- landscape accent light
- tree-mounted light
- festoon light
- bollard
- accent blue light
- 35W in grade uplight
- 12W in grade uplight





LIGHTING /// LOS ANGELES, WILMINGTON WATERFRONT PARK

LIGHTING /// CHICAGO, RIVERWALK



Routing for vision-impaired people by ridges/grooves in the pavement.

Tactile warnings protect blind persons – and all other passengers – from getting too close to the platform edge in transit stations.

Wheelchair use

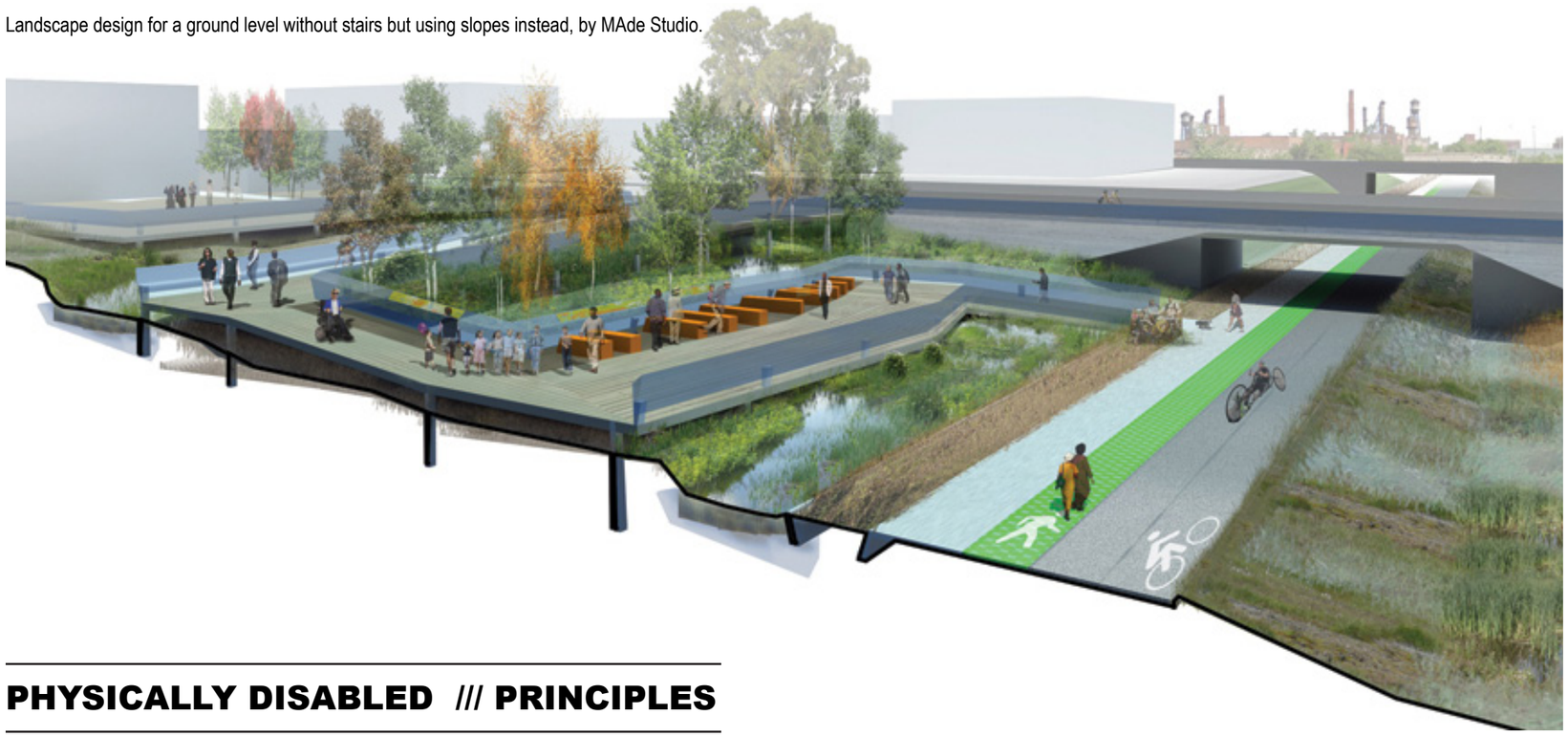
- Sloped ground level and avoid stairs.
- Maximum slope for hand-propelled wheelchair ramps should be 1:12 (is similar to 4.8 degree angle; 8.3% grade).
- Maximum slope for power chairs should be 1:8 (is similar to 7.1 degree angle; 12.5% grade).
- Minimum width should be 36” / 91.44 cm (inside rails); 48” / 121.92 cm is ideal.

Vision-impaired people

- Pavement ideas: ridges, grooves, lining, edges.
- Routing by tactile warnings and sounds.
- Traffic lights with sound indications.

Product design of a convertible wheelchair ramp, by Dornob.

Landscape design for a ground level without stairs but using slopes instead, by MAde Studio.



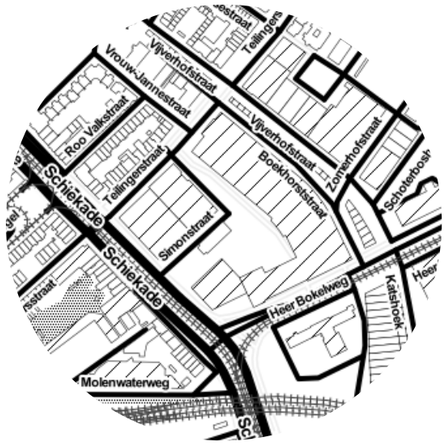
PHYSICALLY DISABLED /// PRINCIPLES

Stair and ramp at Robson Square in Vancouver by Arthur Erickson

Curitiba’s bus transport is just as efficient as a metro system, but much cheaper.

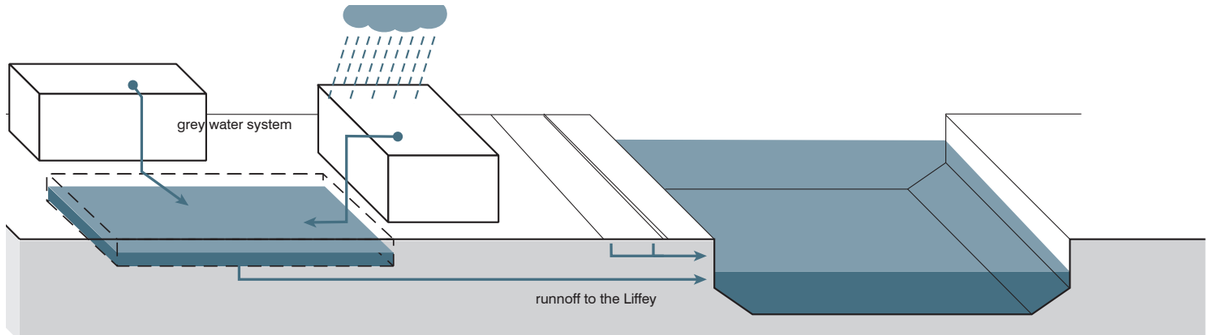
Antwerp’s Velo System provides a collective bike network which let people explore the city

SMART CITIES /// PRINCIPLES

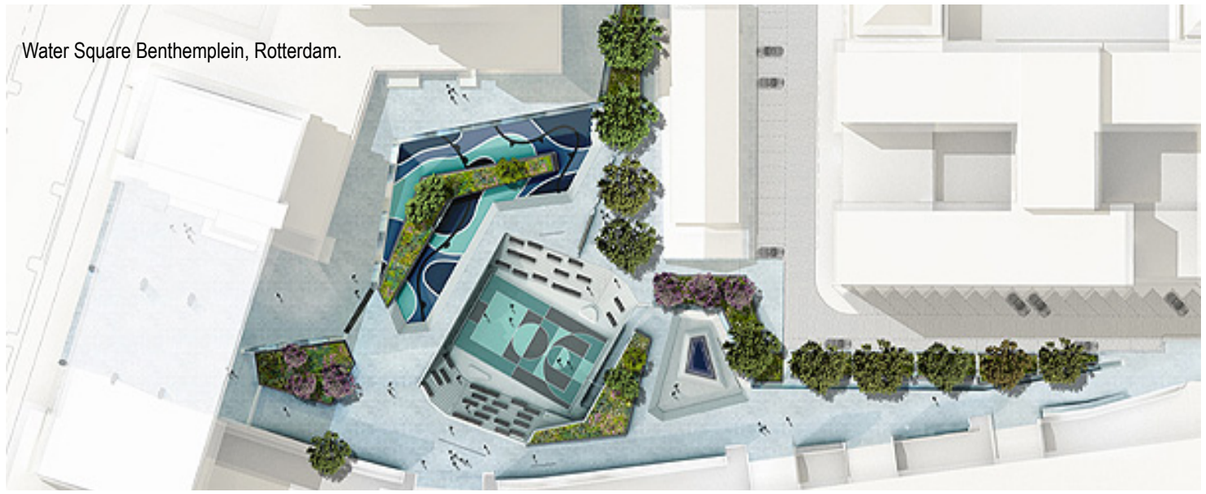


Water square as a buffer

- Combination of water storage and improvement of the urban public space
- Most of the time the water square will be dry and in use as a recreational space.
- Public space forms a buffer in the stormwater runoff system.
- By storing the water locally the runoff system is relieved.



Overview of the stormwater system: catch, retain and infiltrate.



Water Square Benthemplein, Rotterdam.

In wet periods the square retains the water.

In dry periods the square functions as a social space.

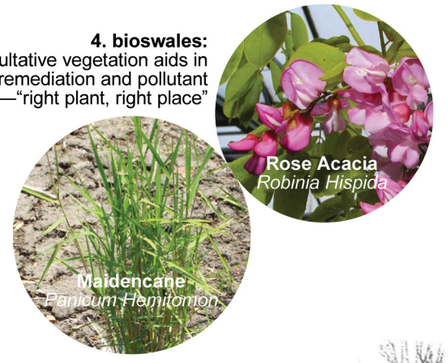
STORMWATER MANAGEMENT: WATER SQUARE BENTHEMPLEIN, ROTTERDAM

Soft scapes for water infiltration

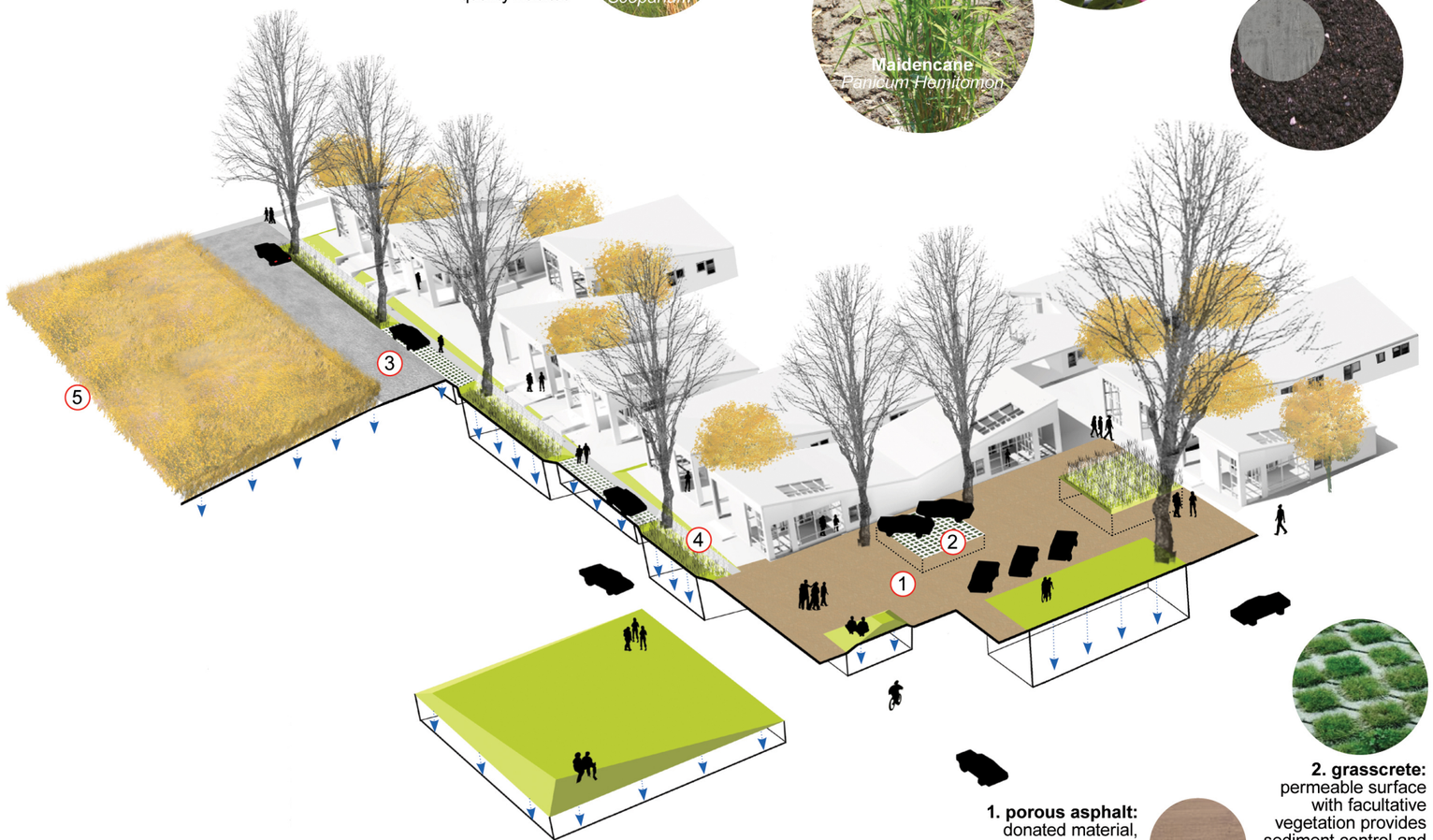
- Total amount of permeable surfaces like planting areas and unpaved or semi-paved streets
- Together, these spaces can form a system that retains and stores water on site.
- Sandy soil and plant roots can filter the water.

5. wet meadow/ infiltration basin provides: a 100% reduction in load discharge, velocity attenuation, exfiltration, transpiration and high-quality habitat

4. bioswales: facultative vegetation aids in phytoremediation and pollutant removal—"right plant, right place"



3. concrete and asphalt: concrete at sidewalks, asphalt at roads. asphalt is more pervious than concrete and is used where current codes will allow

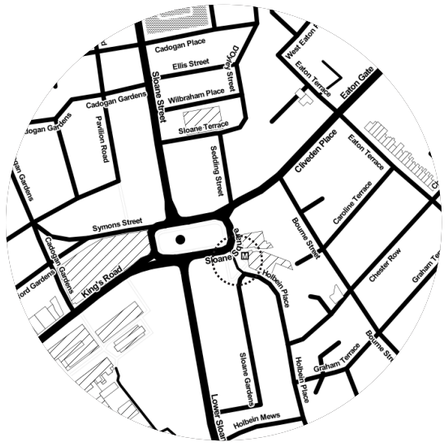


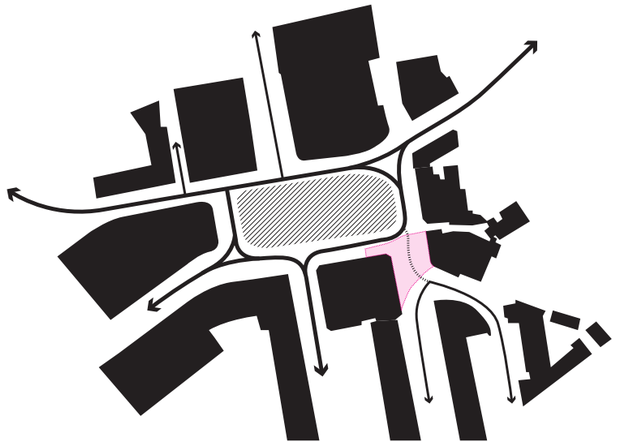
2. grasscrete: permeable surface with facultative vegetation provides sediment control and recharge capacity

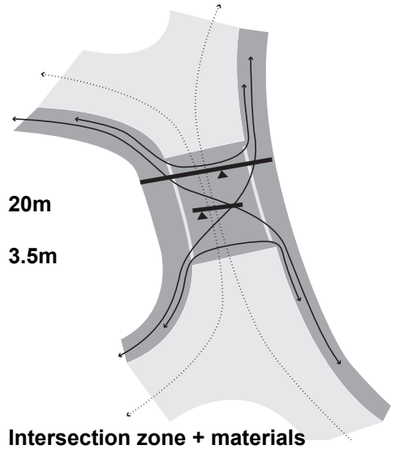
1. porous asphalt: donated material, provides permeable surface aiding in storage and recharge

STORMWATER MANAGEMENT: INFILTRATION

RED scape







Intersection zone + materials

Pedestrians are the main users

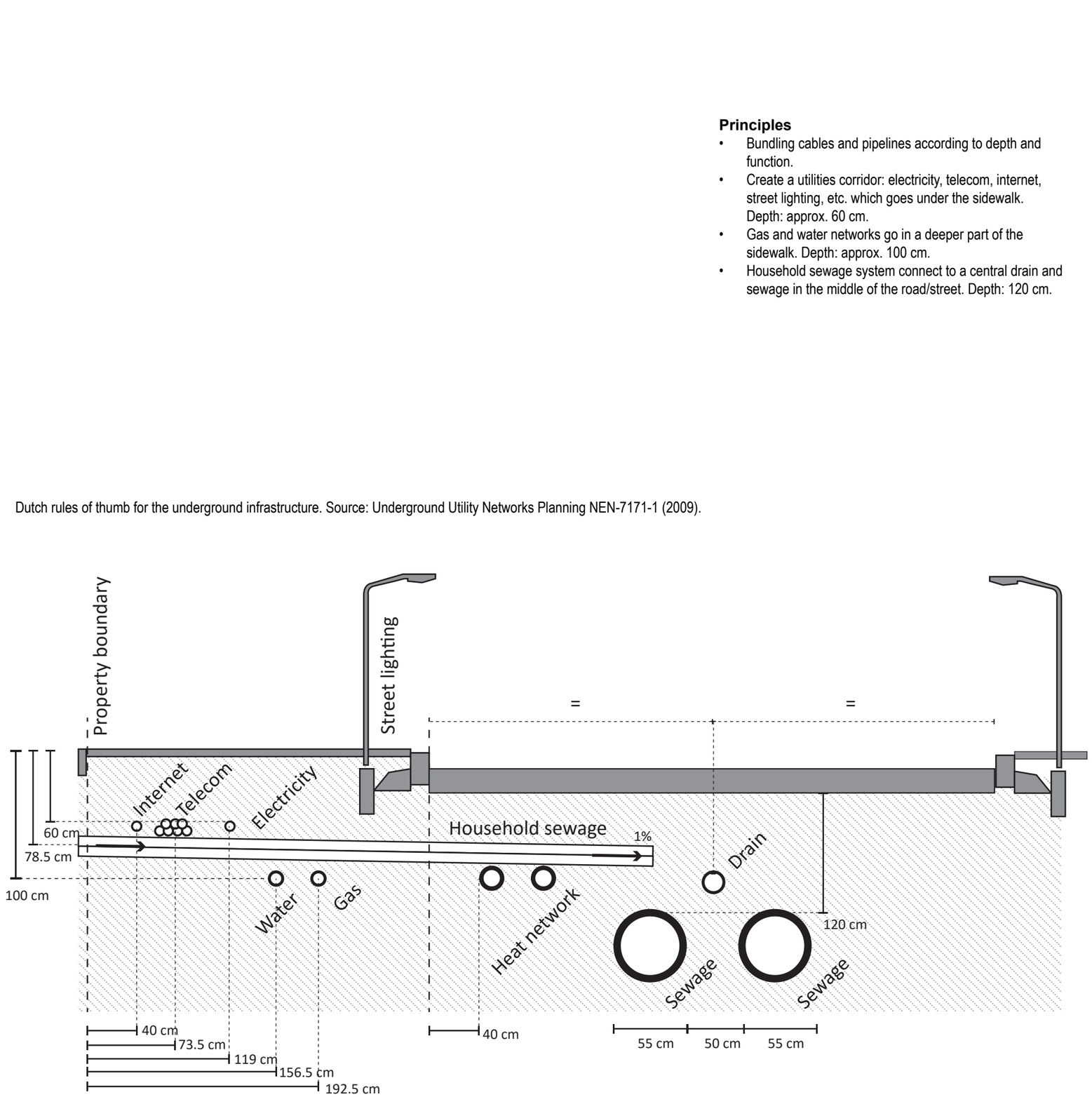
Continious material pattern

‘Extended pedestrian crossing’

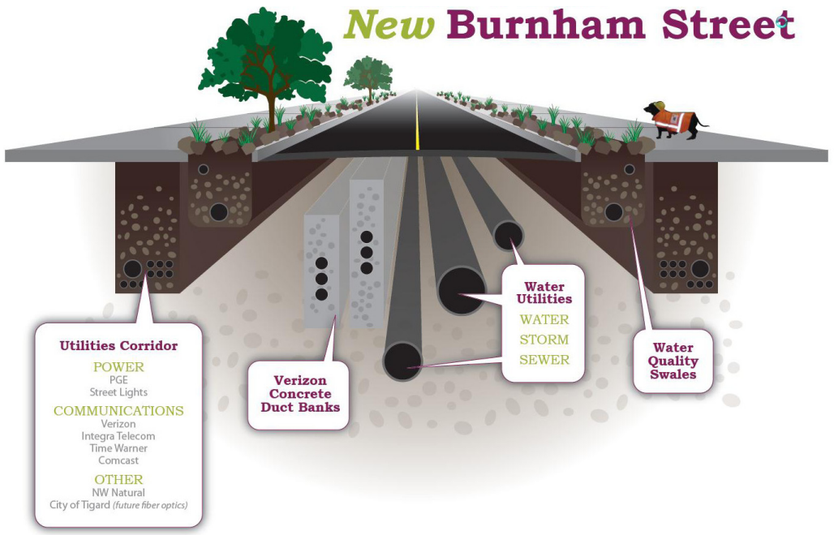
SHARED SPACE /// LONDON, HOLBEIN PLACE

Principles

- Bundling cables and pipelines according to depth and function.
- Create a utilities corridor: electricity, telecom, internet, street lighting, etc. which goes under the sidewalk. Depth: approx. 60 cm.
- Gas and water networks go in a deeper part of the sidewalk. Depth: approx. 100 cm.
- Household sewage system connect to a central drain and sewage in the middle of the road/street. Depth: 120 cm.



Dutch rules of thumb for the underground infrastructure. Source: Underground Utility Networks Planning NEN-7171-1 (2009).



UNDERGROUND INFRASTRUCTURE /// PRINCIPLES

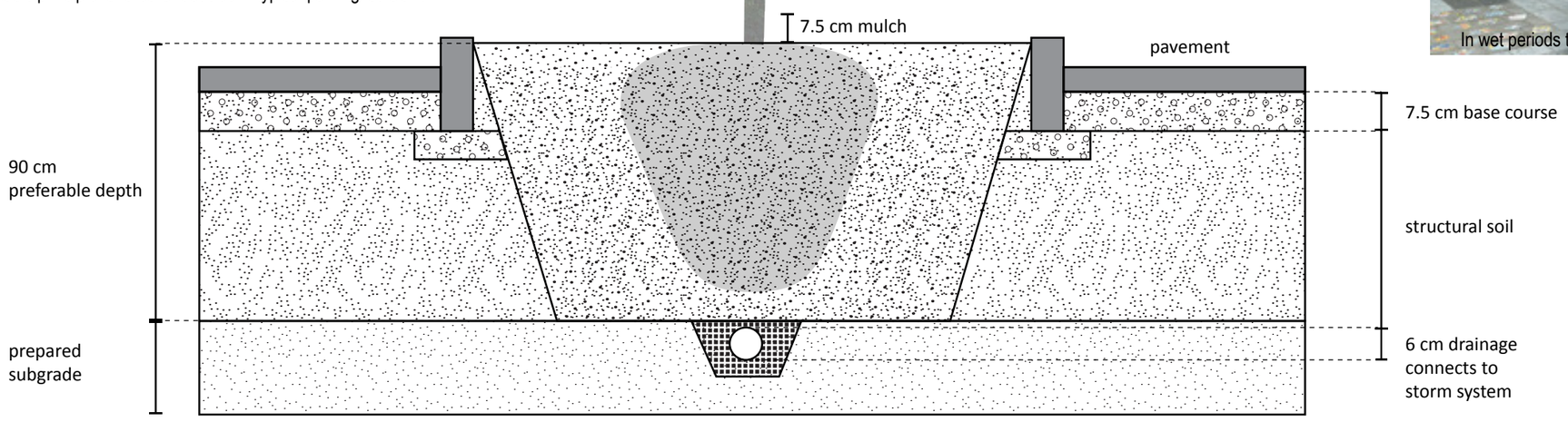
REDscape

afstand gebouw
wortelbescherming bij parkeren
afstand tussen kronen
afstand gas/kables
hoeveelheid grond

Rules for tree planting

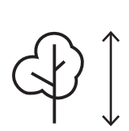
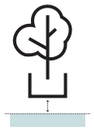
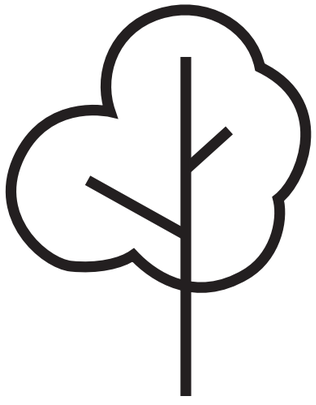
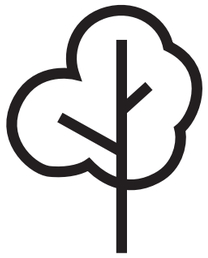
- Place them in a particularly specified planting area.
- Protect them from direct contact with hard streetscape (pavement and street furniture)
- Implement drainage pipes under the trees that are connected to the storm system.
- Protect trees during works.

Basic principle for a bare root tree in typical parking lot island

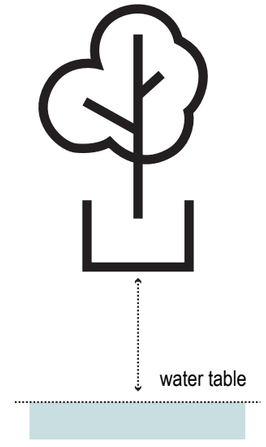


In wet periods the square retains the water.

PLANTING TREES /// PRINCIPLES

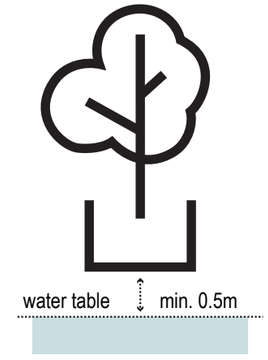
	 Height	 Crown width	 Amount of rooting space needed (hangwater)	 Amount of rooting space needed (groundwater)
Size category I 	**> 12m**	**> 10 - 15m**	**60 - 80m³**	**30 - 40m³**
Size category II 	**6 - 12m**	**> 7 - 10m**	**30 - 40m³**	**15 - 20m³**
Size category III 	**< 6m**	**< 7m**	**15 - 20m³**	**7 - 10m³**

1m³ per growing year (hangwater)



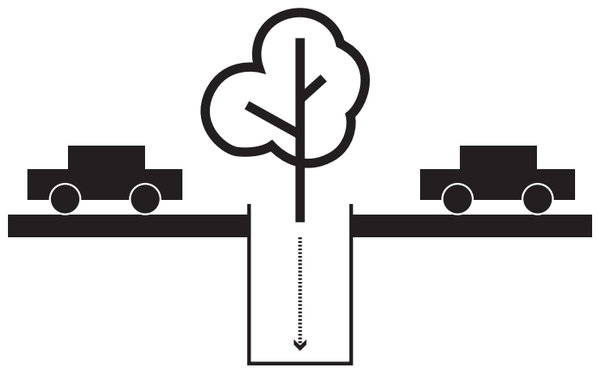
no direct contact with groundwater

0.5m³ per growing year (groundwater)



direct contact with ground water

Trees in a concreted environment need up to 2 times more ground space to be able to access the needed substrates



PLANTING TREES /// PRINCIPLES

REDscape


REDscape