MANCHESTER'S WATER 2060: A RENEWABLE RESOURCE **EVDS 616 I ADAM ROBERTS I W2020 NET ZERO INTERVENTIONS ROOFTOP CAPTURE** RAINWATER CAPTURE **GREYWATER TREATMENT**

POINTS OF CONTACT

1 F00D

WATER WILL BE SUPPLIED TO IRRIGATE GARDENS

2 ENERGY

DISTRICT HEATING AT **BONNYBROOK WILL** HARNESS ORGANIC WASTE AND HEAT ENERGY

(3) TRANSPORTATION

STREET SECTIONS WILL **INCLUDE BIOSWALES IN BOULEVARD**

4 SOLID WASTE

ART PARKS WILL BE **INTEGRATED WITH** STORMWATER PONDS

> 100,000 RESIDENTS 193 HECTARES **277 PARCELS** 1106 BUILDINGS 1.35 FAR

30% COVERAGE

STORMWATER

LARGER MAINS

SMALLER MAINS

OUTFLOW B4 DRAINAGE BASIN

DRAINAGE BASIN 900 HECTARES

ANNUAL RAINFALL FOR BASIN 3,769 MEGALITRES

ANNUAL RAINFALL FOR EACH PARCEL 2.92 MEGALITRES 7,995 LITRES/DAY

* 1 MEGALITRE = 1,000,000 LITRES

TREATMENT

BONNYBROOK BB

SANITARY WATER

LARGER MAINS

SMALLER MAINS

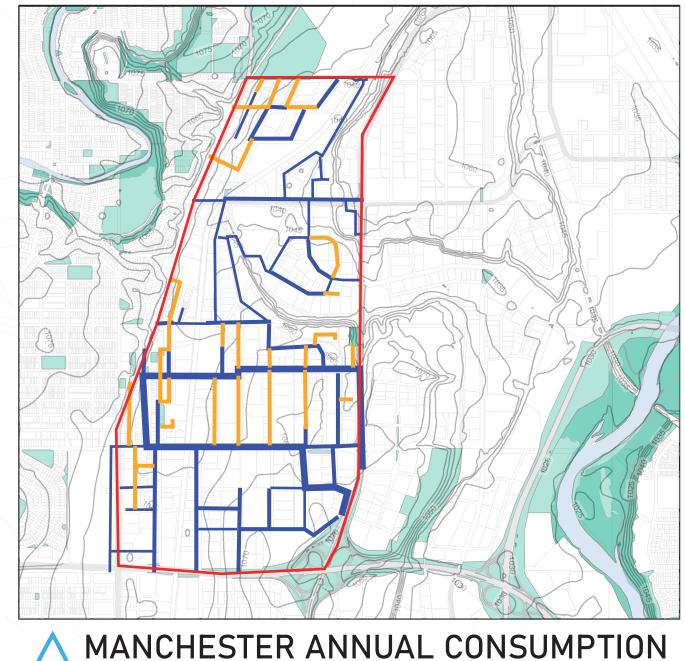
MANCHESTER FLOW WITHOUT INTERVENTION 41.9 MEGALITRES/DAY

MANCHESTER FLOW WITH INTERVENTION 11 MEGALITRES/DAY

BONNYBROOK EXPANSION ADDING 135 MEGALITRES/DAY CAPACITY

DRINKING WATER REQUIRES UPGRADE

LARGER MAINS



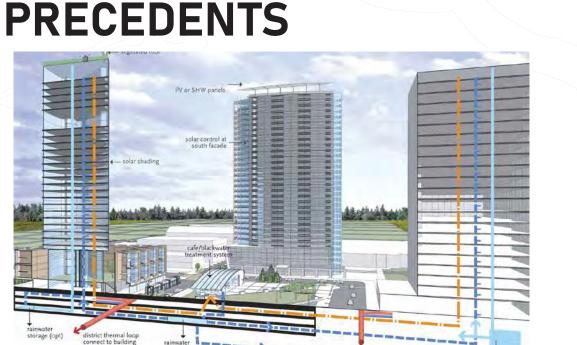
TOILETS, DISHES, CLOTHES 42%, 15.9 MEGALITRES/DAY

13,797 MEGALITRES

37.8 MEGALITRES/DAY

OTHER USES 58%, 21.9 MEGALITRES/DAY

PER PARCEL CONSUMPTION 136,462 LITRES/DAY



LLOYD CROSSING, PORTLAND, OREGON. MITHUN ARCHITECTS



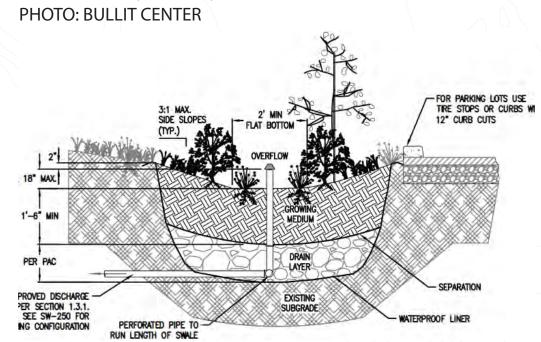
AQUACELL GREYWATER RECYCLING SYSTEM



CONVENTION CENTRE, VANCOUVER, BC. LMN ARCHITECTS



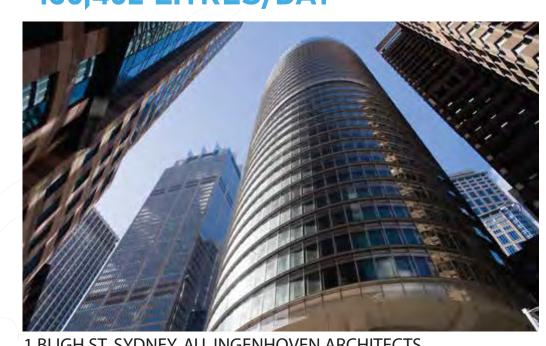
BULLIT CENTER, SEATTLE, WA. MILLER HULL PARTNERSHIP



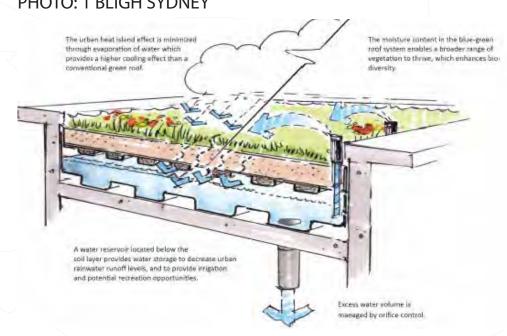
BIOSWALE, PORTLAND, OREGON. CITY OF PORTLAND -SOURCE: C.O.P. STORMWATER MANAGEMENT MANUAL



PHOTO: CHRISTOPHER PORTER



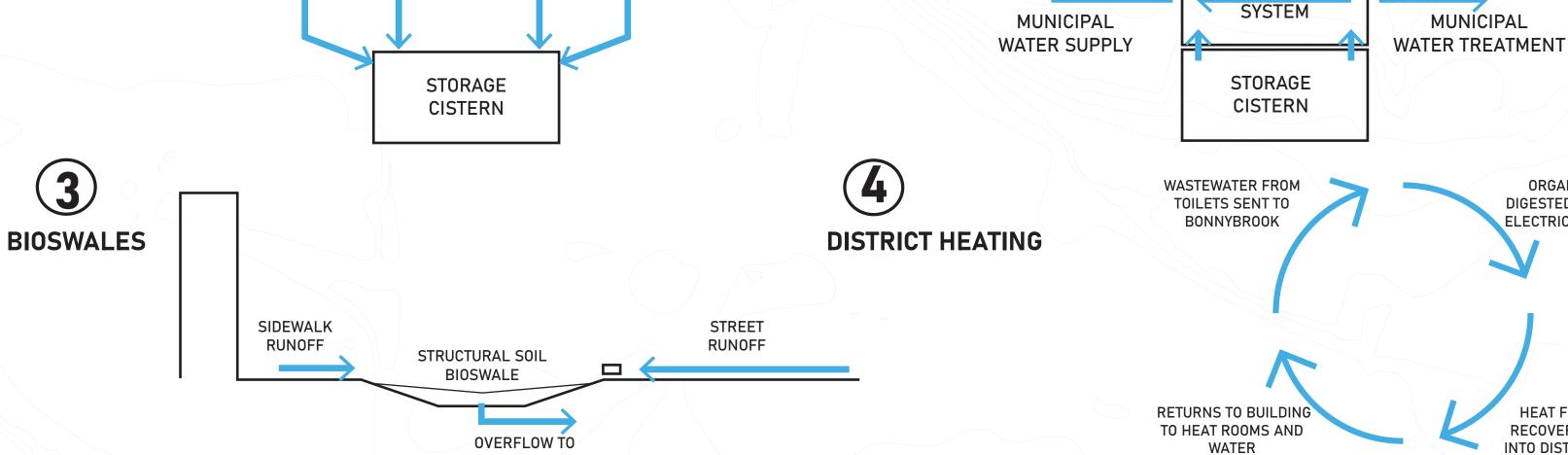
1 BLIGH ST, SYDNEY, AU. INGENHOVEN ARCHITECTS PHOTO: 1 BLIGH SYDNEY



GREEN ROOF DIAGRAM. CITY OF VANCOUVER SOURCE: C.O.V. ONE WATER GRI TYPOLOGIES



HELSINKI DISTRICT HEATING, HELSINKI, FI PHOTO: C40 CITIES



FLOW THROUGH **PLANTER**

MUNICIPAL

ORGANIC WASTE DIGESTED TO PRODUCE **ELECTRICITY AND HEAT HEAT FROM WASTE** RECOVERED AND FED NTO DISTRICT HEATING

PHOTO: C.O.V. ONE WATER GRI TYPOLOGIES