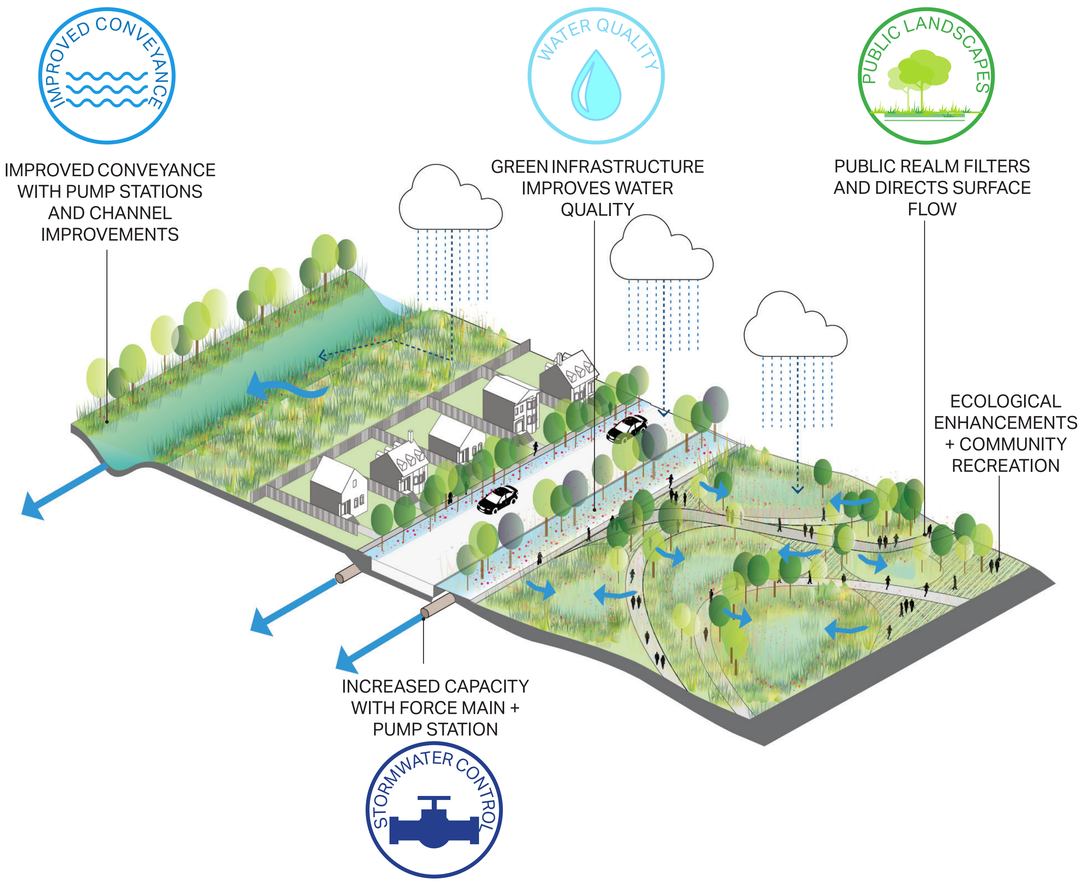
REBUILD BY DESIGN MEADOWLANDS: OVERALL PROJECT

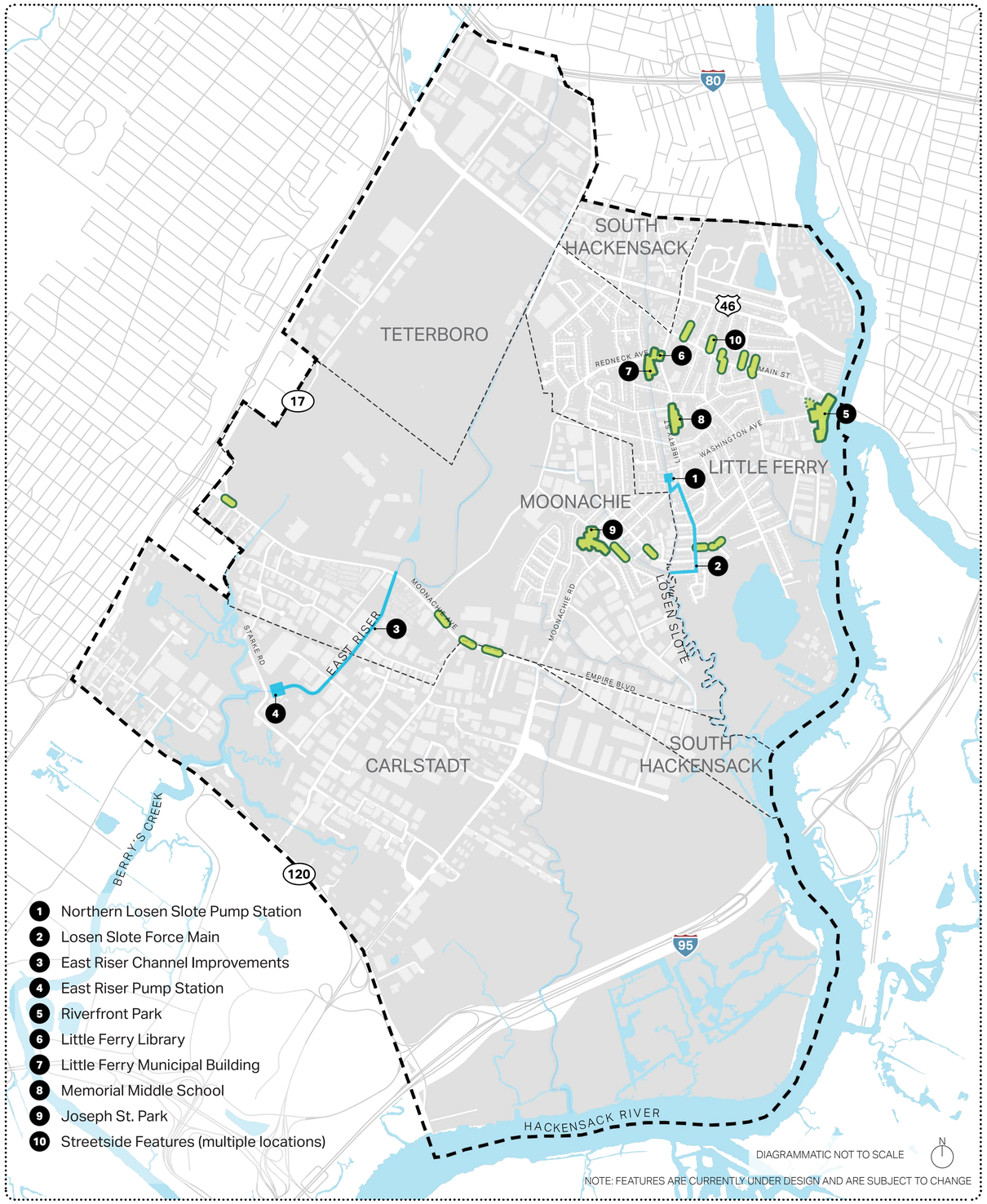
DESIGN PURPOSE + FEATURES

FLOOD RISK REDUCTION + CO-BENEFITS

DESIGN APPROACH

INFRASTRUCTURE + LANDSCAPE + PUBLIC REALM IMPROVEMENTS



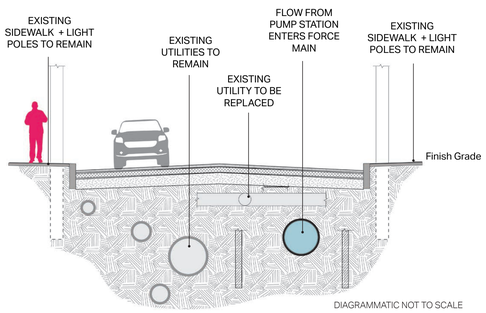


GREY INFRASTRUCTURE
CONCEPTUAL DESIGN

LOSEN SLOTE

LOSEN SLOTE FORCE MAIN

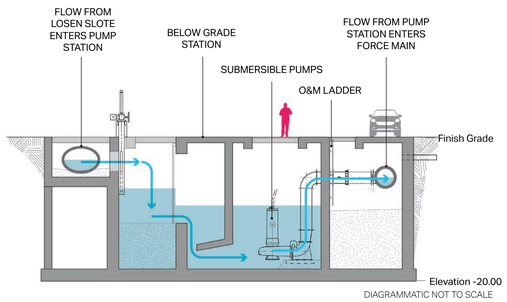
- The Force Main runs ~2,900 feet
- Bypasses a bottleneck in the stormwater flow within Losen Slote drainage area
- Discharges into open channel at Birch St.



LOSEN SLOTE FORCE MAIN

NORTHERN LOSEN SLOTE PUMP STATION

- Draws stormwater out of Losen Slote and into a new force main
- Bypasses majority of existing Losen Slote below-grade conduit

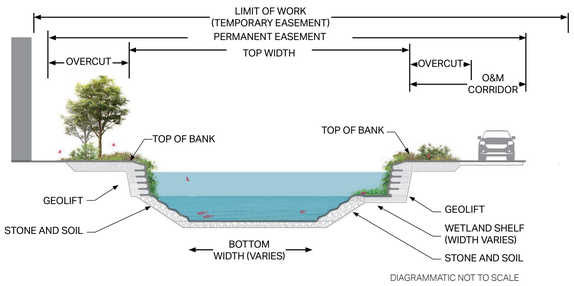


NORTHERN LOSEN SLOTE PUMP STATION

EAST RISER

EAST RISER CHANNEL IMPROVEMENTS

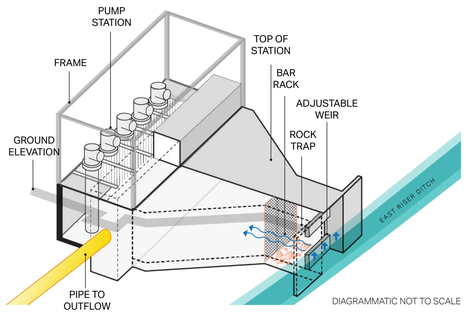
- Channel design improves water conveyance and reduces flood risk
- Dredging, widening and embankment stabilization
- Bridge culvert and railroad bridge replacements
- O&M corridor
- Native planting



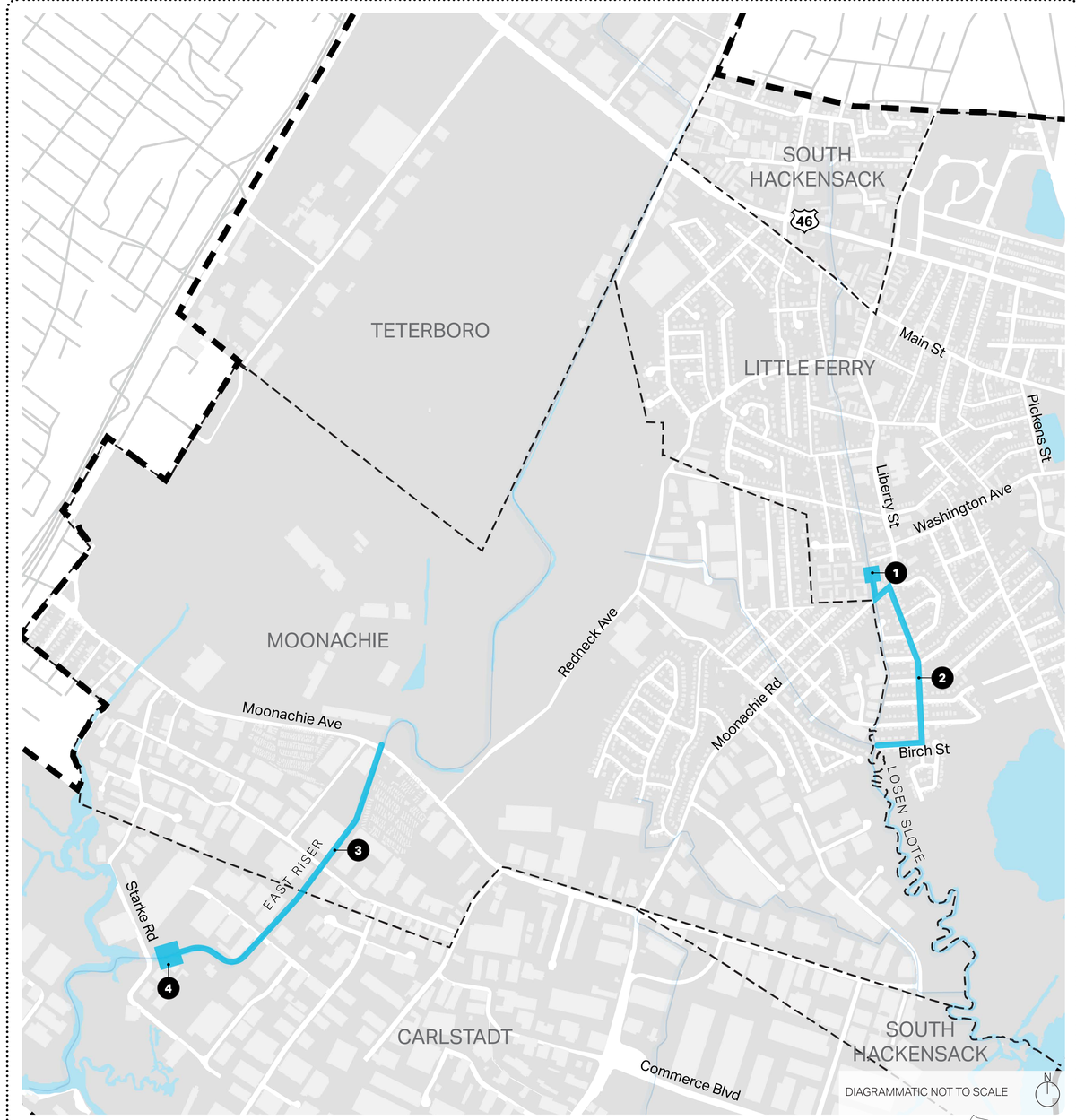
EAST RISER CHANNEL IMPROVEMENTS

EAST RISER PUMP STATION

- Submersible pumps
- Activates and pumps water beyond tide gates when water levels in East Riser Ditch reach 2′ EL.



EAST RISER PUMP STATION



1. Northern Losen Slote Pump Station
2. Losen Slote Force Main
3. East Riser Channel Improvements
4. East Riser Pump Station

RIGHT-OF-WAY GREEN INFRASTRUCTURE-TYPE IMPROVEMENTS
CONCEPTUAL DESIGN

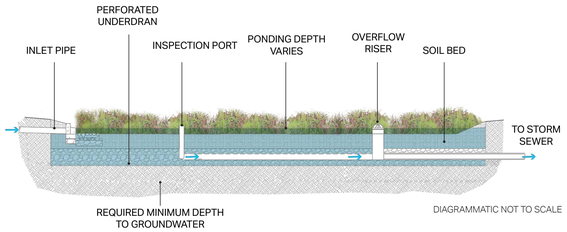
GREEN INFRASTRUCTURE-TYPE IMPROVEMENTS

SYSTEM PERFORMANCE

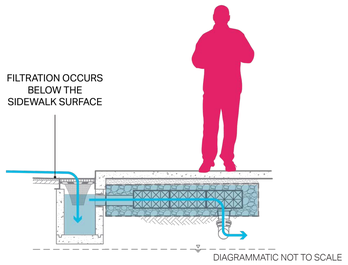
- Numerous system locations throughout project area
- Filtering roadway runoff
- Designed to capture stormwater and then slowly release into existing grey infrastructure, reducing peak flow in the storm sewer mains
- Treating and diverting runoff from entering the sewer system at the peak of the storm
- Located within public right-of-way
- Native soils have poor infiltration capacity and high groundwater limits application in some areas
- Treats smaller, more frequent storms
- Some types include vegetation or trees, while others are below the surface.

4 PRIMARY TYPES UNDER CONSIDERATION*

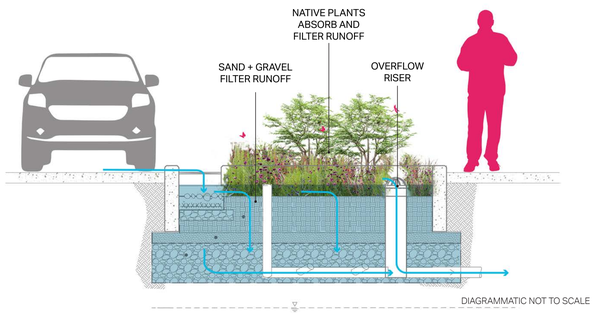
*Alternative designs being considered where shallow groundwater is present. Final designs are not yet confirmed.



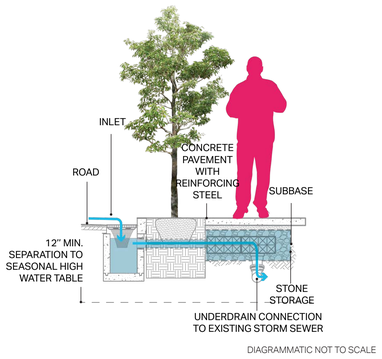
BIORETENTION BASINS



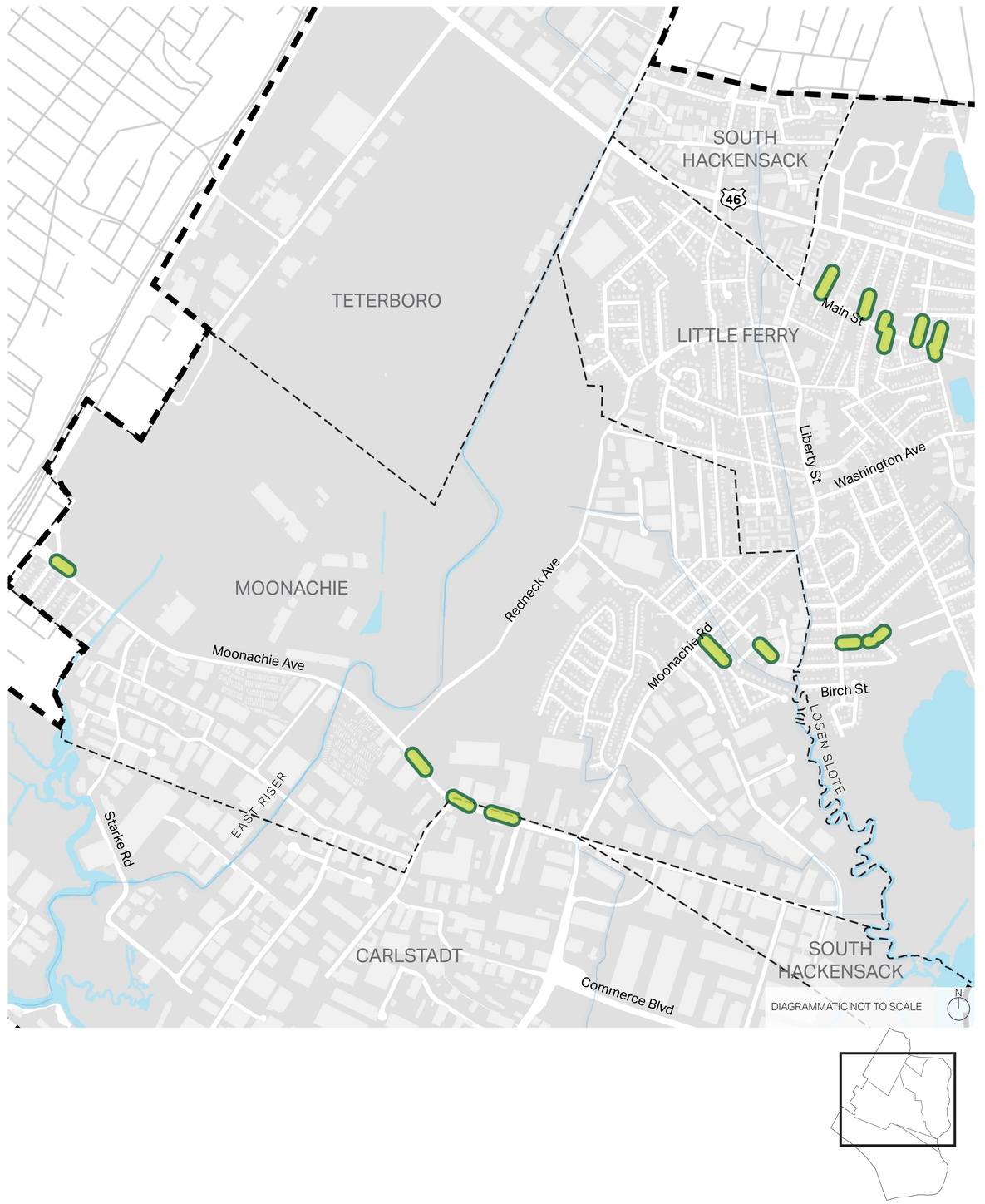
SUB-SURFACE STORAGE



BIORETENTION PLANTERS



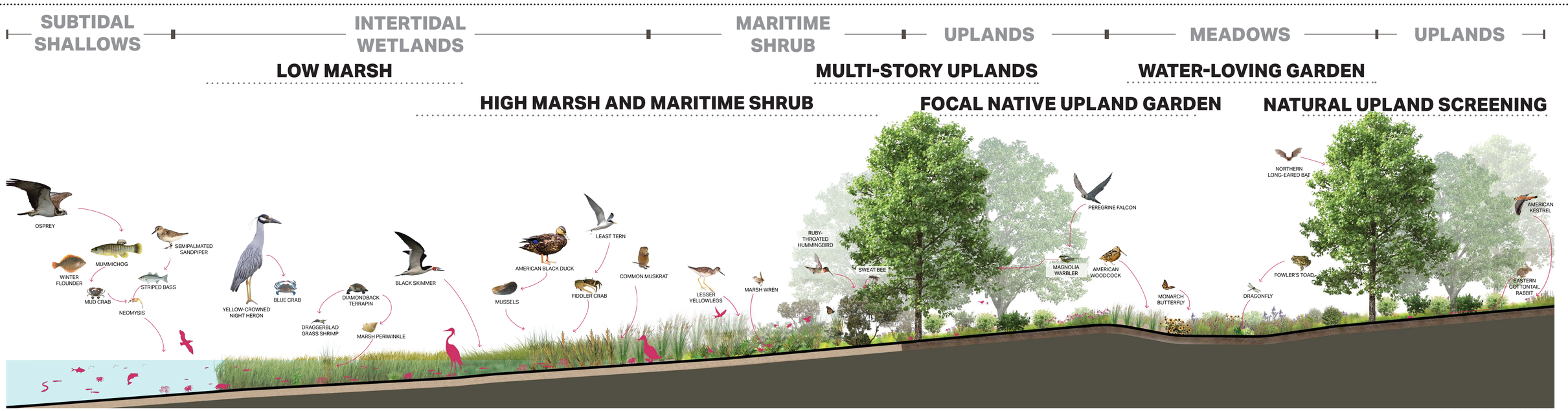
STORAGE + TREE TRENCHES



REBUILD BY DESIGN MEADOWLANDS: ECOLOGICAL DESIGN

CONCEPTUAL PLANTING DESIGN

MEADOWLANDS TYPICAL ECOLOGICAL HABITATS



DIAGRAMMATIC NOT TO SCALE

LOW MARSH

SMOOTH CORDGRASS
SPARTINA ALTERNIFLORA

DWARF SPIKERUSH
ELEOCHARIS PARVULA

MARSH FLEABANE
PLUCHEA PURPURASCENS

EASTERN ANNUAL SALTMARSH ASTER
SYMPHYOTRICHUM SUBULATUM

SALTMEADOW CORDGRASS
SPARTINA PATENS

HIGH MARSH AND MARITIME SHRUB

SALTMEADOW CORDGRASS
SPARTINA PATENS

SEASHORE SALTGRASS
DISTICHLIS SPICATA

JESUIT'S BARK
IVA FRUTESCENS

SWAMP SMARTWEED
POLYGONUM HYDROPIPEROIDES

GROUNDSELTREE
BACCHARIS HALIMIFOLIA

MULTI-STORY UPLANDS

SWEET BIRCH
BETULA LENTA

SASSAFRAS
SASSAFRAS ALBIDUM

EASTERN REDBUD
CERCIS CANADENSIS

SWITCH GRASS
PANICUM VIRGATUM

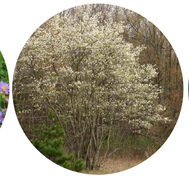
BAYBERRY
MYRICA PENSYLVANICA

FOCAL NATIVE UPLAND GARDEN

BEEBALM
MONARDA FISTULOSA

BIG BLUESTEM
ANDROPOGON GERARDII

SMOOTH ASTER
ASTER LAEVIS



DOWNY SERVICEBERRY
AMELANCHIER ARBOREA

STAGHORN SUMAC
RHUS TYPHINA

WATER-LOVING GARDEN

BLACK-EYED SUSAN
RUBEBECKIA HIRTA

BUTTERFLYWEED
ASCLEPIAS TUBEROSA

JOE PYE WEED
EUTROCHIUM PURPUREUM

SEASIDE GOLDENROD
SOLIDAGO SEMPERVIRENS

WILD SENNA
SENNA HEBECARPA

NATURAL UPLAND SCREENING

PIN OAK
QUERCUS PALUSTRIS

NORTHERN SPICEBUSH
LINDERA BENZOIN

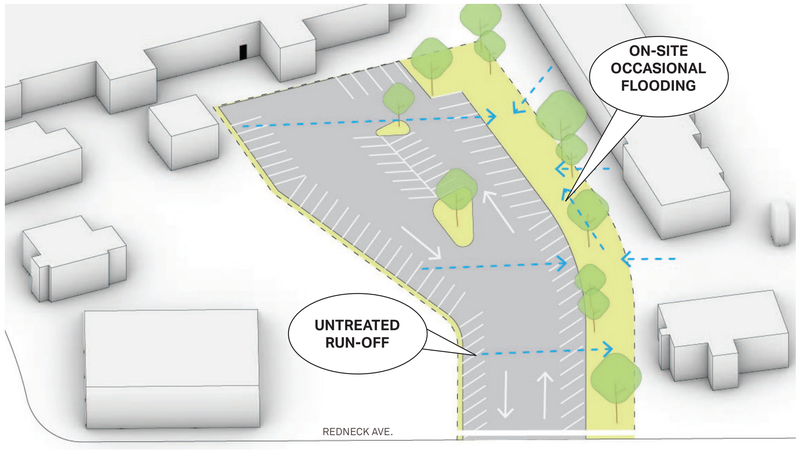
NORTHERN WHITE CEDAR
THUJA OCCIDENTALIS

EASTERN RED CEDAR
JUNIPERUS VIRGINIANA

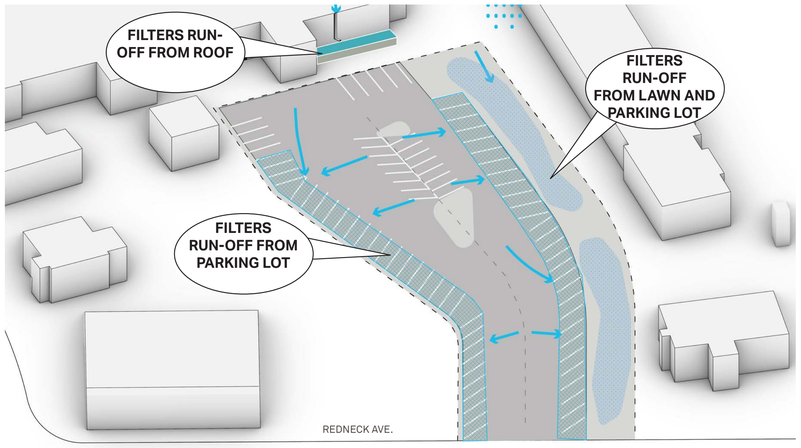
EASTERN WHITE PINE
PINUS STROBUS

LITTLE FERRY BOROUGH HALL
CONCEPTUAL DESIGN

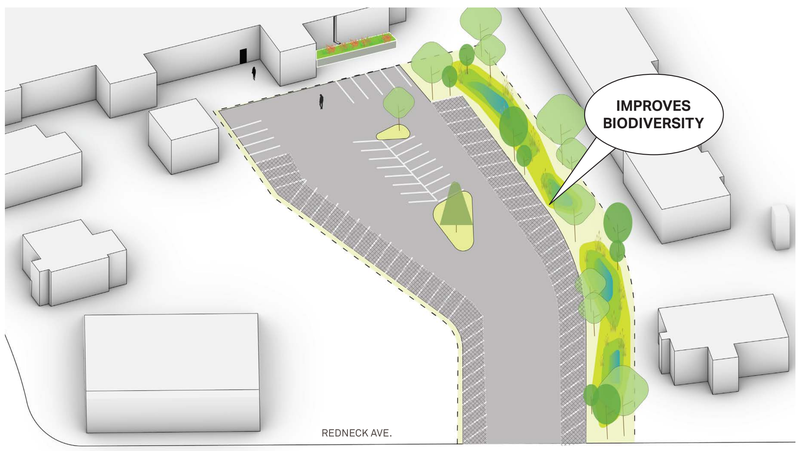
SITE PERFORMANCE



EXISTING CONDITION



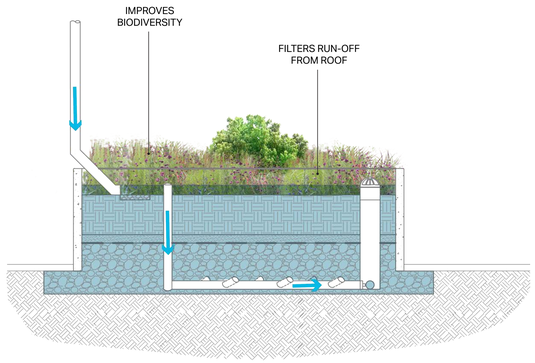
SITE PERFORMANCE



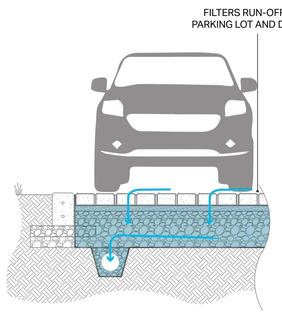
CONCEPTUAL DESIGN

DESIGN STRATEGY

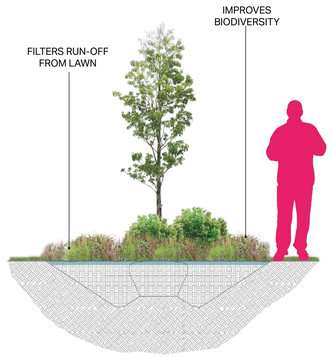
+ DOWNSPOUT PLANTERS



+ PERMEABLE PAVERS

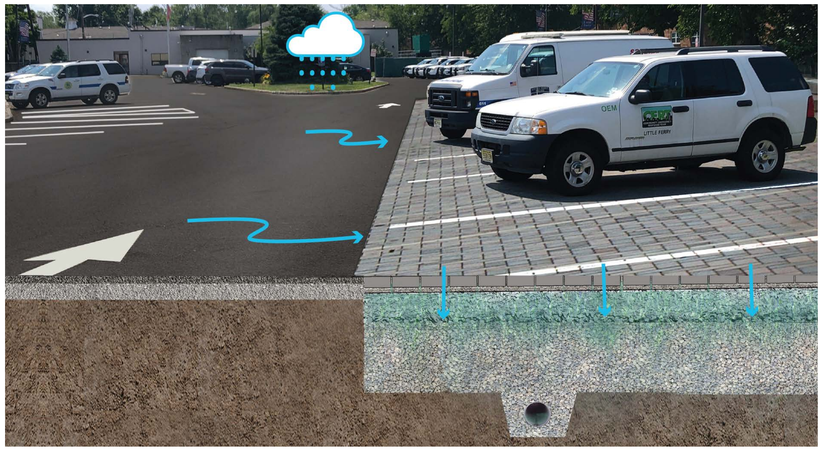


+ REGRADING + NATIVE PLANTING



HOW DOES IT WORK ON SITE?

DOWNSPOUT PLANTER

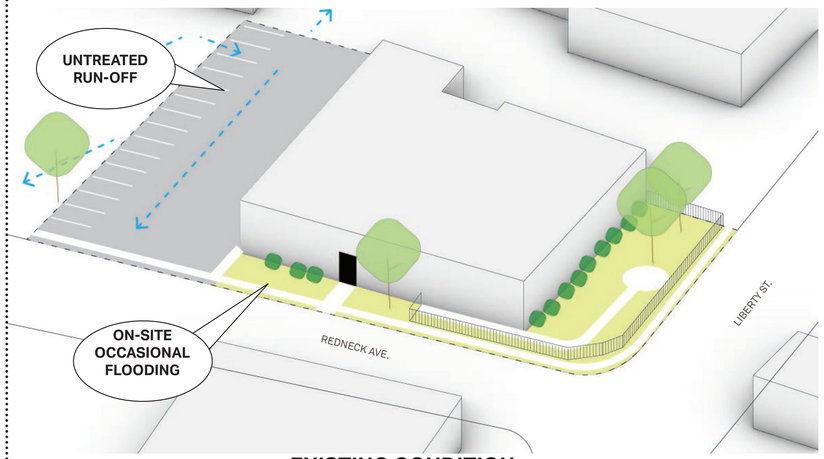


PERMEABLE PAVING WITHIN PARKING STALLS

REGRADING AND NATIVE PLANTING

LITTLE FERRY PUBLIC LIBRARY
CONCEPTUAL DESIGN

SITE PERFORMANCE



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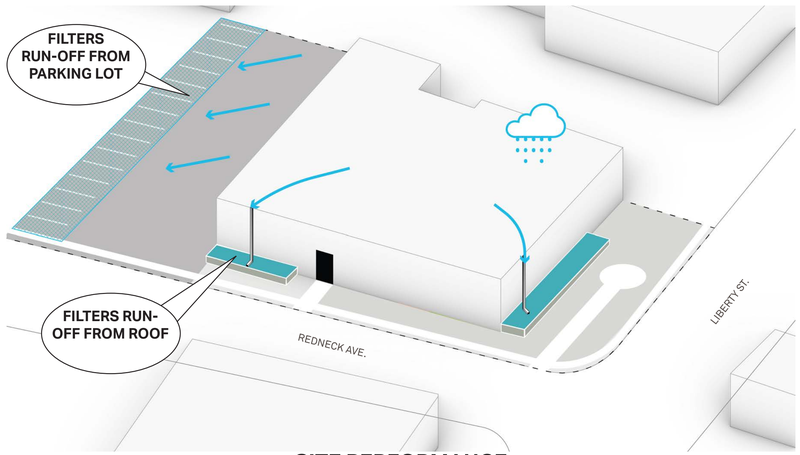

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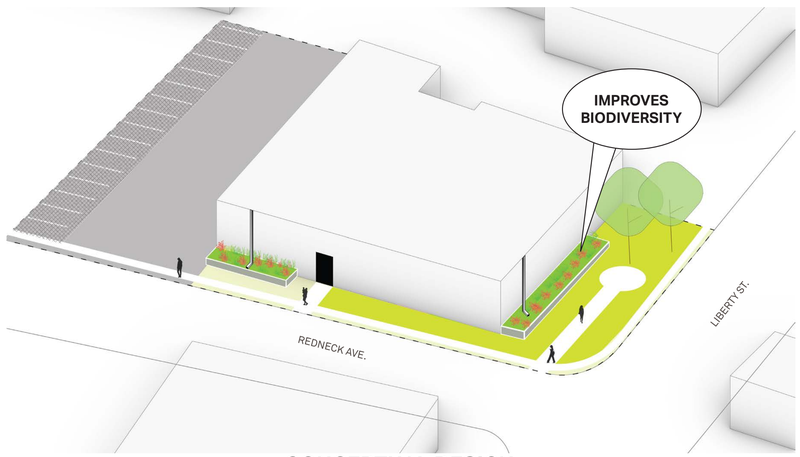
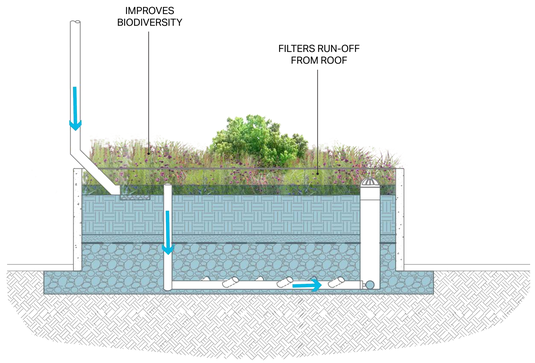


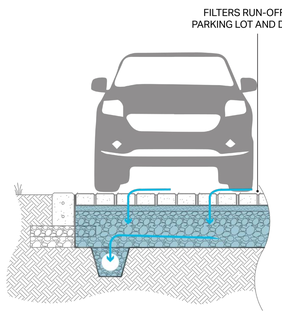
CONCEPTUAL DESIGN

DESIGN STRATEGY

+ DOWNSPOUT PLANTERS

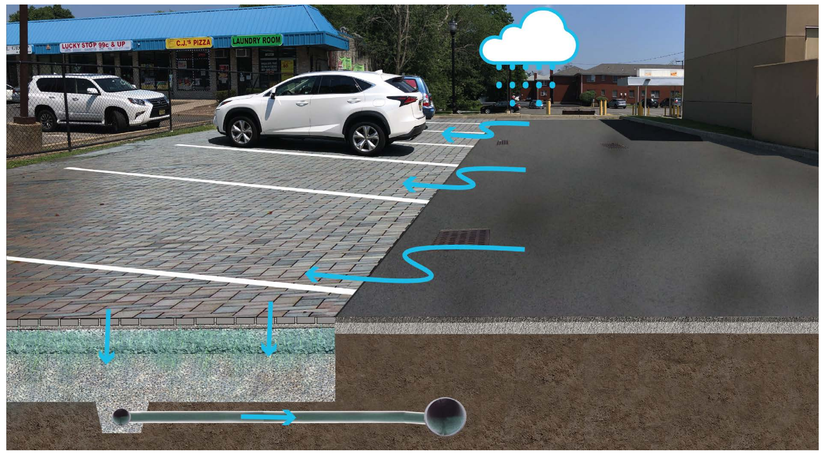


+ PERMEABLE PAVERS



HOW DOES IT WORK ON SITE?

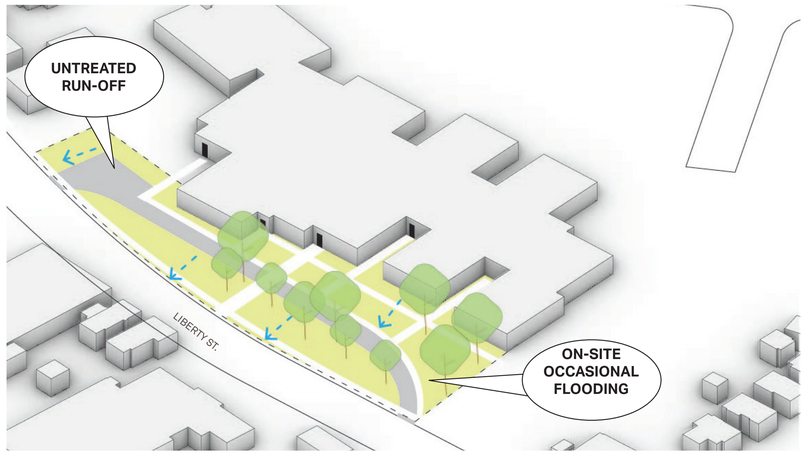
DOWNSPOUT PLANTER



PERMEABLE PAVING WITHIN PARKING STALLS

MEMORIAL MIDDLE SCHOOL
CONCEPTUAL DESIGN

SITE PERFORMANCE



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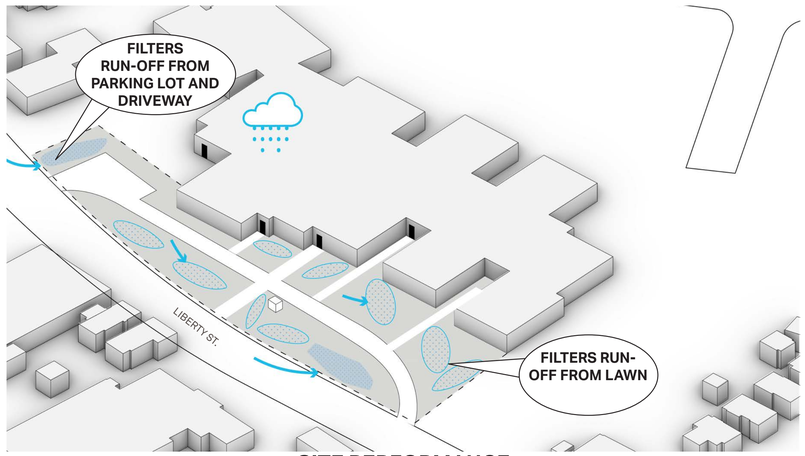
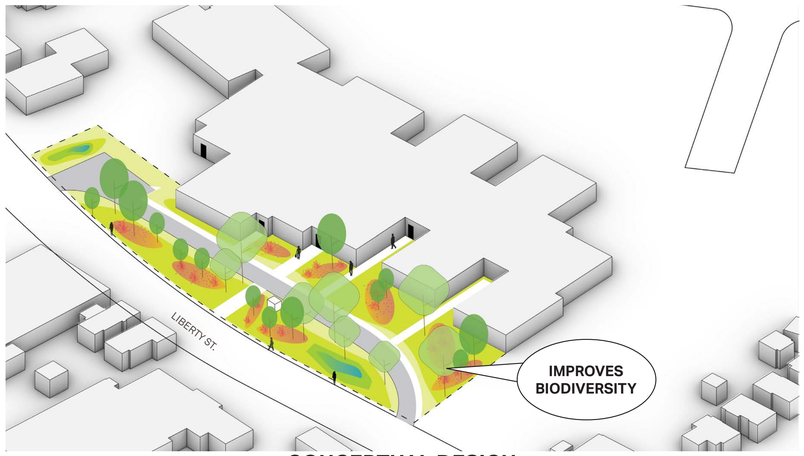


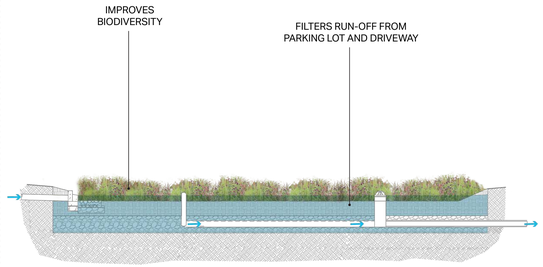
SITE PERFORMANCE



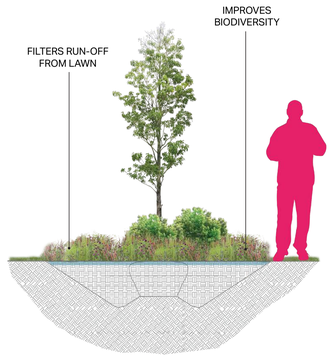
CONCEPTUAL DESIGN

DESIGN STRATEGY

+ BIORETENTION BASIN



+ REGRADING + NATIVE PLANTING



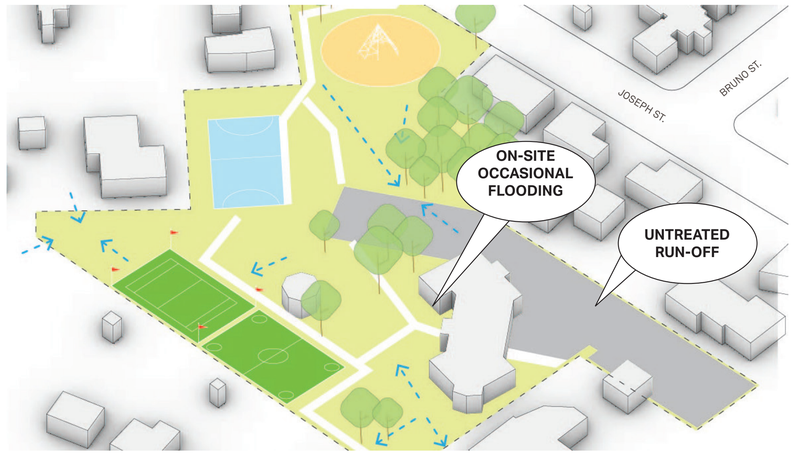
HOW DOES IT WORK ON SITE?

BIORETENTION BASIN

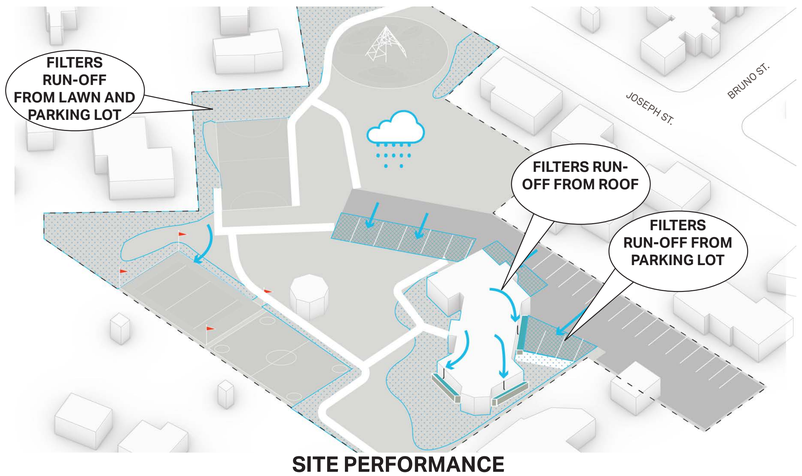
REGRADING AND NATIVE PLANTING

JOSEPH ST. PARK + MOONACHIE CIVIC CENTER
CONCEPTUAL DESIGN

SITE PERFORMANCE



EXISTING CONDITION

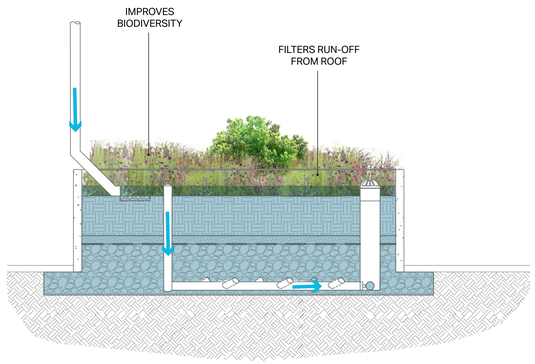


SITE PERFORMANCE

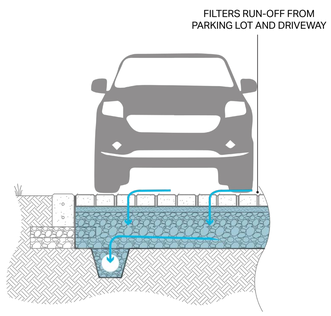
CONCEPTUAL DESIGN

DESIGN STRATEGY

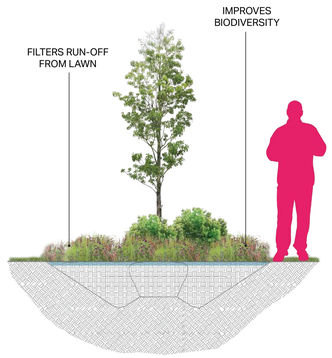
+ DOWNSPOUT PLANTERS



+ PERMEABLE PAVERS

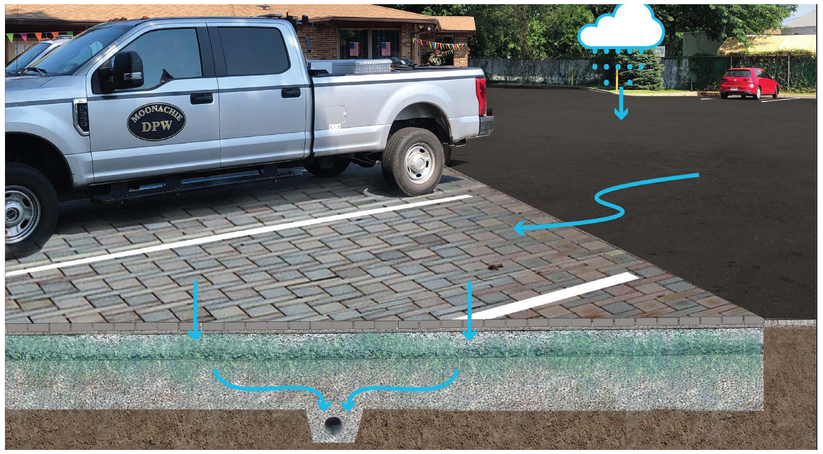


+ REGRADING + NATIVE PLANTING

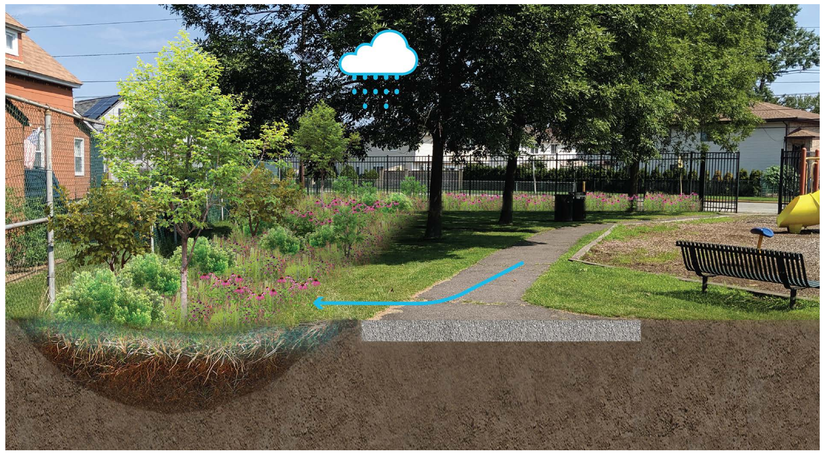


HOW DOES IT WORK ON SITE?

DOWNSPOUT PLANTER



PERMEABLE PAVING WITHIN PARKING STALLS

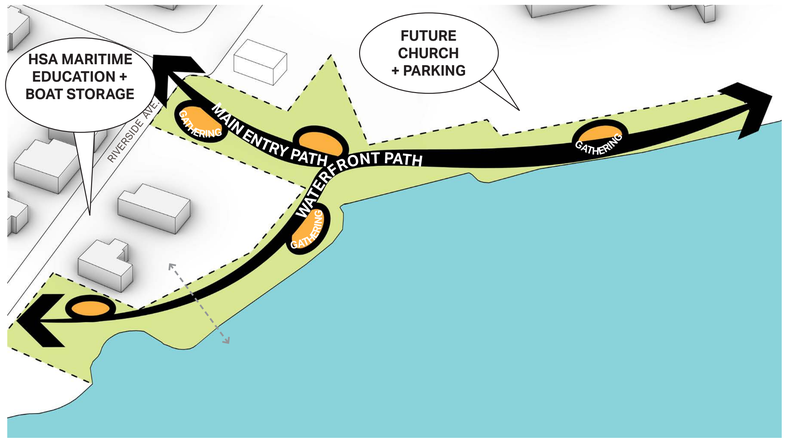


REGRADING AND NATIVE PLANTING

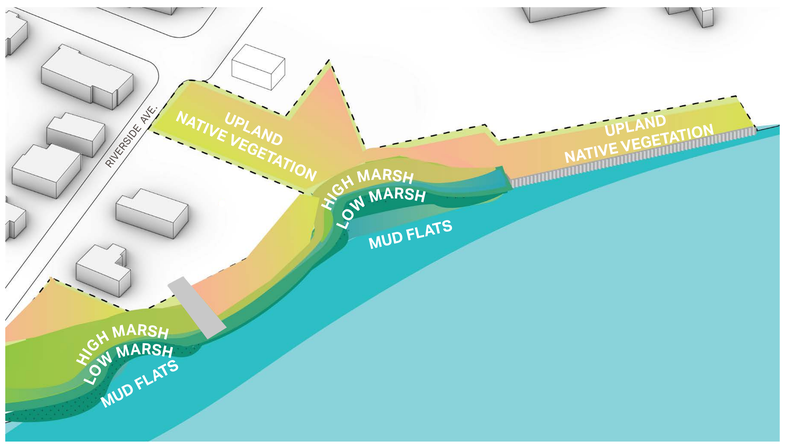
RIVERFRONT PARK: DESIGN DRIVERS

VISION + COMMUNITY INPUT

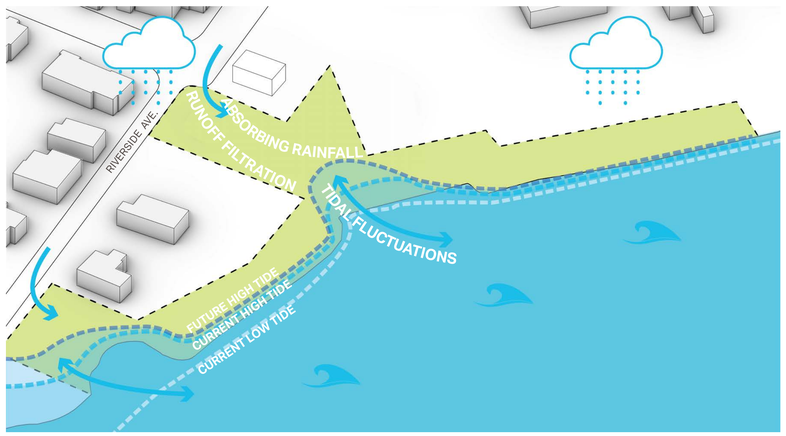
SITE PERFORMANCE



WATERFRONT ACCESS



ECOLOGICAL ENHANCEMENT



WATER MANAGEMENT

DESIGN STRATEGY

WATERFRONT ACCESS

KAYAK LAUNCH · GROUP GATHERING · QUIET RESTING · PICNIC SEATING · EDUCATIONAL GROUPS

ECOLOGICAL ENHANCEMENT

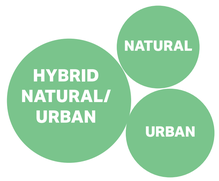
TIDAL MARSH · NATURE EXPLORATION · BIRDWATCHING

WATER MANAGEMENT

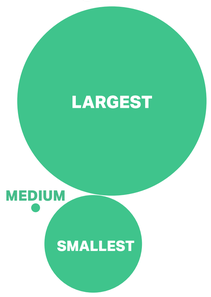
FILTERING RUNOFF · ABSORBING RAINFALL · TIDAL FLUCTUATION

COMMUNITY INPUT

PARK CHARACTER

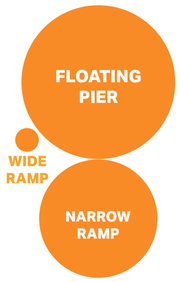


TIDAL MARSH SIZE



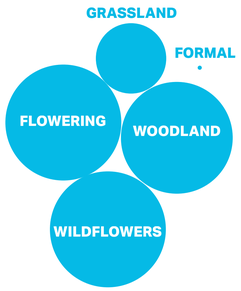
GATHERING TYPE

KAYAK TYPE

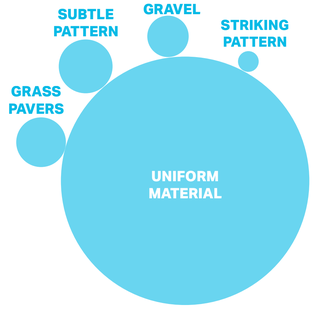


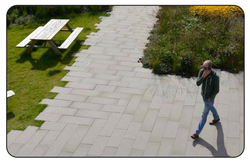
KAYAK PROXIMITY TO PARKING

PLANTING

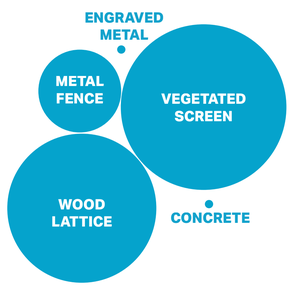


PAVING

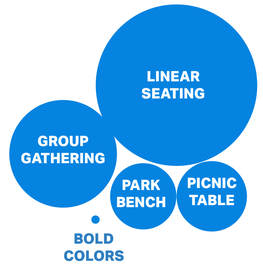




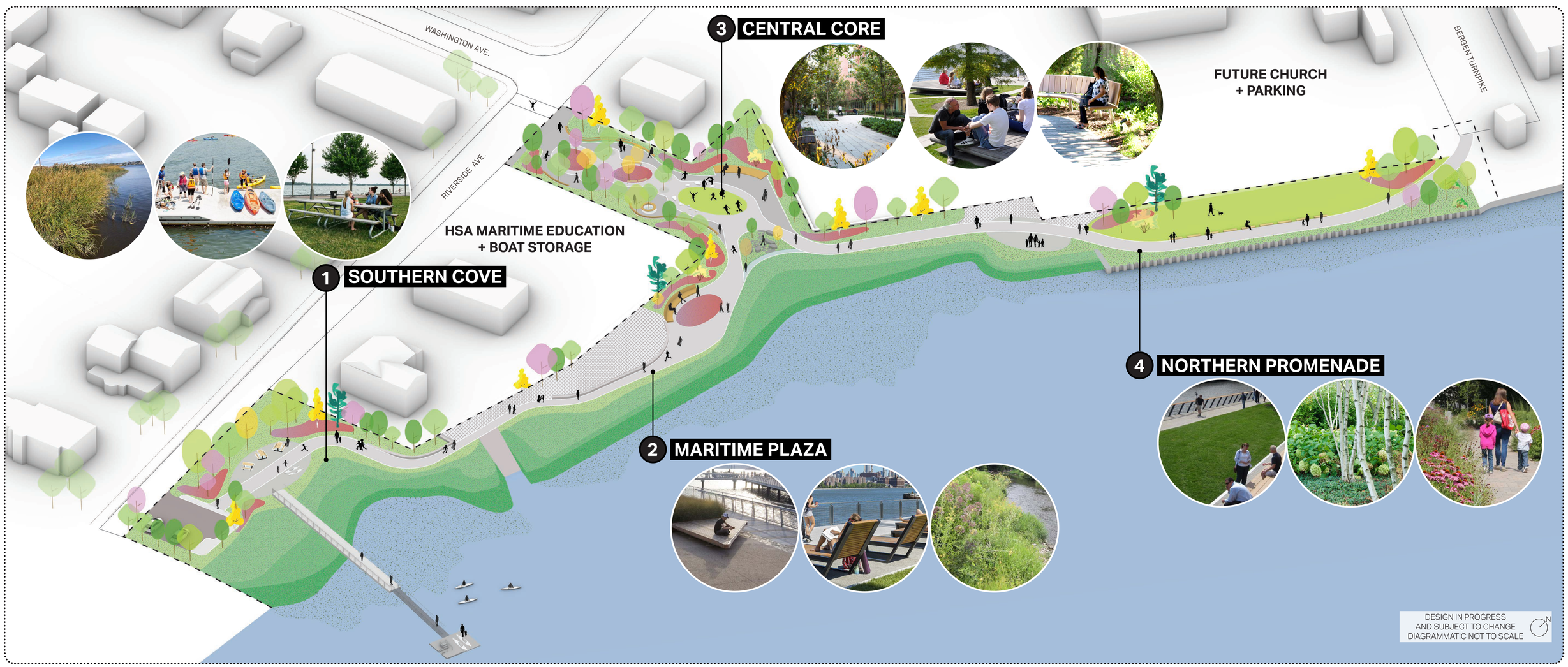
SCREENING



FURNISHINGS



RIVERFRONT PARK
CONCEPTUAL DESIGN



FLEXIBLE SMALL GATHERING
IN LUSH PLANTING

FLEXIBLE GROUP GATHERING

TIDAL MARSH ENHANCEMENT
WITH FLOATING KAYAK LAUNCH