REBUILD BY DESIGN MEADOWLANDS: OVERALL PROJECT
DESIGN PURPOSE + FEATURES

FLOOD RISK REDUCTION + CO-BENEFITS

REDUCE FLOOD RISK
CULTIVATE ECOLOGY
ENERGIZE COMMUNITY

DESIGN APPROACH

INFRASTRUCTURE + LANDSCAPE + PUBLIC REALM IMPROVEMENTS

IMPROVED CONVEYANCE WITH PUMP STATIONS AND CHANNEL IMPROVEMENTS
GREEN INFRASTRUCTURE IMPROVES WATER QUALITY
PUBLIC REALM FILTERS AND DIRECTS SURFACE FLOW
ECOLOGICAL ENHANCEMENTS + COMMUNITY RECREATION

INCREASED CAPACITY WITH FORCE MAIN + PUMP STATIONS
IMPROVED CONVEYANCE
WATER QUALITY
PUBLIC LANDSCAPES

NOTE: FEATURES ARE CURRENTLY UNDER DESIGN AND ARE SUBJECT TO CHANGE.
**REBUILD BY DESIGN**

**MEADOWLANDS**

**CONCEPTUAL DESIGN**

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### 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.

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### 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

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**PUMP STATION**

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

**4 PRIMARY TYPES UNDER CONSIDERATION**

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

- 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.
MEADOWLANDS TYPICAL ECOLOGICAL HABITATS

LOW MARSH
- Smooth Cordgrass
- Dwarf Spikerush
- Marsh Fleabane
- Eastern Annual Saltmarsh Aster
- Saltmeadow Cordgrass
- Groundsel Tree

HIGH MARSH AND MARITIME SHRUB
- Saltmeadow Cordgrass
- Seashore Saltgrass
- Jesuit’s Bark
- Swamp Smartweed
- Groundsel Tree

MULTI-STORY UPLANDS
- Sweet Birch
- Sassafras
- Eastern Redbud
- Switch Grass
- Bayberry

FOCAL NATIVE UPLAND GARDEN
- Beebalm
- Big Bluestem
- Smooth Aster
- Downy Serviceberry
- Staghorn Sumac

WATER-LOVING GARDEN
- Black-Eyed Susan
- Butterflyweed
- Joe Pye Weed
- Seaside Goldenrod
- Wild Senna

NATURAL UPLAND SCREENING
- Pin Oak
- Northern Sassafras
- Northern White Cedar
- Eastern White Pine

REBUILD BY DESIGN MEADOWLANDS: ECOLOGICAL DESIGN
CONCEPTUAL PLANTING DESIGN

DIAGRAMMATIC NOT TO SCALE
LITTLE FERRY BOROUGH HALL
CONCEPTUAL DESIGN

SITE PERFORMANCE

EXISTING CONDITION

OFFICIAL ELEVATION

FILTERS RUN-OFF FROM ROOF

FILTERS RUN-OFF FROM LAWNS AND PARKING LOT

FILTERS RUN-OFF FROM PARKING LOT

UNTREATED RUN-OFF

ON-SITE OCCASIONAL FLOODING

HIGHLIGHTS

REBUILD BY DESIGN

MEADOWLANDS

RBDM PUBLIC MEETING - MARCH 11, 2020

DESIGN STRATEGY

+ DOWNSPOUT PLANTERS

+ PERMEABLE PAVERS

+ REGRADING + NATIVE PLANTING

HOW DOES IT WORK ON SITE?

DOWNSPOUT PLANTER

PERMEABLE PAVERS WITHIN PARKING STALLS

REGRADING AND NATIVE PLANTING
SITE PERFORMANCE

EXISTING CONDITION

SITE PERFORMANCE

CONCEPTUAL DESIGN

DESIGN STRATEGY

+ DOWNSPOUT PLANTERS

- IMPROVES BIODIVERSITY
- FILTERS RUN-OFF FROM ROOF

+ PERMEABLE PAVERS

- FILTERS RUN-OFF FROM PARKING LOT
- IMPROVES BIODIVERSITY

HOW DOES IT WORK ON SITE?

DOWNSPOUT PLANTER

PERMEABLE PAVING WITHIN PARKING STALLS
MEMORIAL MIDDLE SCHOOL
CONCEPTUAL DESIGN

SITE PERFORMANCE

EXISTING CONDITION

- Filters runoff from parking lot and driveway
- Improves biodiversity
- Untreated runoff
- On-site occasional flooding

SITE PERFORMANCE

CONCEPTUAL DESIGN

DESIGN STRATEGY

- Bioretention basin
- Improves biodiversity
- Filters runoff from parking lot and driveway

HOW DOES IT WORK ON SITE?

- Bioretention basin
- Regrading and native planting
- Filters runoff from parking lot and driveway
- Improves biodiversity
JOSEPH ST. PARK + MOONACHIE CIVIC CENTER
CONCEPTUAL DESIGN

SITE PERFORMANCE

EXISTING CONDITION

CONCEPTUAL DESIGN

SITE PERFORMANCE

DESIGN STRATEGY

+ DOWNSPOUT PLANTERS

IMPROVES BIODIVERSITY

FILTERS RUN-OFF FROM ROOF

PERMEABLE PAVERS

FILTERS RUN-OFF FROM PARKING LOT

+ REGRADING + NATIVE PLANTING

FILTERS RUN-OFF FROM LAWN

FILTERS RUN-OFF FROM PARKING LOT

FILTERS RUN-OFF FROM ROOF

HOW DOES IT WORK ON SITE?

DOWNSPOUT PLANTER

PERMEABLE PAVING WITHIN PARKING STALLS

REGRADING AND NATIVE PLANTING

FILTERS RUN-OFF FROM PARKING LOT

FILTERS RUN-OFF FROM ROOF

FILTERS RUN-OFF FROM LAWN
SITE PERFORMANCE

WATERFRONT ACCESS

ECOLOGICAL ENHANCEMENT

WATER MANAGEMENT

DESIGN STRATEGY

WATERFRONT ACCESS

ECOLOGICAL ENHANCEMENT

WATER MANAGEMENT

COMMUNITY INPUT

PARK CHARACTER

TIDAL MARSH SIZE

GATHERING TYPE

KAYAK TYPE

KAYAK PROXIMITY TO PARKING

PLANTING

PAVING

SCREENING

FURNISHINGS

GRASSLAND

FORMAL

SUBTLE PATTERN

UNIFORM MATERIAL

FLOWERING

WOODLAND

STRIKING PATTERN

WOOD LATTICE

WILDFLOWERS

GRASS PAVERS

ENGRAVED METAL

VEGETATED SCREEN

METAL FENCE

CONCRETE

GROUP GATHERING

PARK BENCH

PICNIC TABLE

LINEAR SEATING

HYBRID NATURAL/ URBAN

LARGEST

FLOATING PIER

LARGE EVENT

NARROW RAMP

NEXT TO PARKING

CURRENT HIGH TIDE

CURRENT LOW TIDE

FUTURE HIGH TIDE

FUTURE CHURCH + PARKING

MUD FLATS

UPLAND NATIVE VEGETATION

LOW MARSH

HIGH MARSH

MUD FLATS

RIVERSIDE AVE.

WATERFRONT ACCESS

MUD FLATS

UPLAND

NATIVE VEGETATION

LOW MARSH

HIGH MARSH

MUD FLATS

RIVERSIDE AVE.

WATERFRONT PATH

MAIN ENTRY PATH

CONTACT GATHERING

CONTACT GATHERING

CONTACT GATHERING

CONTACT GATHERING

KA YAK PROXIMITY TO PARKING

TYPE

GATHERING

TIDAL MARSH

NATURE EXPLORATION

BIRDWATCHING

ABSORBING RUNOFF

FILTERING RUNOFF

WATERFRONT ACCESS

ECOLOGICAL ENHANCEMENT

WATER MANAGEMENT
RIVERFRONT PARK
CONCEPTUAL DESIGN

RIVERSIDE AVE.
BERGEN TURNPIKE
WASHINGTON AVE.

DESIGN IN PROGRESS
AND SUBJECT TO CHANGE.
DIAGRAM NOT TO SCALE.