THE RECONSTRUCTION OF THE COMPOSTING FACILITY AND CONSTRUCTION OF A WETLAND FOR THE LOWER EAST SIDE ECOLOGY CENTER IN EAST RIVER PARK

Located in East River Park
Borough of Manhattan

Schematic Design Review
April 18, 2017
W Architecture & Landscape Architecture
Parks Capital Design
Project ID: M144

Parks

GOALS

- Formalize current composting operations to adhere to requirements of the Department of Environmental Protection (DEP) for sewer discharge
- Construct a stormwater treatment garden that is capable of collecting and treating on-site stormwater
- Construct a separate treatment system capable of treating liquid waste (leachate) from composting operations
- Provide a space for better site integration, educational opportunity, and controlled pedestrian access
- Enhance the site with plantings, stormwater management, and spatial organization for efficient composting operations and management and a reduction in unwanted odors

TOTAL BUDGET:	**$ 2,100,000**	
	$ 1,000,000	Governor’s Office of Storm Recovery
	$ 1,000,000	CM Mendez (FY 15)
	$ 100,000	BP Brewer (FY 15)
CONSTRUCTION BUDGET:	**$ 1,615,000** (approximately)	
COMMUNITY OUTREACH:	Multiple City and State Agencies attended Kick-Off Meeting	
PROJECT SIZE:	1.1 acres (approximately)	

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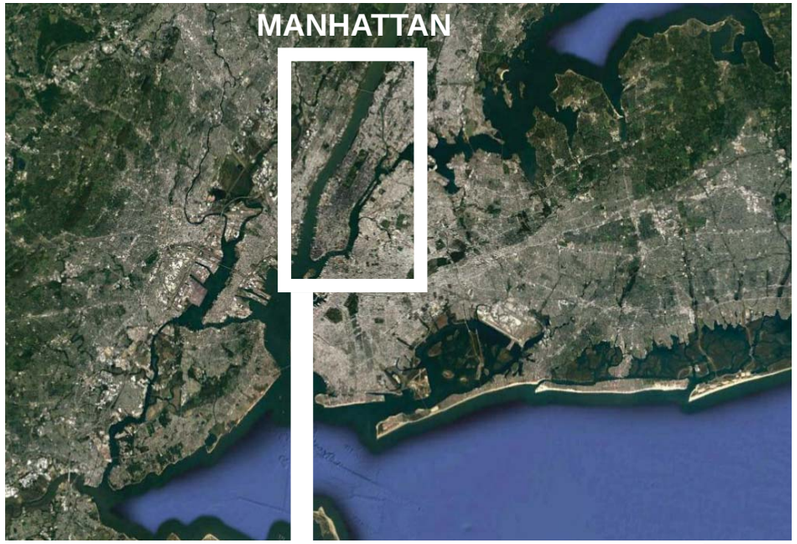
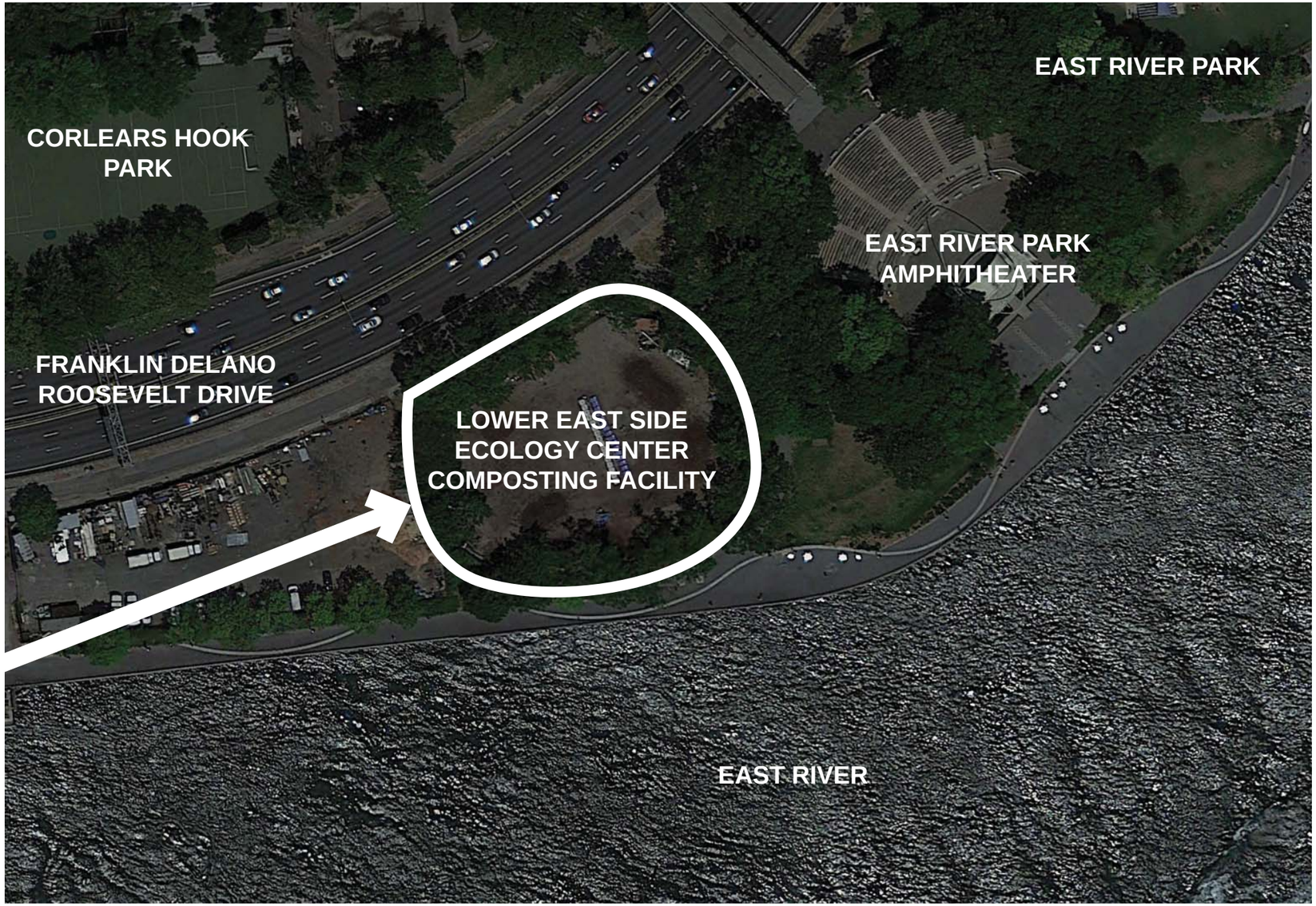


CITY

2 MI

NEIGHBORHOOD

1000’



SITE

200’

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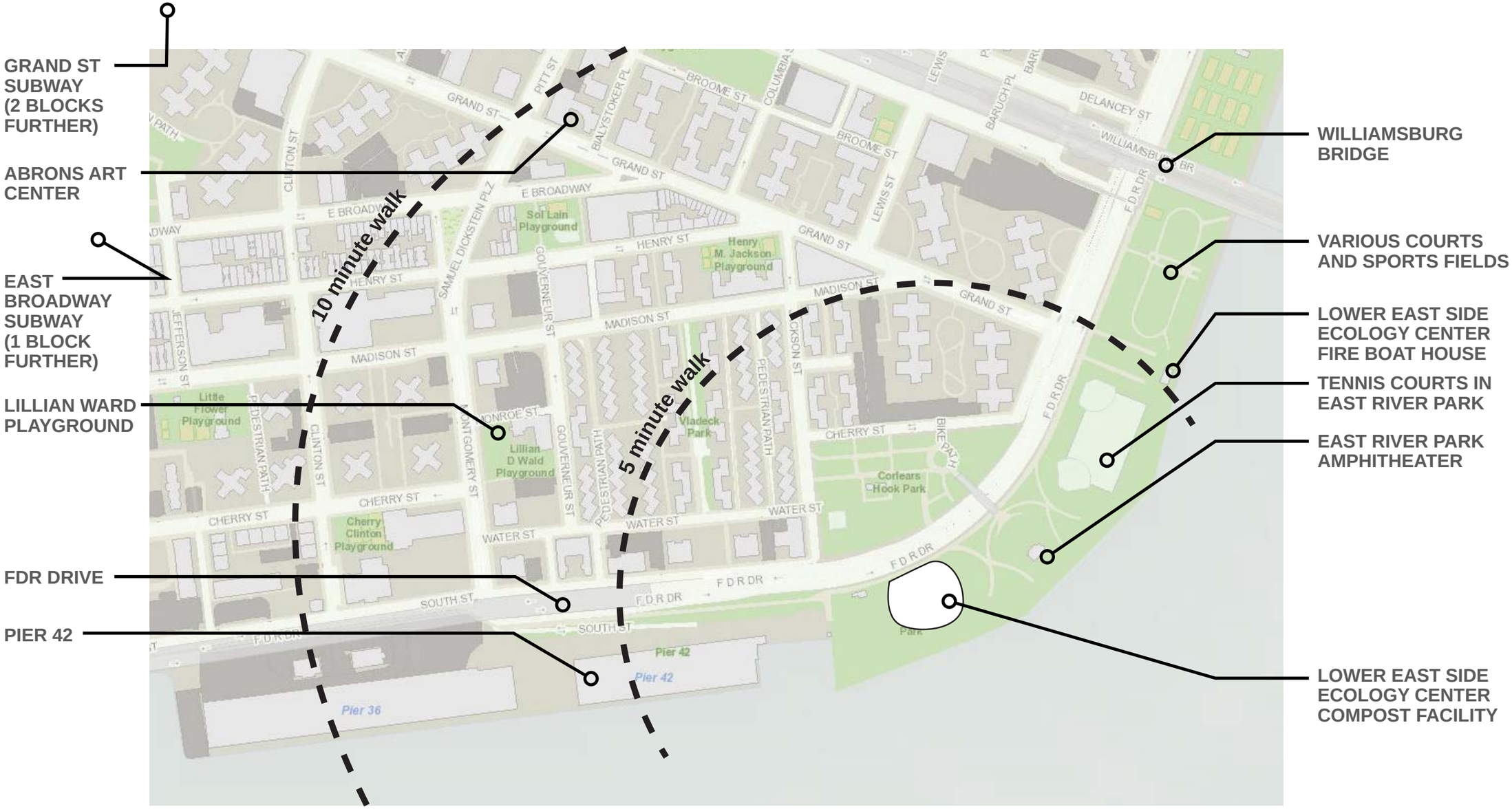
LOWER EAST SIDE ECOLOGY CENTER | PROJECT LOCATION



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LOWER EAST SIDE ECOLOGY CENTER | NEIGHBORHOOD FACILITIES

LAND USE CATEGORIES

- PARKS AND PUBLIC LANDS
- 1 AND 2 FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- MIXED USE
- OPEN SPACE
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- PARKING
- TRANSPORTATION / UTILITIES
- VACANT LOTS

- BASKETBALL / HANDBALL/ TENNIS COURTS
- BASEBALL/SOCCER/ FOOTBALL FIELDS

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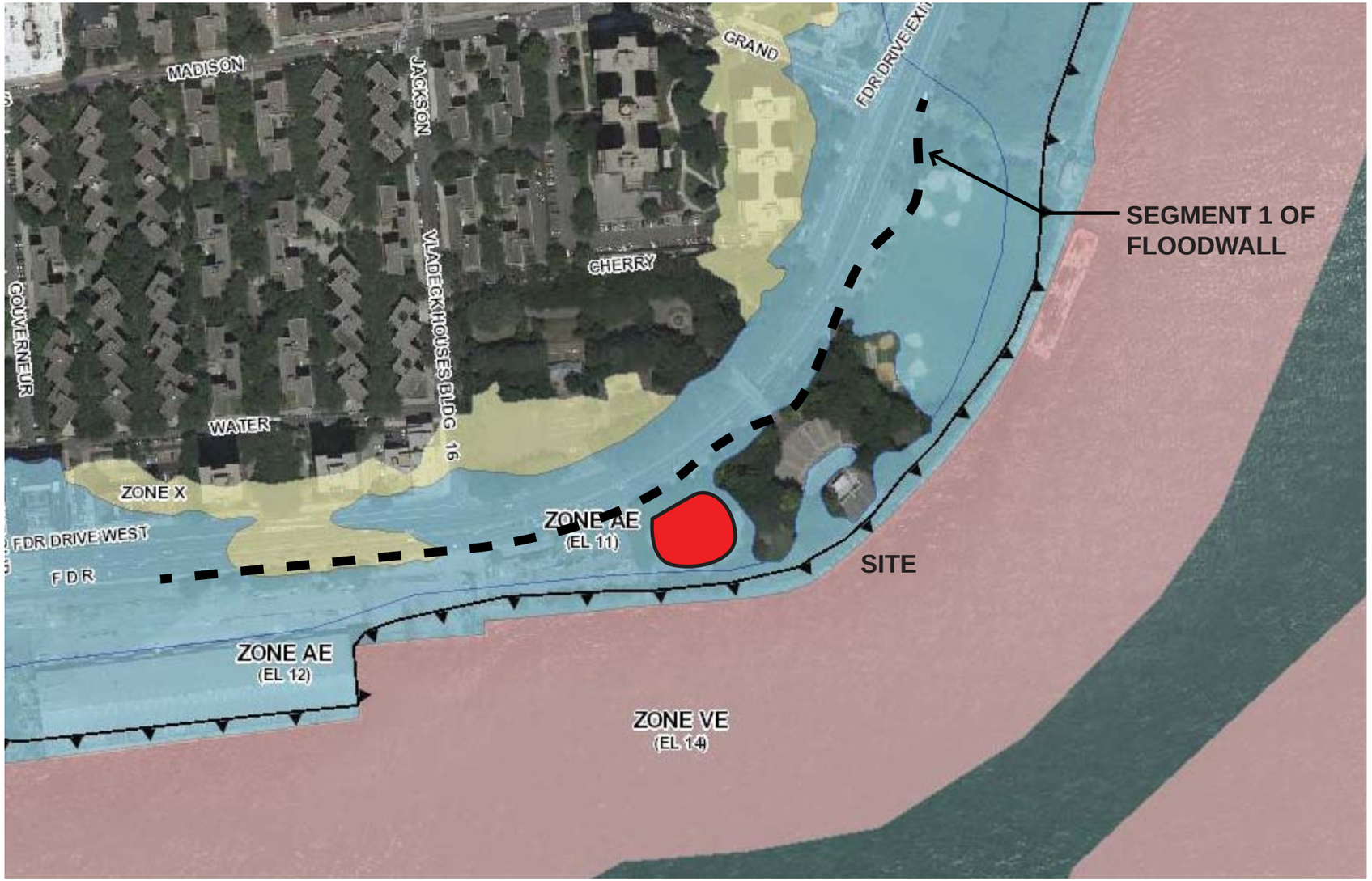
LOWER EAST SIDE ECOLOGY CENTER | LAND USE

N

0’ 200’ 400’



FLOOD HAZARD ZONES

ZONE A - 1% annual-chance flood event. No Base Flood Elevation (BFE) exists.

ZONE AE - 1% annual-chance flood event.

ZONE AO - 1% annual-chance shallow flooding.

VE - Areas along coasts subject to inundation by the 1% annual-chance flood event with additional hazards associated with storm-induced velocity wave action, BFE exists.

ZONE X - Moderate risk areas within the 0.2% annual-chance floodplain.

LIMIT OF MODERATE WAVE ACTION

Segment 1 of the flood wall (East Side Coastal Resiliency or ESCR) will be either a hard flood wall or an earthen berm that reaches a minimum of elevation 16.5’ above mean high water. Location of ESCR wall is not final.

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LOWER EAST SIDE ECOLOGY CENTER | FLOOD RISK

N

0’ 300’ 600’

LOWER EAST SIDE ECOLOGY CENTER OFFICES IN THE FORMER FIREBOAT HOUSE IN EAST RIVER PARK

THE LESEC USES THE SITE FOR COMPOSTING, EDUCATIONAL PROGRAMMING, AND GUIDED TOURS

Left: Since 1987, the Ecology Center has worked toward a more sustainable New York City by providing community-based recycling and composting programs, as well as youth development through environmental education programs. Their offices are currently located in the historic fire boat house.

Right: The Lower East Side Ecology Center takes in organic food waste from various green markets in New York City and processes it into compost for planting material in East River Park.

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LOWER EAST SIDE ECOLOGY CENTER | HISTORY AND MISSION

IN-VESSEL BINS RECEIVES DELIVERY OF ORGANIC FOOD (UP TO 18 BARRELS) AND IS MIXED WITH SAWDUST (2 WEEKS)

Quantities: About 8 tons of food scraps and 4 cubic yards (CY) of sawdust are received on a weekly basis (4 delivery days)

BROKEN DOWN COMPOST IS TRANSFERRED BY FORKLIFT TO ACTIVE COMPOSTING PILES

Quantities: 14 CY of material is put into active compost piles each week, creating 56 CY of material per pile over 4 weeks. Material actively composs for 3 months.

ACTIVE COMPOST IS TRANSFERRED BY FORKLIFT TO CURING COMPOST PILES FOR FINISHING (3 MONTHS TOTAL)

Quantities: 38 CY of material is moved to the curing compost piles every 3 months. Material cures for 1 month.

SCREENING / SOIL PREP IS FINAL STAGE OF FINISHED COMPOST

Quantities: 19 CY of finished / screened compost is produced every 4 months.

LIQUID LEACHATE FROM THE IN-VESSEL COMPOSTING BINS WILL BE DISCHARGED TO A LEACHATE TREATMENT CONTAINER IN ORDER TO RAISE pH AND REDUCE TOTAL SUSPENDED SOLIDS (TSS).*

Quantities: Peak flow of leachate is 20 gallons per day (GPD).

*Any industrial waste facility applying for a discharge permit is subject to review by DEP on a case-by-case basis if peak flow is less than 10,000 GPD.

A PORTION OF THE SITE WILL BE RESERVED TO COLLECT SITE RUNOFF AND COLLECT AND TREAT STORMWATER THROUGH PLANTINGS AND GREEN INFRASTRUCTURE (RAIN GARDEN CAPACITY TO EXCEED REQUIRED VOLUME OF RUNOFF FROM DRAINAGE AREA)

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APPENDIX | ORDER OF OPERATIONS

EAST SIDE COASTAL RESILIENCE PROJECT (DDC)

PIER 42 (DPR & EDC)

Left: The East Side Coastal Resilience (ESCR) Project's first phase will provide the area with coastal resilience infrastructure and park reconstruction between Montgomery Street and East 23rd Street. At the location of the composting facility, the ESCR project will be a flood wall between the FDR Drive and the site.*

Right: Pier 42 is a capital project that will provide a passive park to the area immediately west of the Lower East Side Ecology Center composting facilities.*

***The schedule for all of the coastal construction projects will be managed by the Governor's Office of Storm Recovery/**

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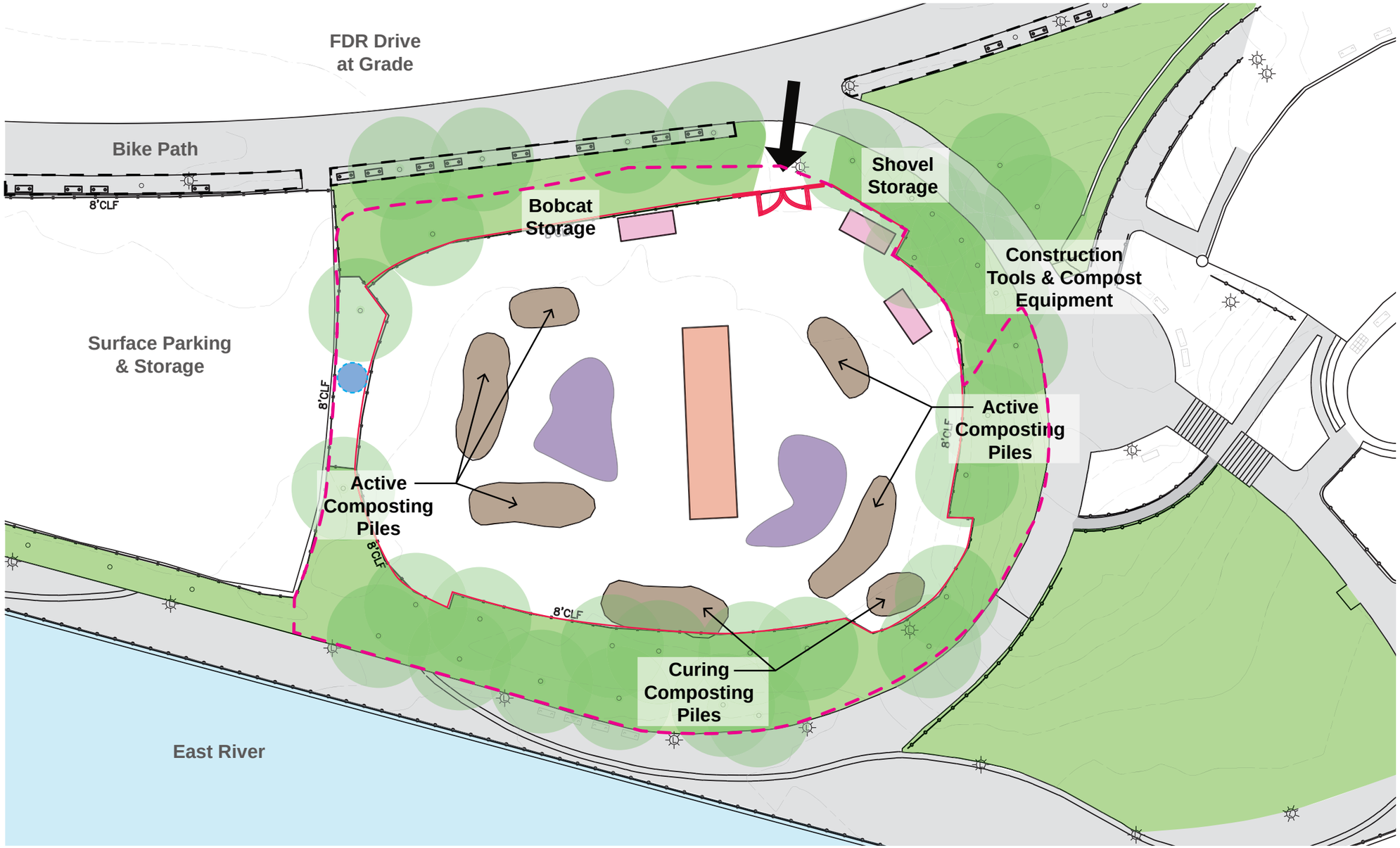
LOWER EAST SIDE ECOLOGY CENTER | SITE FUTURE



LEGEND

- PROJECT AREA
- CHAIN LINK FENCE (8' HIGH)
- TREE
- STORAGE CONTAINER
- IN-VESSEL CONTAINERS
- EXISTING LIGHT
- PEDESTRIAN PATH
- GRASS / PLANTED AREAS
- COMPOSTING PILES
- PERIODICALLY STANDING WATER
- WATER SOURCE
- PRIMARY ACCESS
- BENCHES
- EXISTING BENCH

0' 20' 40'

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LOWER EAST SIDE ECOLOGY CENTER | EXISTING CONDITIONS

1 - EXISTING COMPOSTING FACILITY

View from public walkway east of facility

2 -FOOD WASTE DELIVERED TO THE SITE IN BINS

Organic food waste is collected from green markets in Manhattan and deliverd in garbage bins

3 - FOOD WASTE COLLECTION BINS

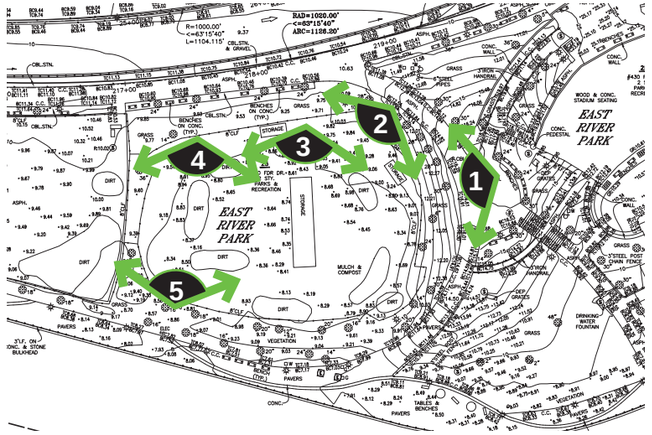
White and blue bins are filled with organic food waste and sawdust for initial breakdown

4 - COMPOST IN WINDROWS

After a few weeks in the compost bins, the compost is placed in existing compost piles called windrows

5 - FINISHED COMPOST PILES

Finished compost is stored on site and either used for planting or fertilizing purposed in East River Park or sold separately



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LOWER EAST SIDE ECOLOGY CENTER COMPOSTING FACILITY EXISTING CONDITIONS

1 - STANDING WATER

The site has remnant paving with improperly functioning drainage system resulting in two areas of standing water

2 - DISCHARGE OF LEACHATE

Liquid discharge from the food waste (leachate) is currently discharged into a city sewer

3 - DELIVERY TRUCK OPERATIONS

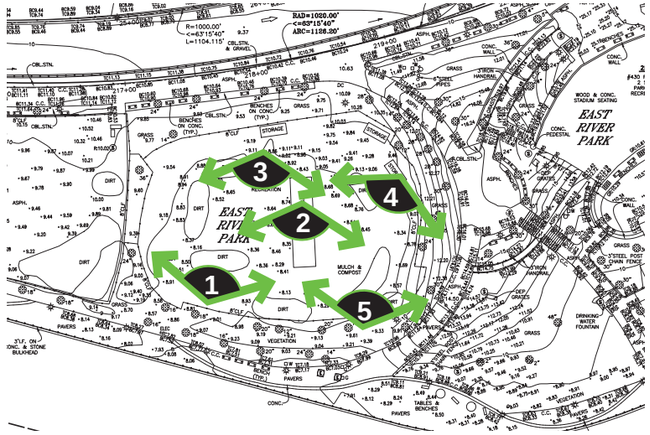
Delivery trucks access the site multiple times a week requiring ample space and hard surfaces for maneuvers

4 - OPERABLE SURFACE AREA

Due to standing water, much of the site is in accessible for composting operations, something the LESEC would like to expand

5 - AESTHETIC QUALITIES

Some community members are concerned with the visual and odorous qualities of the site



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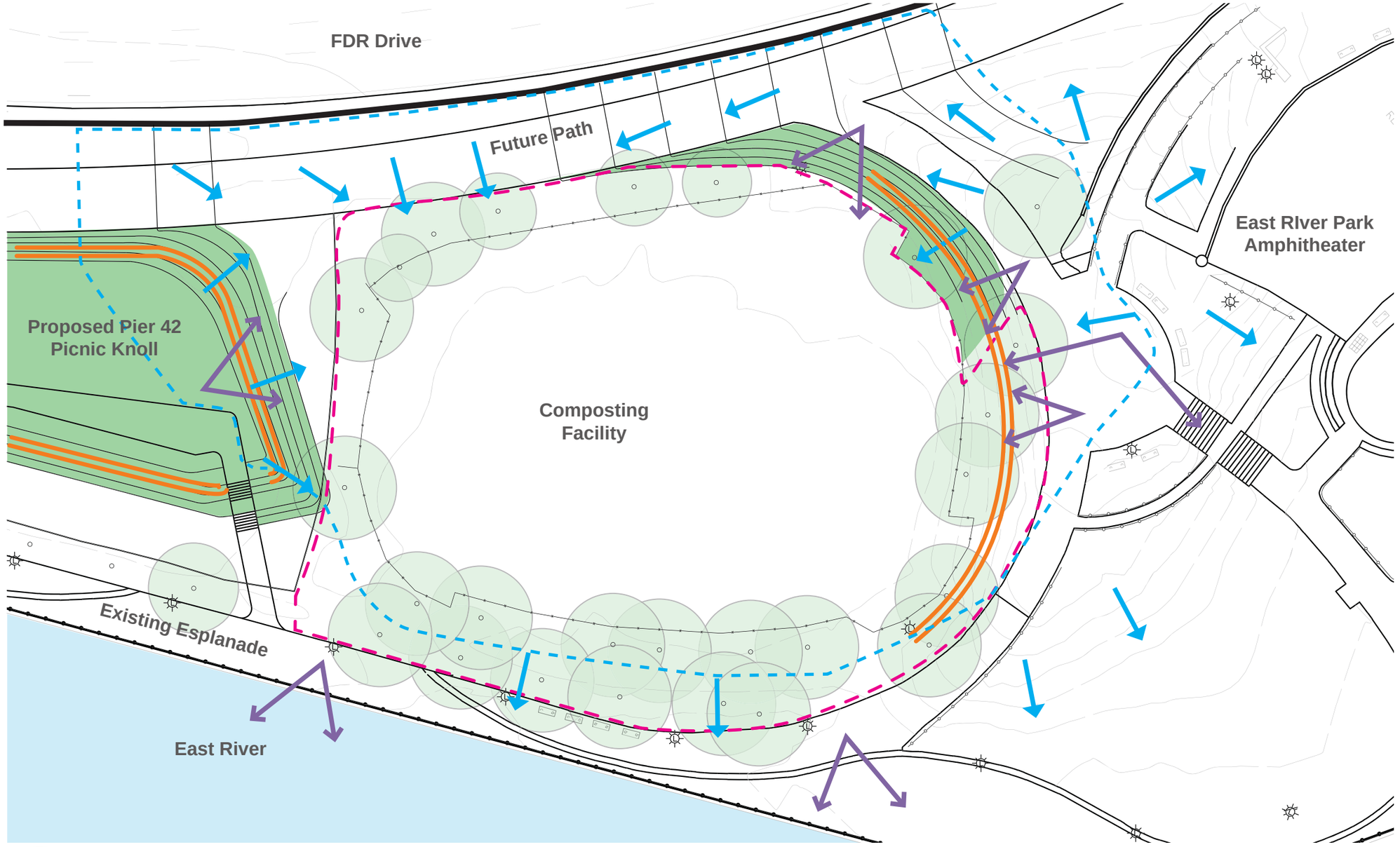
LESEC COMPOSTING FACILITY EXISTING CONDITIONS & DESIGN CONSIDERATIONS



LEGEND

- PROJECT AREA
- TREE
- PROPOSED STEEP GRADING
- STEEP SLOPE
- VIEWSHED
- RUNOFF
- RUNOFF CATCHMENT ZONE

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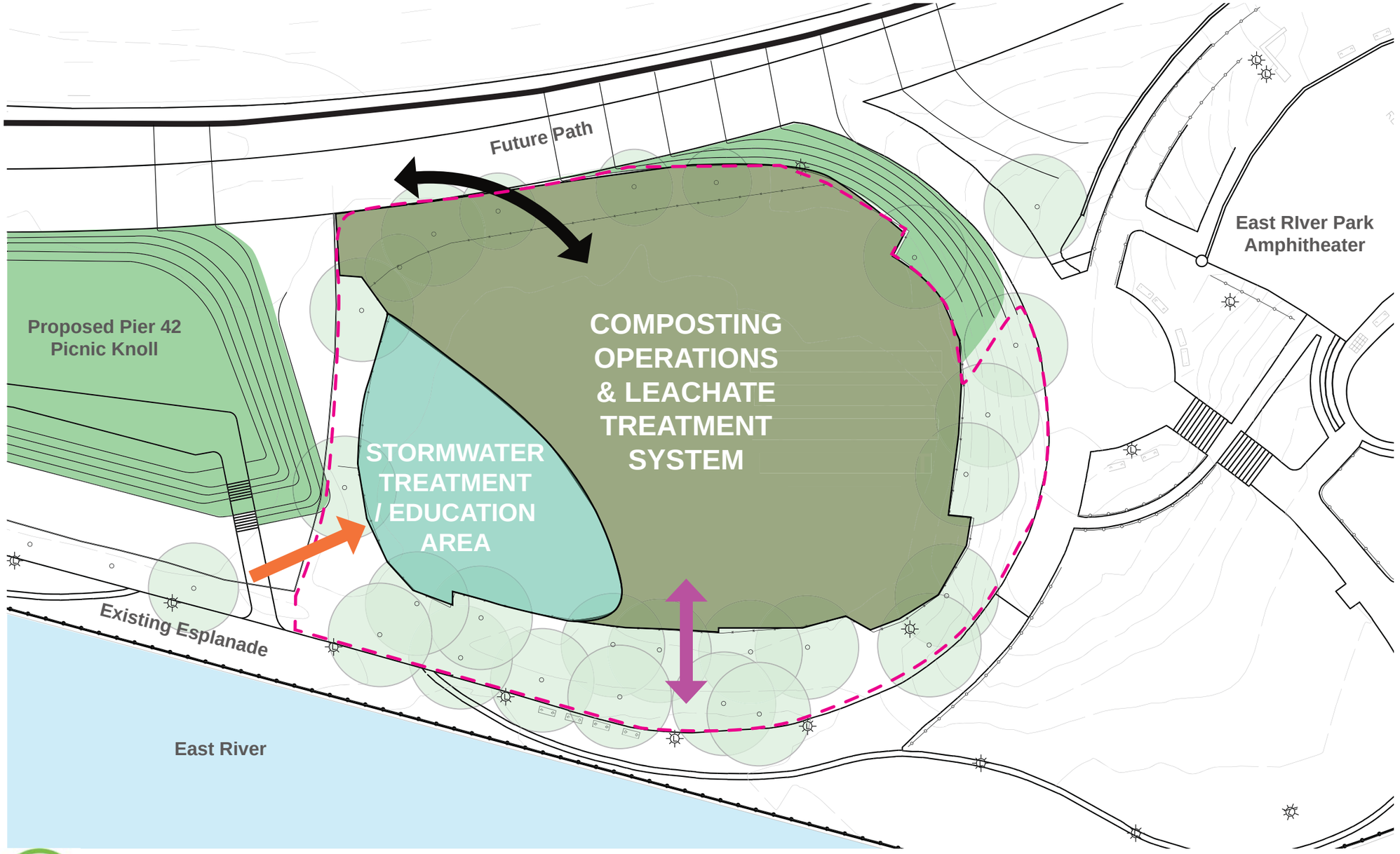
LOWER EAST SIDE ECOLOGY CENTER | FUTURE DRAINAGE WATERSHED & VIEWS

0’ 20’ 40’ N



LEGEND

- PROJECT AREA
- TREE
- EXISTING LIGHT
- PROPOSED STEEP GRADING
- COMPOSTING OPERATIONS
- COMPOST GARDEN
- PROPOSED TRUCK ENTRANCE
- CONTROLLED PED ENTRANCE
- PUBLIC ACCESSIBLE OVERLOOK

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LOWER EAST SIDE ECOLOGY CENTER | PROPOSED ZONING / PROGRAMMING

N

LEGEND

- PROJECT AREA
- PROPOSED TREE
- BIO SWALE
- BIO RETENTION
- PROPOSED PLANTED BUFFER
- STORAGE
- IN-VESSEL
- ACTIVE COMPOST IN CONCRETE BAYS
- CURING COMPOST IN CONCRETE BAYS
- SCREENING / SOIL PREP
- LEACHATE TREATMENT
- CONCRETE PAVEMENT
- PEDESTRIAN / STAFF ACCESS PATH
- GARDEN DECK
- EDUCATIONAL SIGNAGE
- 20’ BOX TRUCK
- FORK LIFT

0’ 20’ 40’ N

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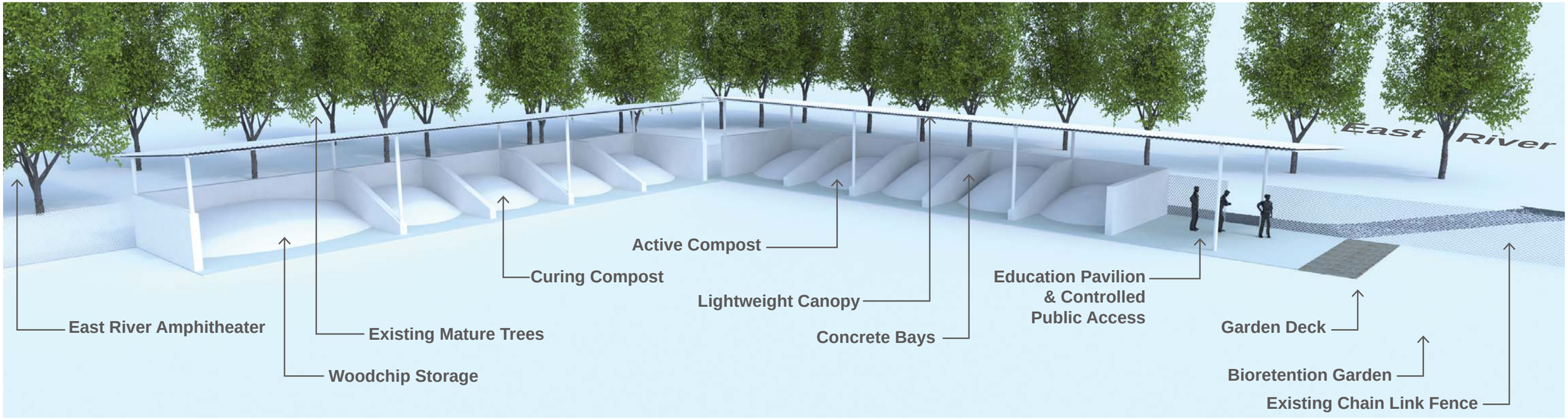
LOWER EAST SIDE ECOLOGY CENTER | SCHEMATIC DESIGN



PETERBOROUGH, ONTARIO | POSTS SET ON CONCRETE BLOCKS

BEACON, NY | CORRUGATED ROOF SET ON STEEL COLUMNS

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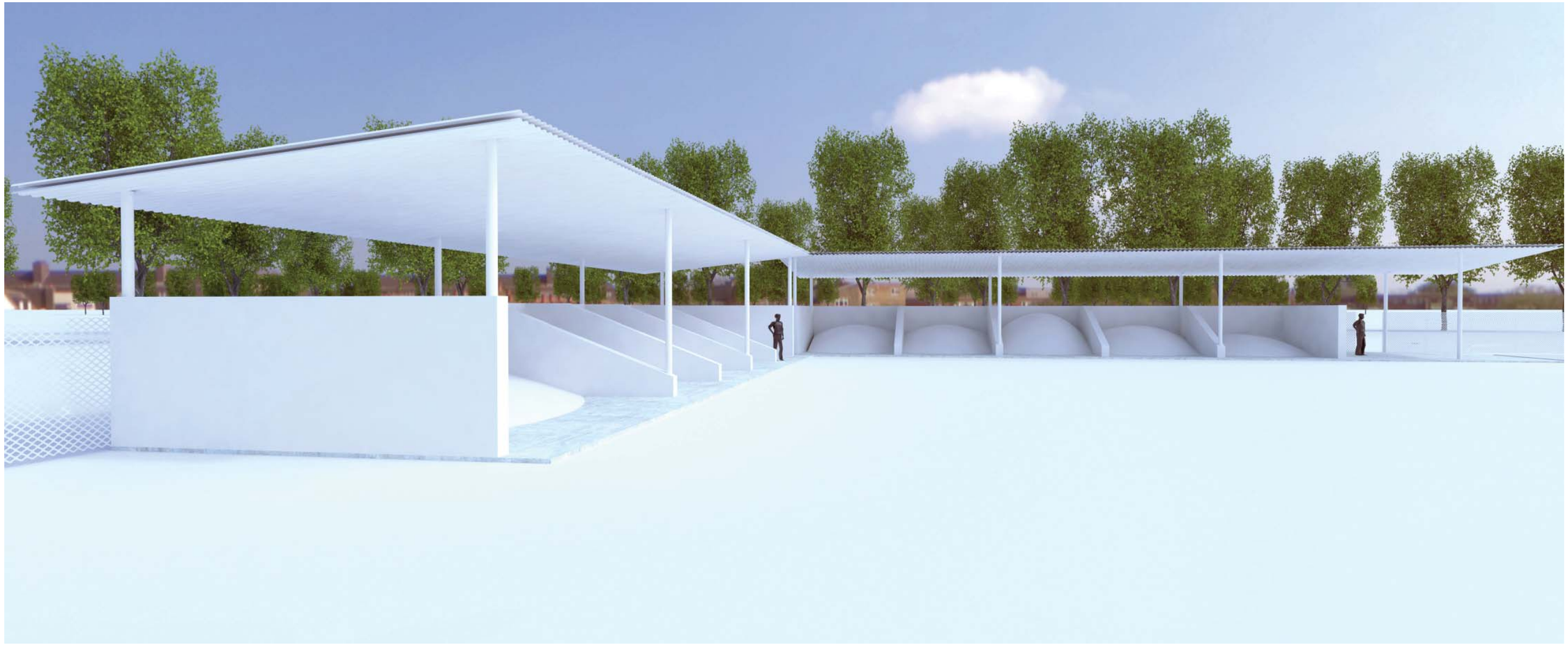
LOWER EAST SIDE ECOLOGY CENTER | PRECEDENT CANOPY



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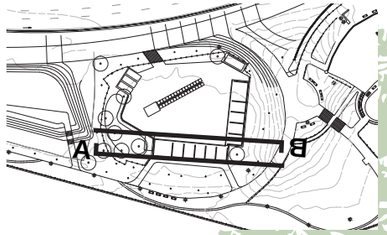
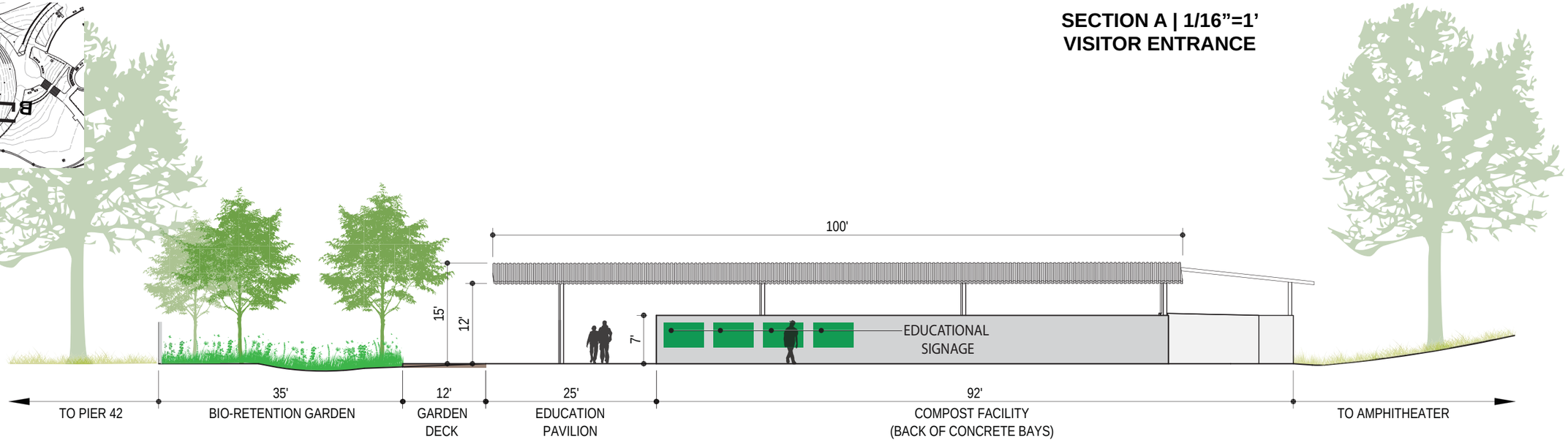
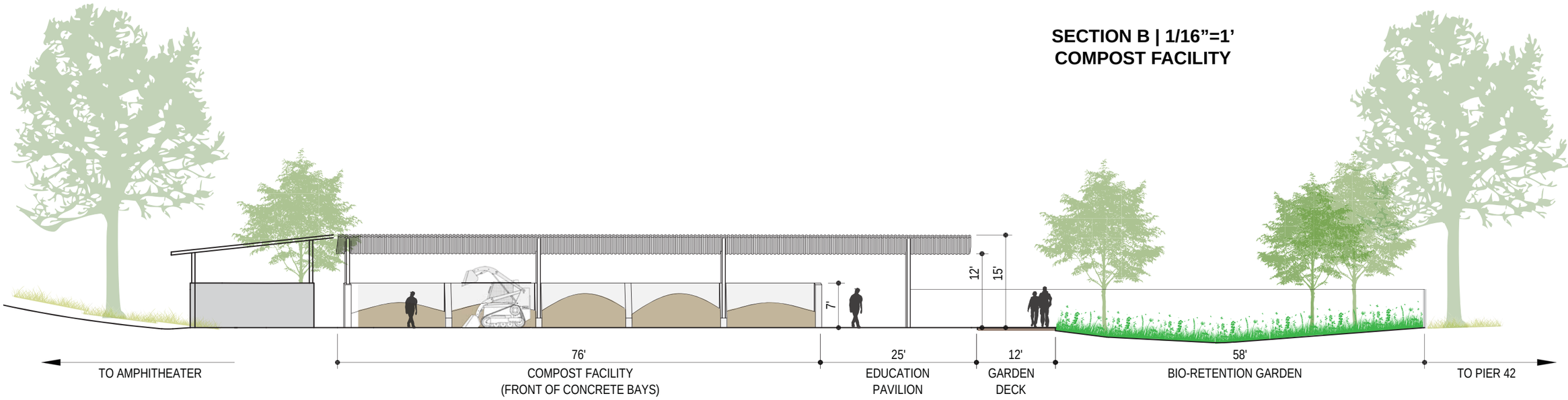
LOWER EAST SIDE ECOLOGY CENTER | PROPOSED RENDERING (FACING SOUTH)



SECTION A | 1/16”=1’
VISITOR ENTRANCE



SECTION B | 1/16”=1’
COMPOST FACILITY



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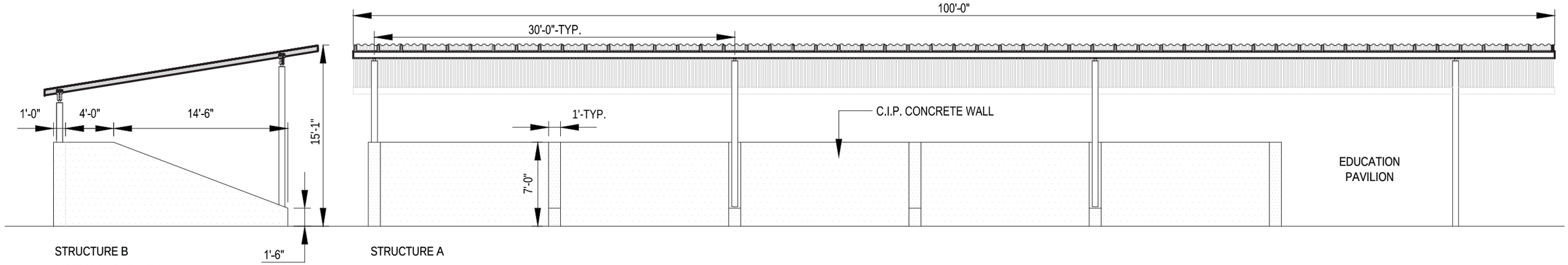
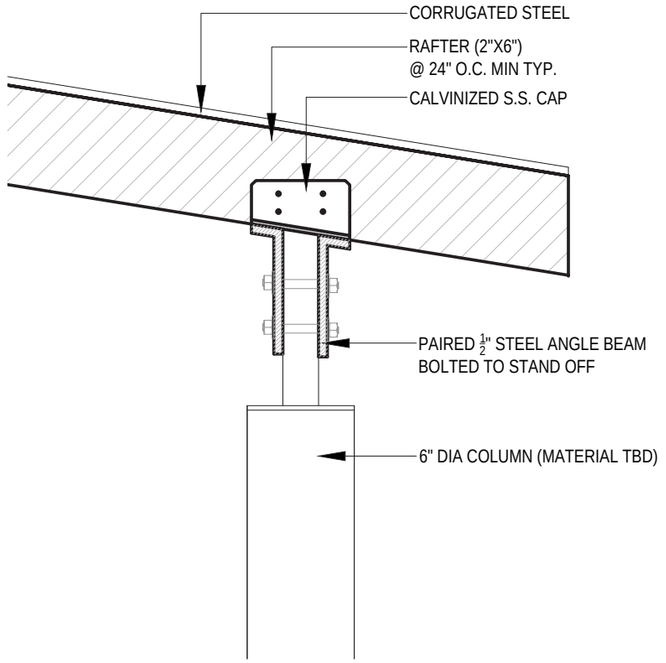
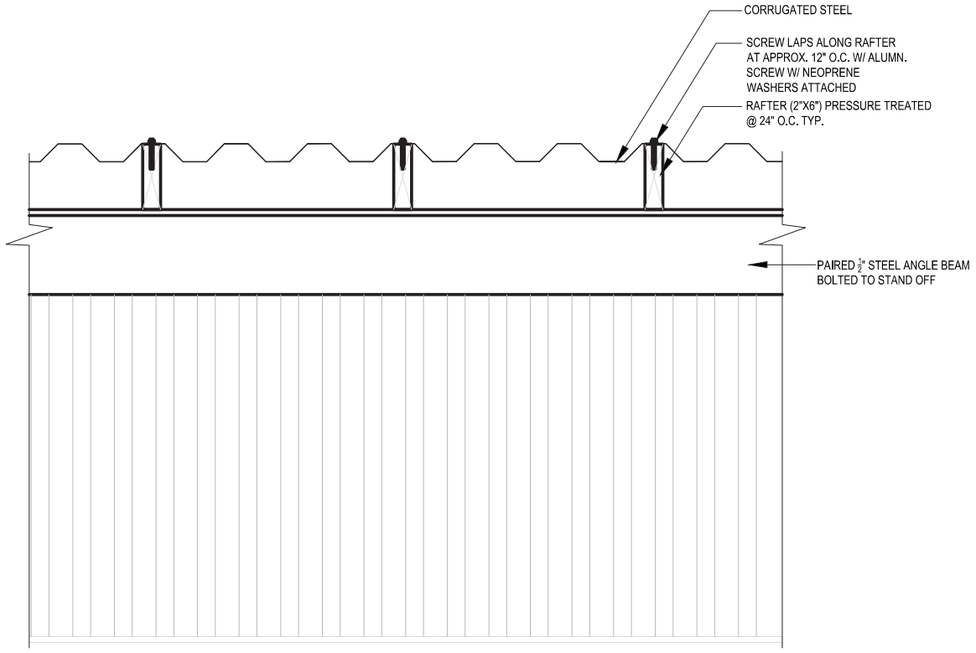
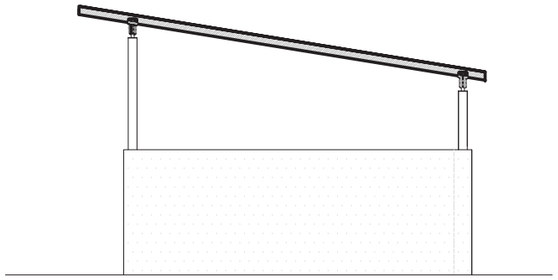
LOWER EAST SIDE ECOLOGY CENTER | PROPOSED EAST / WEST ELEVATIONS

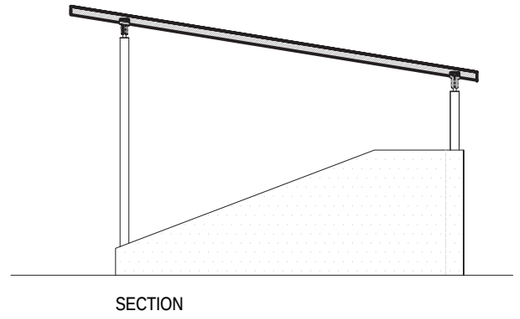
0’ 8’ 16’











01 CONNECTION DETAIL
SCALE 1' 1/2" = 1'-0"

02 CONNECTION DETAIL
SCALE 1' 1/2" = 1'-0"

LESEC STRUCTURE SECTION
SCALE 1/8" = 1'-0"

LOWER EAST SIDE ECOLOGY CENTER | COMPOST STRUCTURE ELEVATION & DETAILS

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MILLIKEN PARK WETLANDS, DETROIT, MI | WETLAND DEMONSTRATION GARDEN, 1 ACRE

BROOKLYN BOTANICAL GARDEN, BROOKLYN, NY | RIPARIAN AREA / WETLAND, 1.5 ACRES

BIOSWALE, CORNELL, NY | BIOSWALE GARDEN WITH 1 ACRE COLLECTION AREA

BROOKLYN BRIDGE PARK, BROOKLYN, NY | STORMWATER COLLECTION, 9 ACRES

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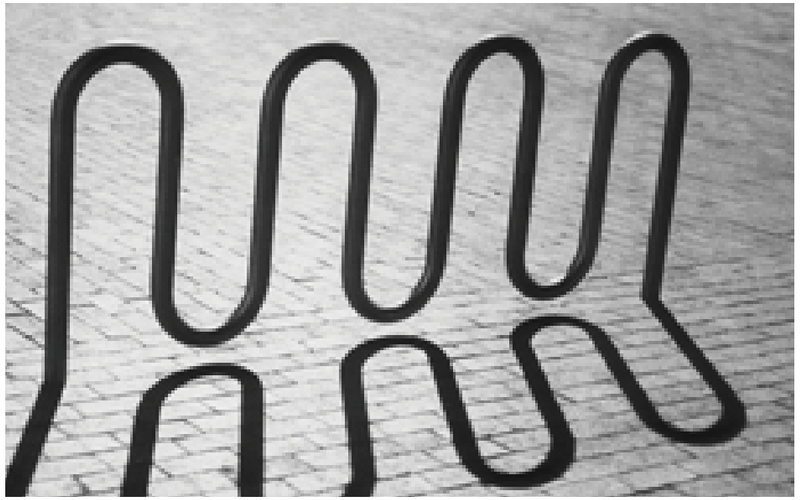
LOWER EAST SIDE ECOLOGY CENTER | BIOSWALE AND RETENTION POND PRECEDENTS

STONE FILTER BETWEEN RAIN GARDEN AND COMPOST FACILITY



BIKE RACK

6-8’ HEIGHT CHAIN LINK FENCE

RECYCLED PLASTIC LUMBER DECK

DRINKING FOUNTAIN

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LOWER EAST SIDE ECOLOGY CENTER | SITE MATERIALS

LEGEND

- PROJECT AREA
- PROPOSED TREE
- BIO SWALE
- BIO RETENTION
- PROPOSED PLANTED BUFFER
- STORAGE
- IN-VESSEL
- ACTIVE COMPOST IN CONCRETE BAYS
- CURING COMPOST IN CONCRETE BAYS
- SCREENING / SOIL PREP
- LEACHATE TREATMENT
- CONCRETE PAVEMENT
- PEDESTRIAN / STAFF ACCESS PATH
- GARDEN DECK
- EDUCATIONAL SIGNAGE
- 20’ BOX TRUCK
- FORK LIFT

0’ 20’ 40’ N

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LOWER EAST SIDE ECOLOGY CENTER | SCHEMATIC DESIGN

LEGEND

PROJECT AREA

BIOSWALE PLANTS

*Various Species

BIORETENTION PLANTS

*Various Species

UNDERSTORY PLANTS

*Various Species

MATERIALS

Stone Filter

RPL Overlook Deck

New Tree

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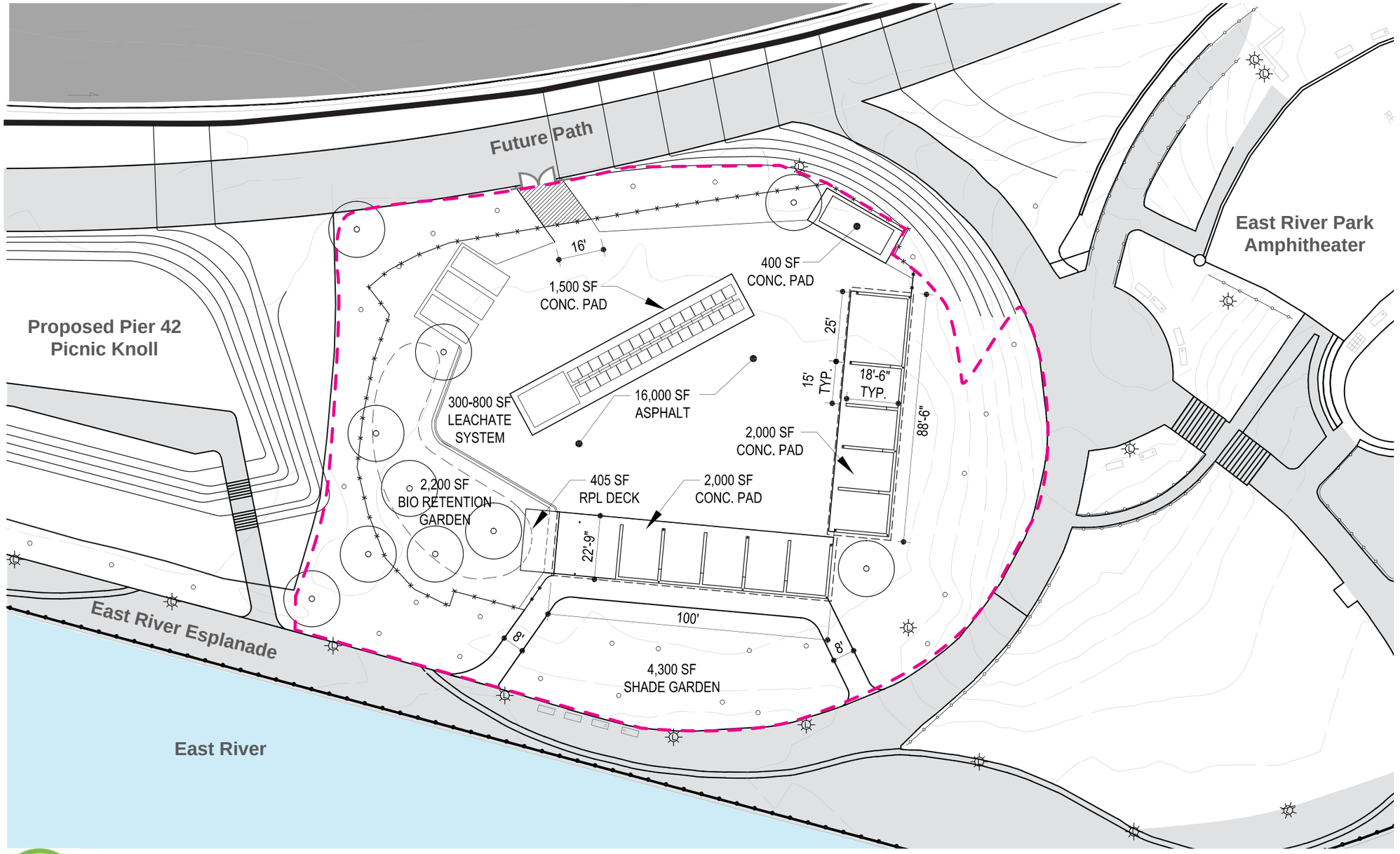
LOWER EAST SIDE ECOLOGY CENTER | IN-GROUND PLANTINGS

0’ 20’ 40’



LEGEND

- PROJECT AREA
- PROPOSED TREE
- BIO RETENTION
- IN-VESSEL
- CONCRETE BAYS
- CANOPY OVER CONCRETE BAYS
- LEACHATE TREATMENT

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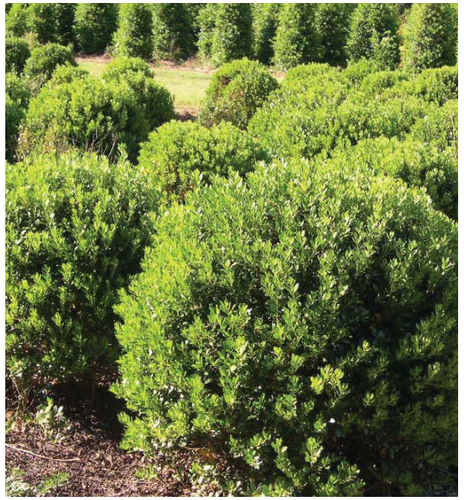
LOWER EAST SIDE ECOLOGY CENTER | SCHEMATIC DESIGN GENERAL DIMENSIONS

0’ 20’ 40’ N

MAGNOLIA VIRGINIANA /
Sweetbay Magnolia

GAYLUSSACIA BACCATA /
Black Huckleberry



ILEX GLABRA /
Inkberry

LINDERA BENZOIN /
Spicebush

HYDRANGEA QUERCIFOLIA /
Oakleaf Hydrangea

VIBURNUM DENTATUM /
Arrowwood Viburnum

ASCLEPIAS TUBEROSA /
Butterfly Weed

SOLIDAGO CANADENSIS /
Canadian Goldenrod

SOLIDAGO RUGOSA /
Wrinkleleaf Goldenrod

ONOCLEA SENSIBILIS /
Sensitive Fern

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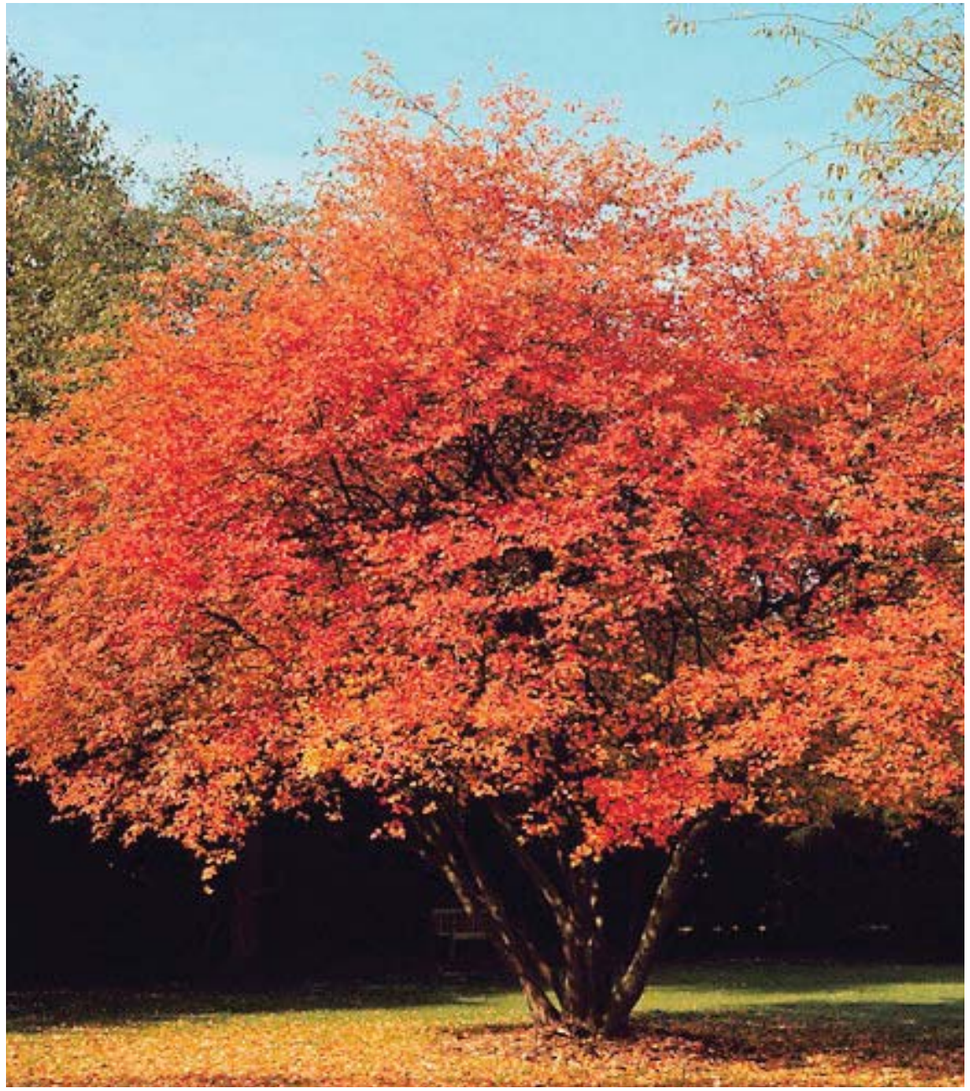
LOWER EAST SIDE ECOLOGY CENTER | PLANT MATERIALS | BIO SWALE PLANTS



AMELANCHIER ARBOREA /
Downy Serviceberry

AMELANCHIER LAEVIS /
Allegheny Serviceberry

CLETHRA ALNIFOLIA / Sweet
Pepperbush

CARPINUS CAROLINIANA /
American Hornbeam

ILEX GLABRA / Inkberry

NYSSA SYLVATICA /
Black Tupelo, Sourgum

ILEX VERTICILLATA /
Winterberry

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LOWER EAST SIDE ECOLOGY CENTER | PLANT MATERIALS | BIO RETENTION PLANTS

IRIS VERSICOLOR /
Large Blue Flag

LOBELIA CARDINALIS /
Cardinal Flower

ASCLEPIAS INCARNATA /
Swamp Milkweed

EUTROCHIUM DUBIUM / Joe
Pye Weed

ACORUS AMERICANUS /
Sweet Flag

PANICUM VIRGATUM /
Switchgrass

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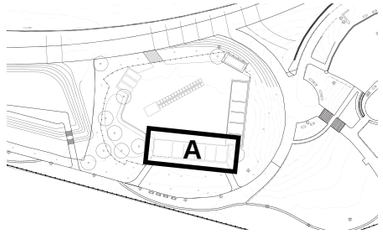
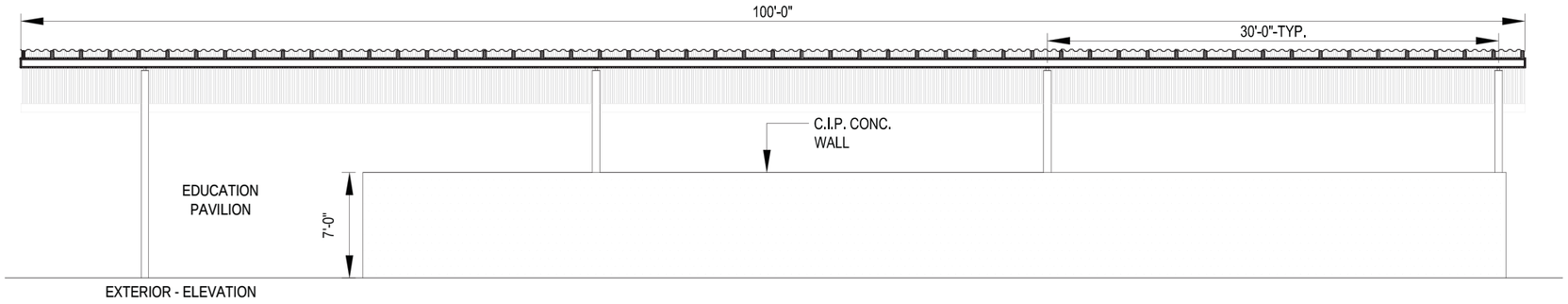
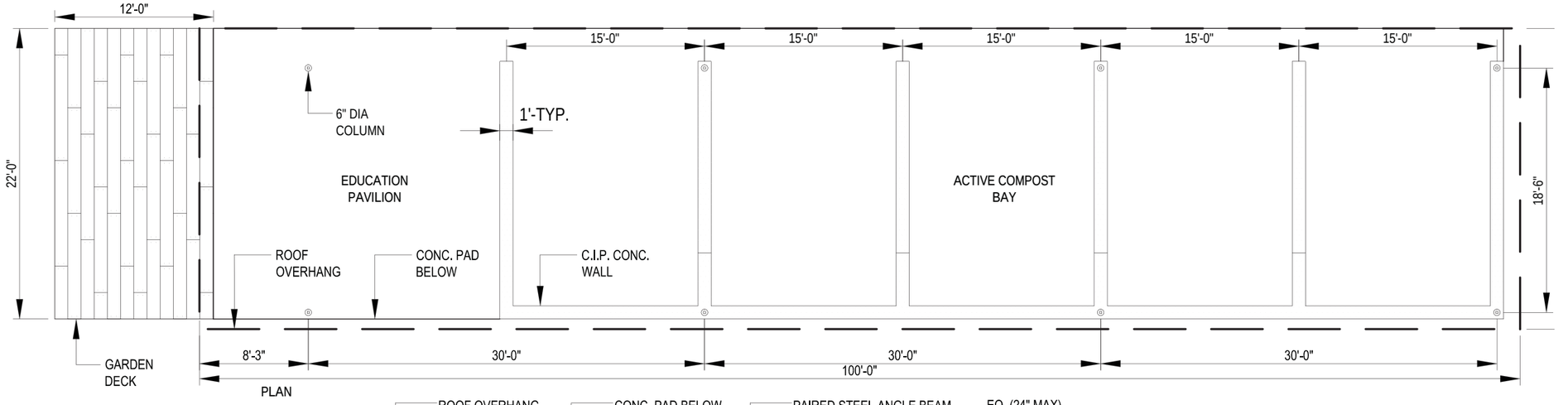
LOWER EAST SIDE ECOLOGY CENTER | PLANT MATERIALS | BIO RETENTION PLANTS

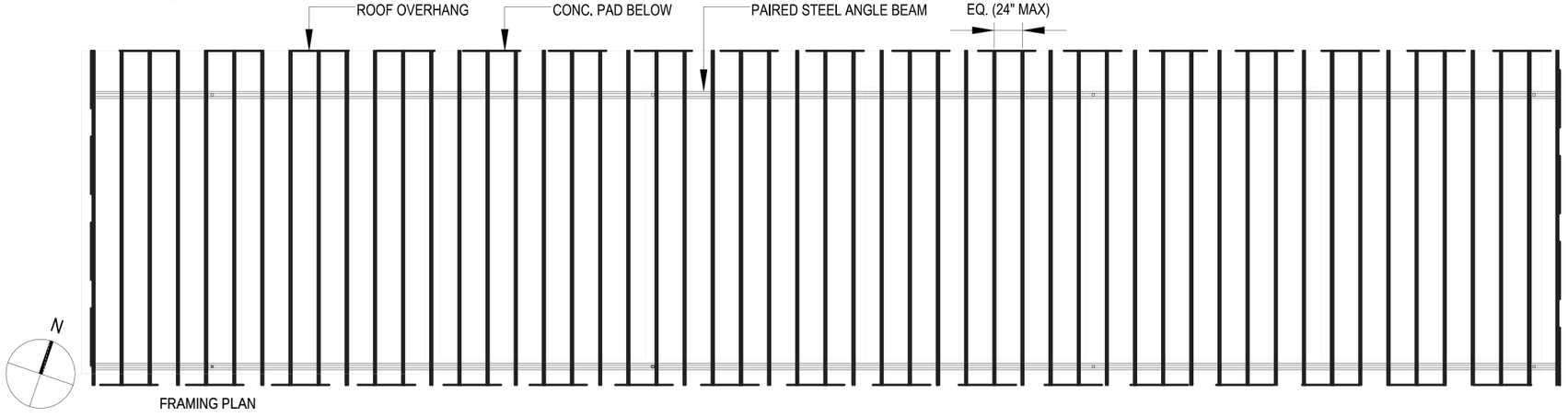




EXTERIOR - ELEVATION



PLAN



FRAMING PLAN

LESEC STRUCTURE 'A'

SCALE 1/8" = 1'-0"

LOWER EAST SIDE ECOLOGY CENTER | STRUCTURE A PLAN & ELEVATION

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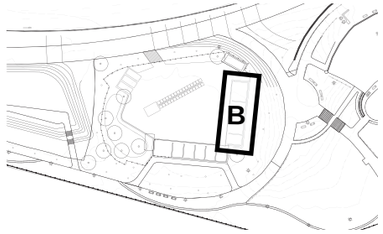
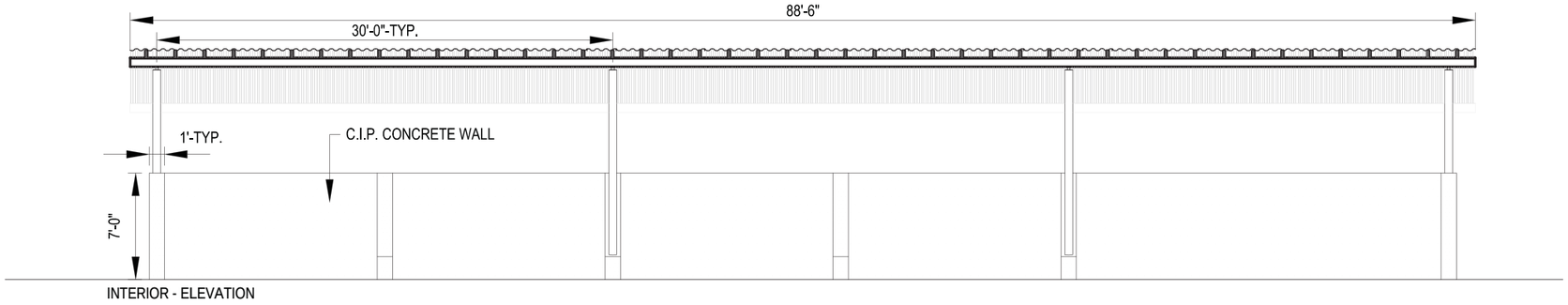
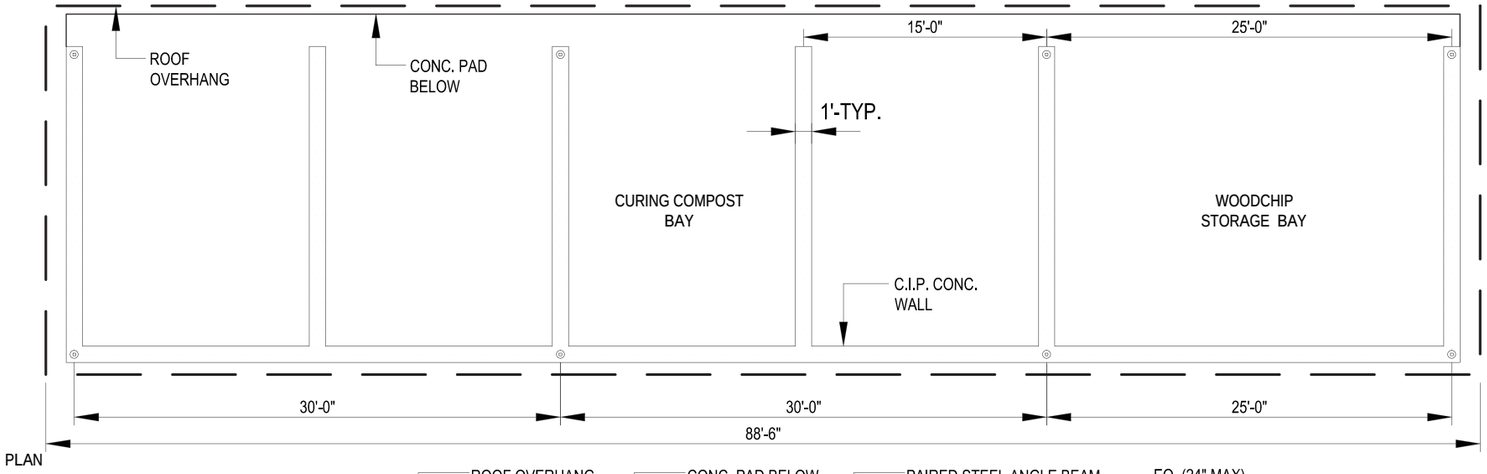
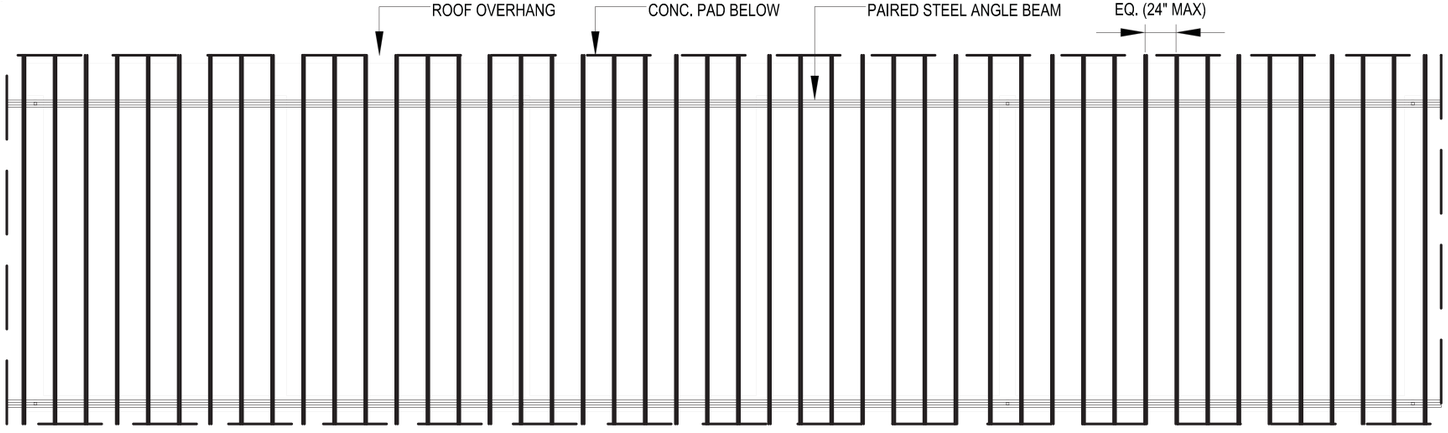




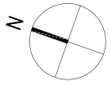
INTERIOR - ELEVATION



PLAN



FRAMING PLAN



LESEC STRUCTURE 'B'

SCALE 1/8" = 1'-0"

NYC Parks

LOWER EAST SIDE ECOLOGY CENTER | STRUCTURE B PLAN & ELEVATION