

SITE AERIAL
SCALE: N.T.S.

Contract Drawings For

Climate Adaptive Design (CAD) Studio Piermont Living Shoreline Project

Final 30% Conceptual Design Civil/Environmental

Project No.
000000010177415

Piermont, New York
July 2020

INDEX OF DRAWINGS

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THIS DOCUMENT WAS PREPARED FOR THE HUDSON RIVER ESTUARY PROGRAM, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, WITH SUPPORT FROM THE NEW YORK STATE ENVIRONMENTAL PROTECTION FUND, IN COOPERATION WITH NEIWPC. THE VIEWPOINTS EXPRESSED HERE DO NOT NECESSARILY REPRESENT THOSE OF NEIWPC OR NYS DEC, NOR DOES MENTION OF TRADE NAMES, COMMERCIAL PRODUCTS, OR CAUSES CONSTITUTE ENDORSEMENT OR RECOMMENDATION FOR USE.

THESE CONCEPT PLANS HAVE BEEN PREPARED USING THE INFORMATION AVAILABLE AT THE TIME OF THEIR PREPARATION. THE PROPOSED PLANS ARE CONSISTENT WITH ENGINEERING INDUSTRY STANDARDS, ADAPTED TO LOCAL CONDITIONS, AND MEETS THE PROJECT GOALS.



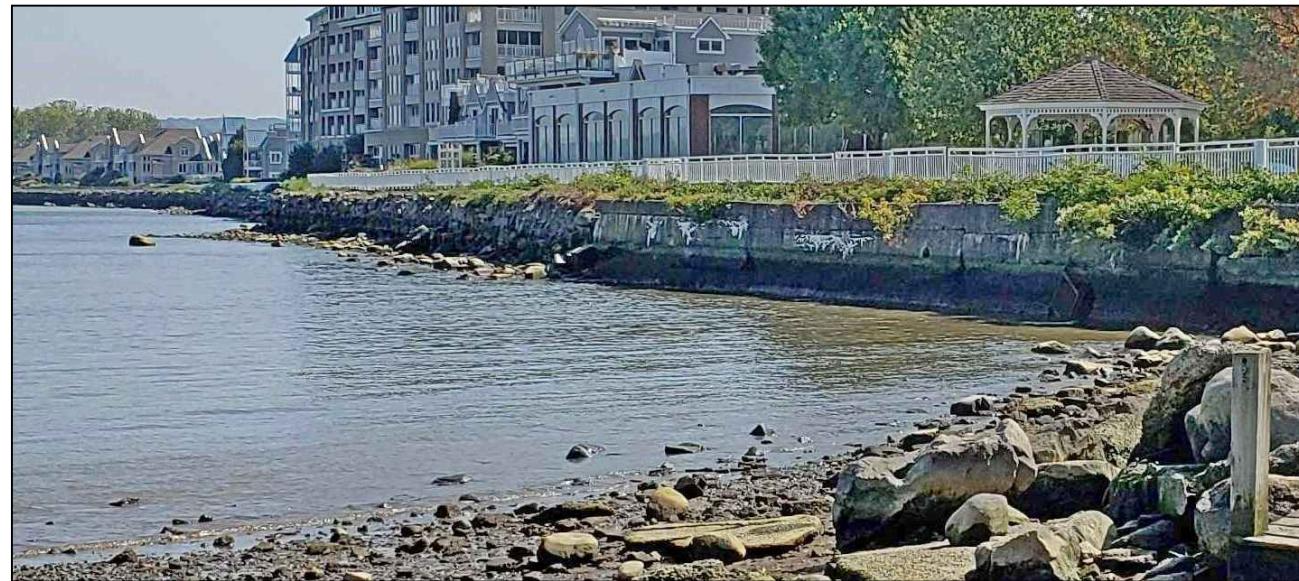
#1 - PARELLI PARK



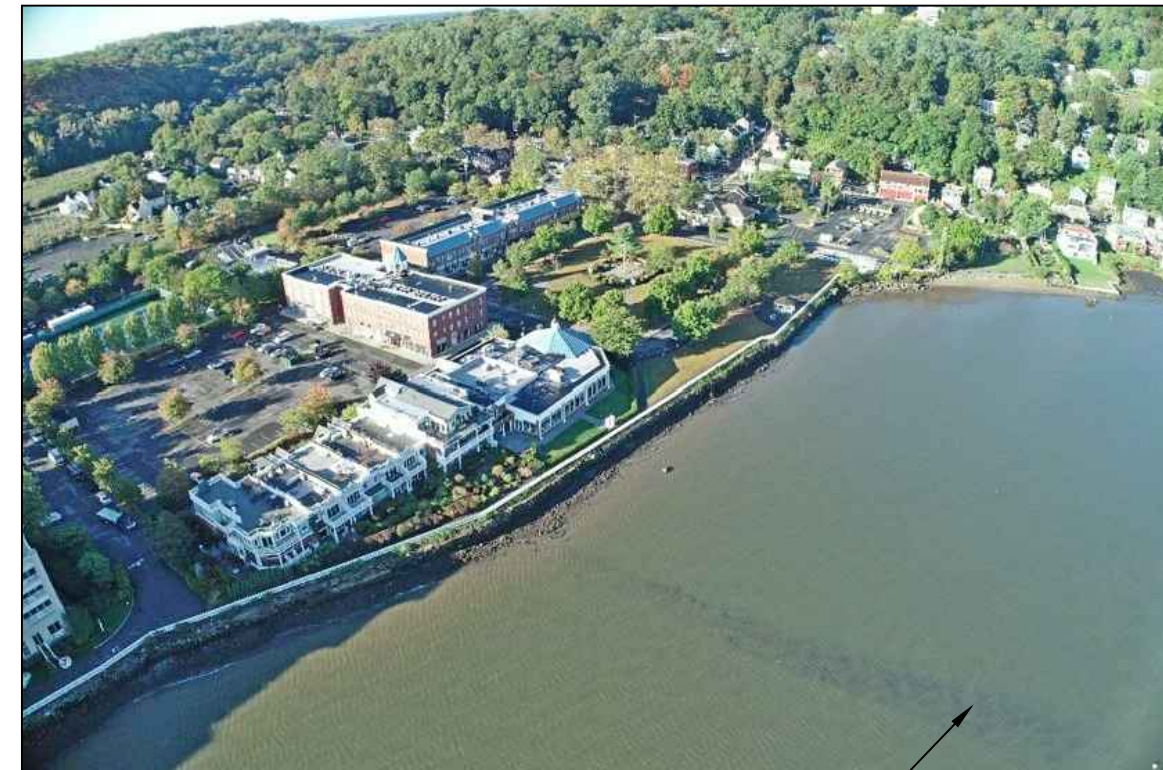
#2 - EXISTING BOARDWALK OVERLOOK AND BEACH ACCESS



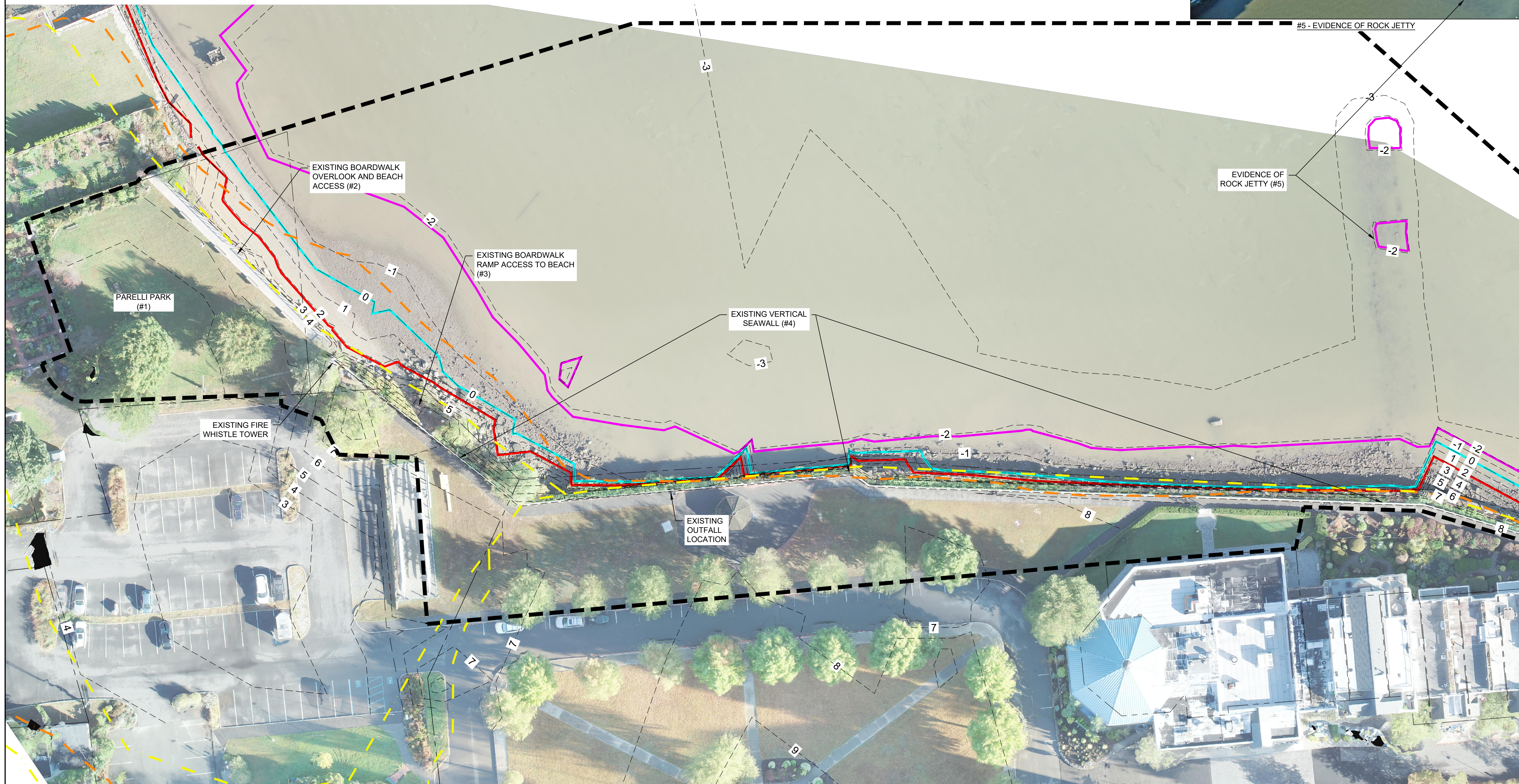
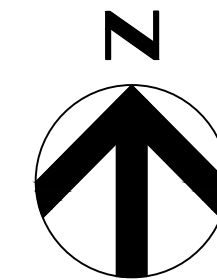
#3 - EXISTING BOARDWALK RAMP ACCESS TO BEACH



#4 - EXISTING VERTICAL SEAWALL



#5 - EVIDENCE OF ROCK JETTY

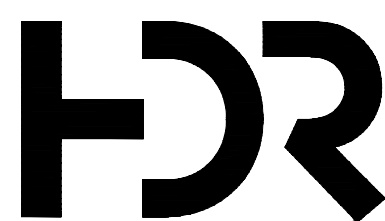


LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- FEMA HAZARD AREA
- TIDAL WETLAND REGULATORY LINE
- PUBLIC PARCEL
- STUDY AREA
- MEAN HIGH HIGH WATER LINE (MHHW)
- MEAN TIDE LEVEL (MTL)
- MEAN LOW LOW WATER LINE (MLLW)

NOTES:

- EXISTING CONTOURS DERIVED FROM HDR SITE ASSESSMENT COMPLETED ON 9/23/19, WITH ELEVATIONS RELATIVE TO NAVD88.
- AERIAL IMAGERY DERIVED FROM HDR UAV SURVEY COMPLETED ON 10/4/19.
- TIDAL DATUM ELEVATIONS (NAVD88) ESTIMATED BY HDR USING NOAA VDATUM TOOL ON 8/14/19.



ISSUE	DATE	DESCRIPTION
2	07-13-20	FINAL 30% CONCEPTUAL DESIGN
1	05-15-20	DRAFT FINAL FOR PERMITTING REVIEW
0	02-14-20	PRELIMINARY DRAFT FOR CLIENT REVIEW

PROJECT MANAGER	D. DAVIS
DESIGNER	K. VERWEIRE
DRAFTER	J. WYNOHRADNYK
REVIEWER	D. HEILMAN
PROJECT NUMBER	000000010177415

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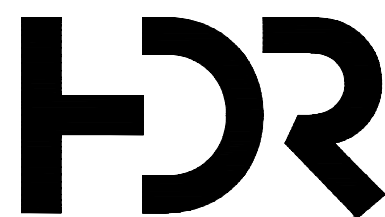
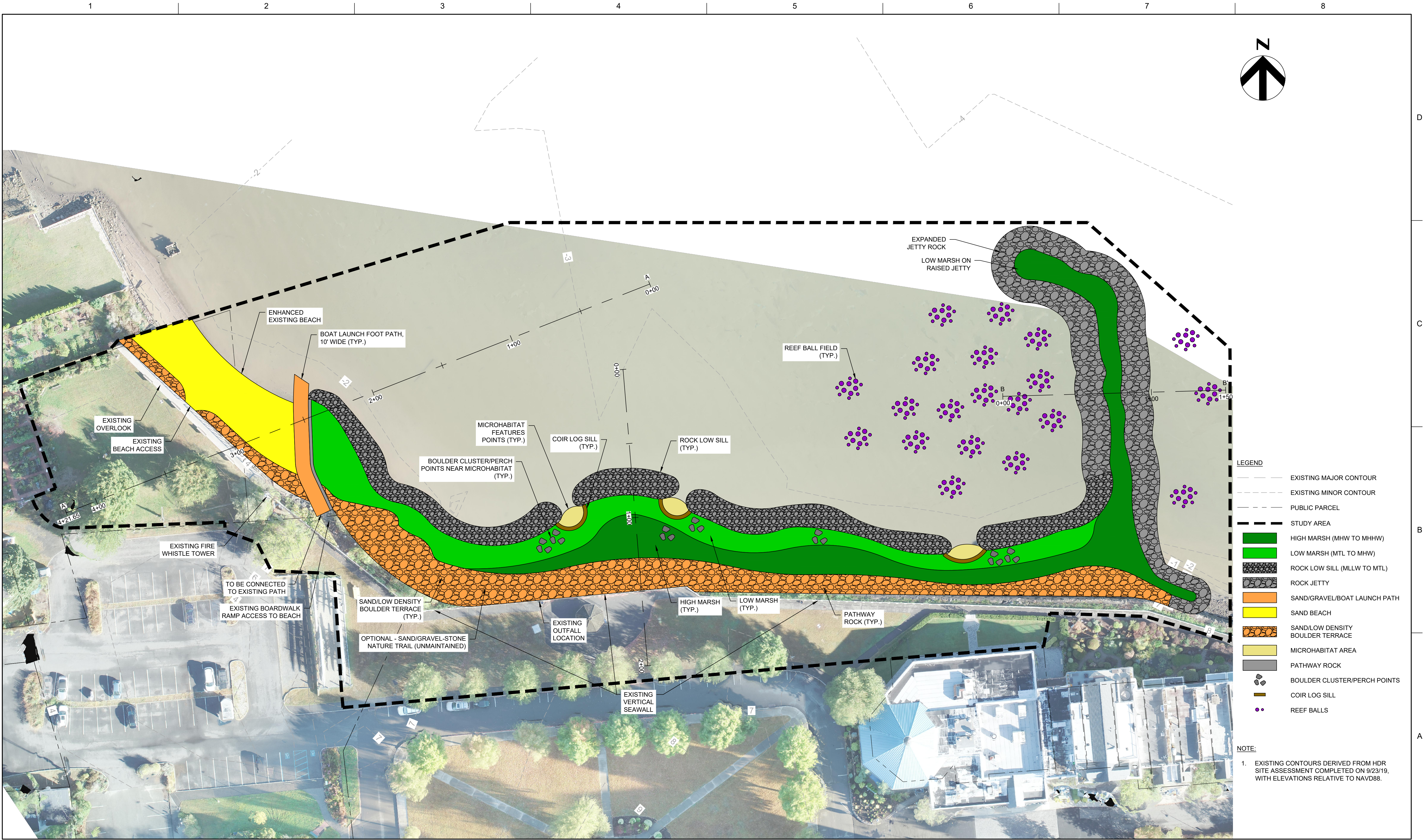
CLIMATE ADAPTIVE DESIGN (CAD) STUDIO
PIERMONT LIVING SHORELINE PROJECT
PIERMONT, NEW YORK

EXISTING CONDITIONS PLAN



FILENAME -
SCALE 1" = 30'

SHEET
V-101



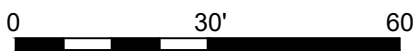
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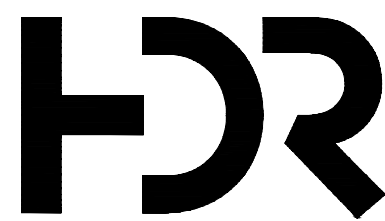
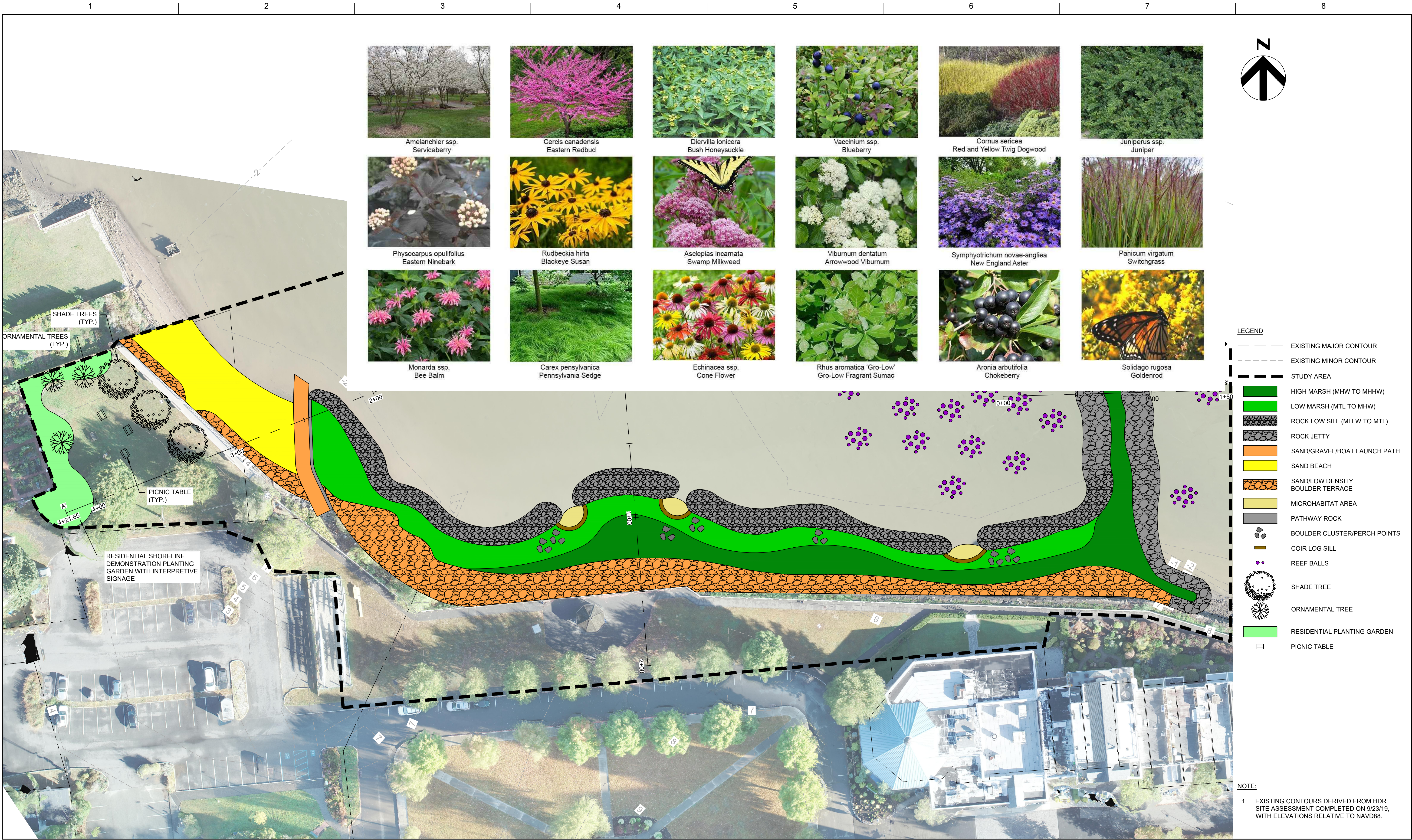
CLIMATE ADAPTIVE DESIGN (CAD) STUDIO
PIERMONT LIVING SHORELINE PROJECT
PIERMONT, NEW YORK

PROPOSED SITE PLAN



FILENAME -
SCALE 1" = 30'

SHEET
C-101



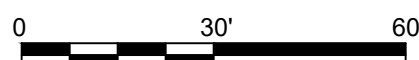
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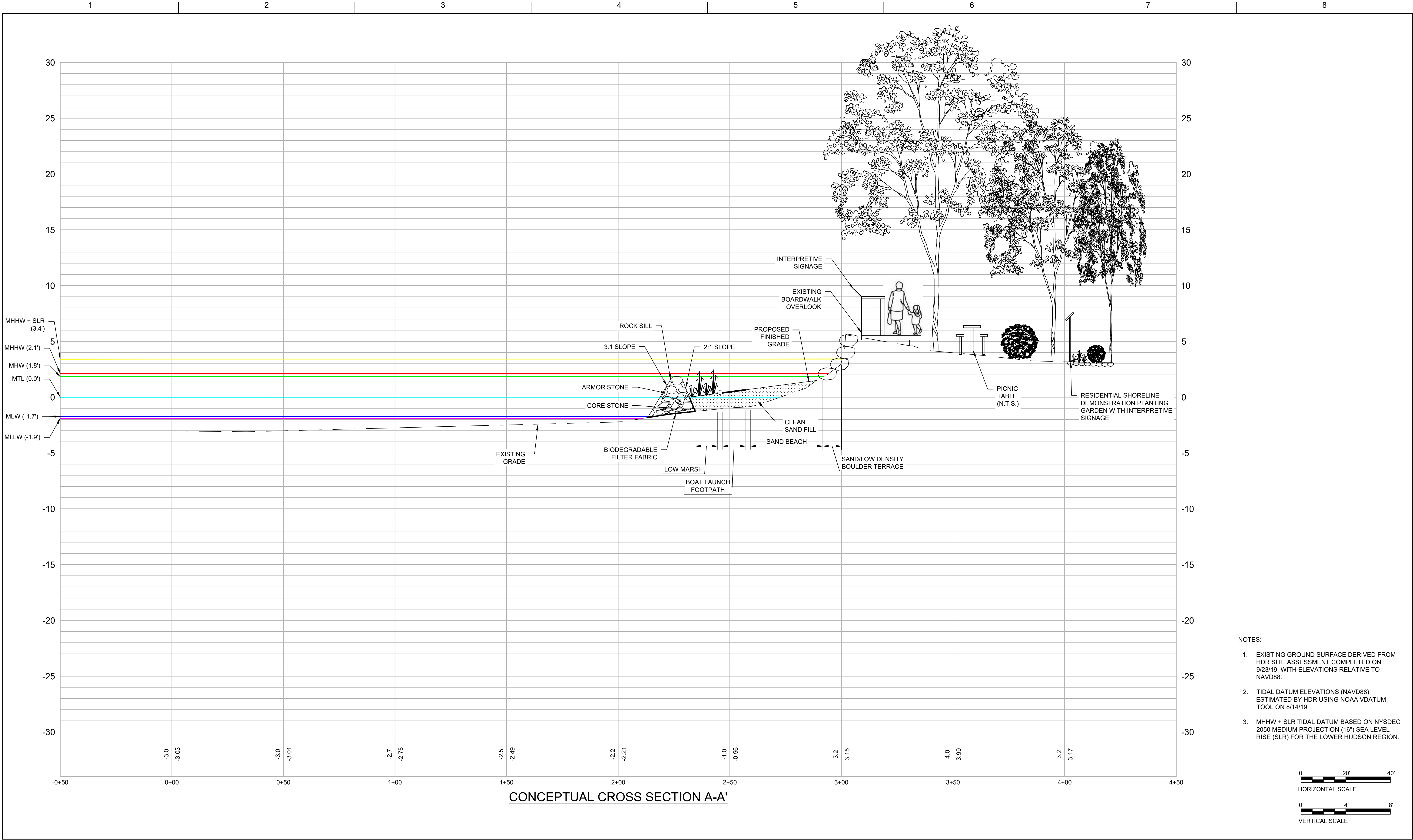
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PROPOSED LANDSCAPE PLAN



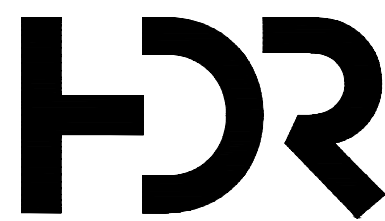
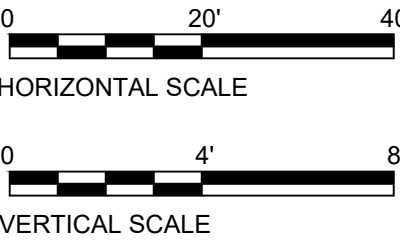
FILENAME -
SCALE 1" = 30'

SHEET
L-101



CONCEPTUAL CROSS SECTION A-A'

- NOTES:
- EXISTING GROUND SURFACE DERIVED FROM HDR SITE ASSESSMENT COMPLETED ON 9/23/19, WITH ELEVATIONS RELATIVE TO NAVD88.
 - TIDAL DATUM ELEVATIONS (NAVD88) ESTIMATED BY HDR USING NOAA VDATUM TOOL ON 8/14/19.
 - MHHW + SLR TIDAL DATUM BASED ON NYSDEC 2050 MEDIUM PROJECTION (16") SEA LEVEL RISE (SLR) FOR THE LOWER HUDSON REGION.



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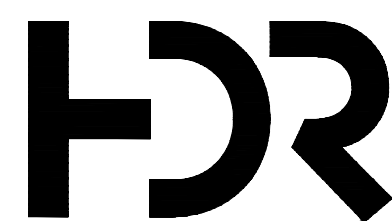
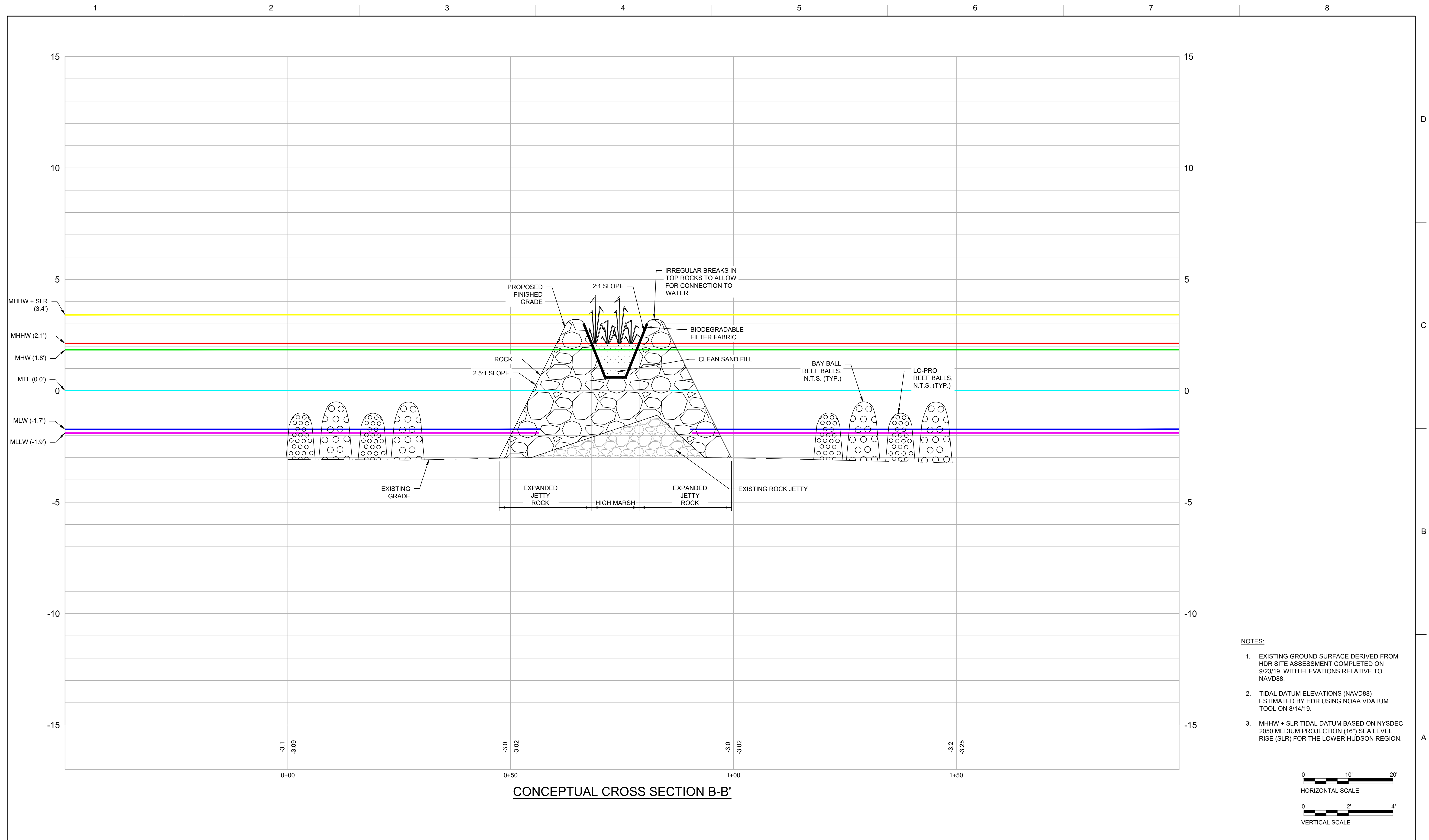
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CLIMATE ADAPTIVE DESIGN (CAD) STUDIO
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SECTIONS

FILENAME -
SCALE 1" = 20'

SHEET
C-301



2	07-13-20	FINAL 30% CONCEPTUAL DESIGN
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PIERMONT, NEW YORK**

SECTIONS

FILENAME	-
SCALE	1" = 10'

SHEET

C-302

Bay Ball Module

- 2' tall
- 3' feet base diameter
- surface area 40 sq ft
- average number of holes 14
- wavy bottom
- interconnecting holes
- aggregated exposed outside surface texture
- Weight 500 lbs
- Easy to deploy
- Great for shallow water
- Works well with docks

Source: Reef Innovations: <https://reefinnovations.com/products-specs/reef-balls/198-2>

Lo-Pro Reef Ball

- 1' 5" tall
- 2' diameter
- surface area 17 sq ft
- weight 200 lbs.
- average number of holes 12
- wavy bottom
- interconnecting holes
- fiber reinforced marine grade concrete
- pH is neutralized or adjusted to request
- aggregated exposed outside surface texture

Source: Reef Innovations: <https://reefinnovations.com/products-specs/reef-balls/lo-pro>



Source: NYSDEC. 2017. Tidal Wetlands Guidance Document. Living Shoreline Techniques in the Marine District of NYS.

1 BAY BALL MODULE

N.T.S.



Source: HDR site assessment photo, 9/23/19

4 PERCH BOULDER

N.T.S.



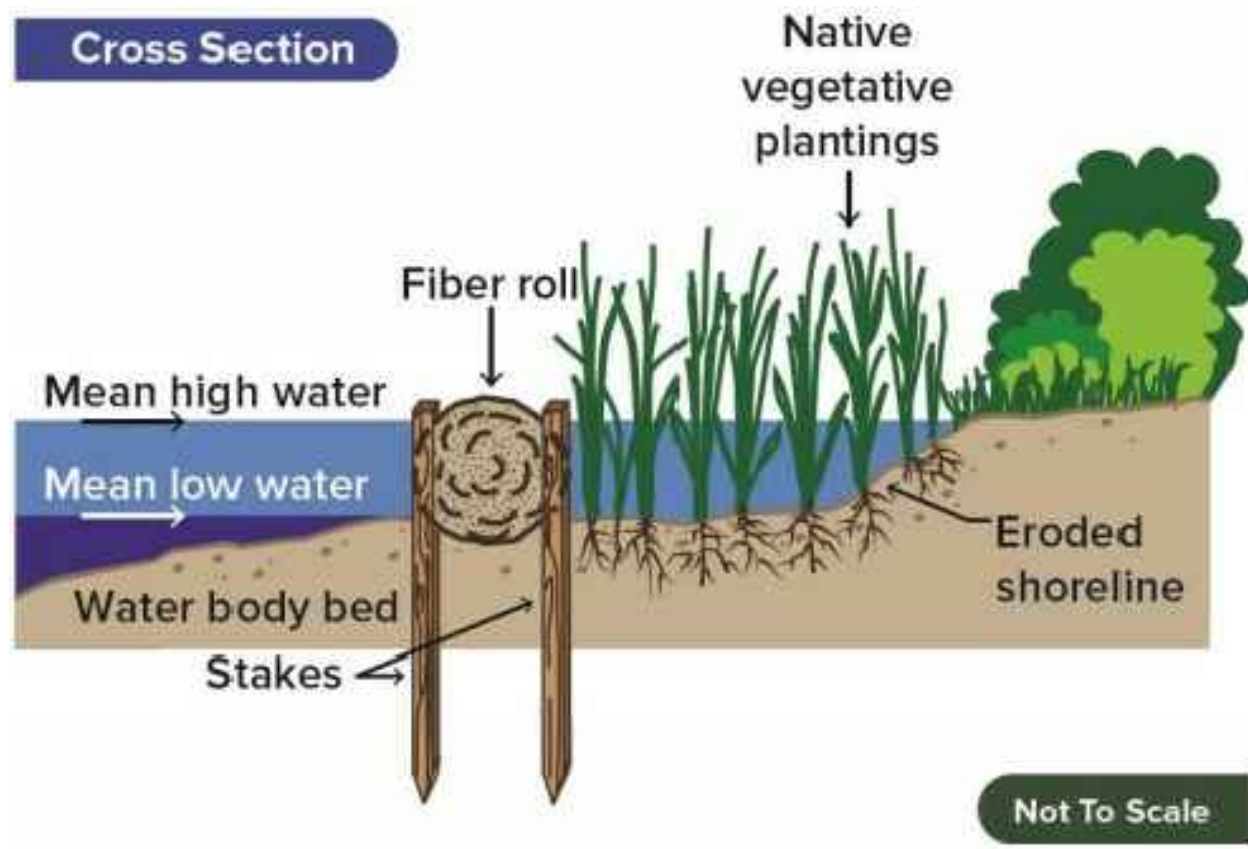
Source: VIMS. Sept. 2017. Living Shoreline Design Guidelines for Shore Protection in Virginia's Estuarine Environments.

7 LOW MARSH

N.T.S.

2 LO-PRO REEF BALL

N.T.S.



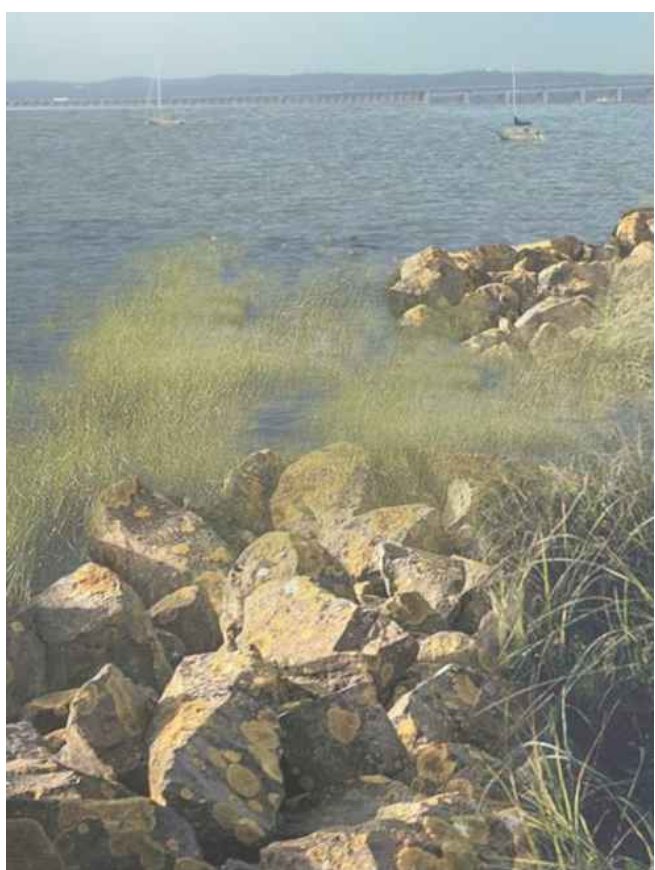
Source: NYSDEC. 2017. Tidal Wetlands Guidance Document. Living Shoreline Techniques in the Marine District of NYS.

5 COIR LOG

N.T.S.

3 ROCK SILL, MICROHABITAT FEATURE, AND LOW MARSH

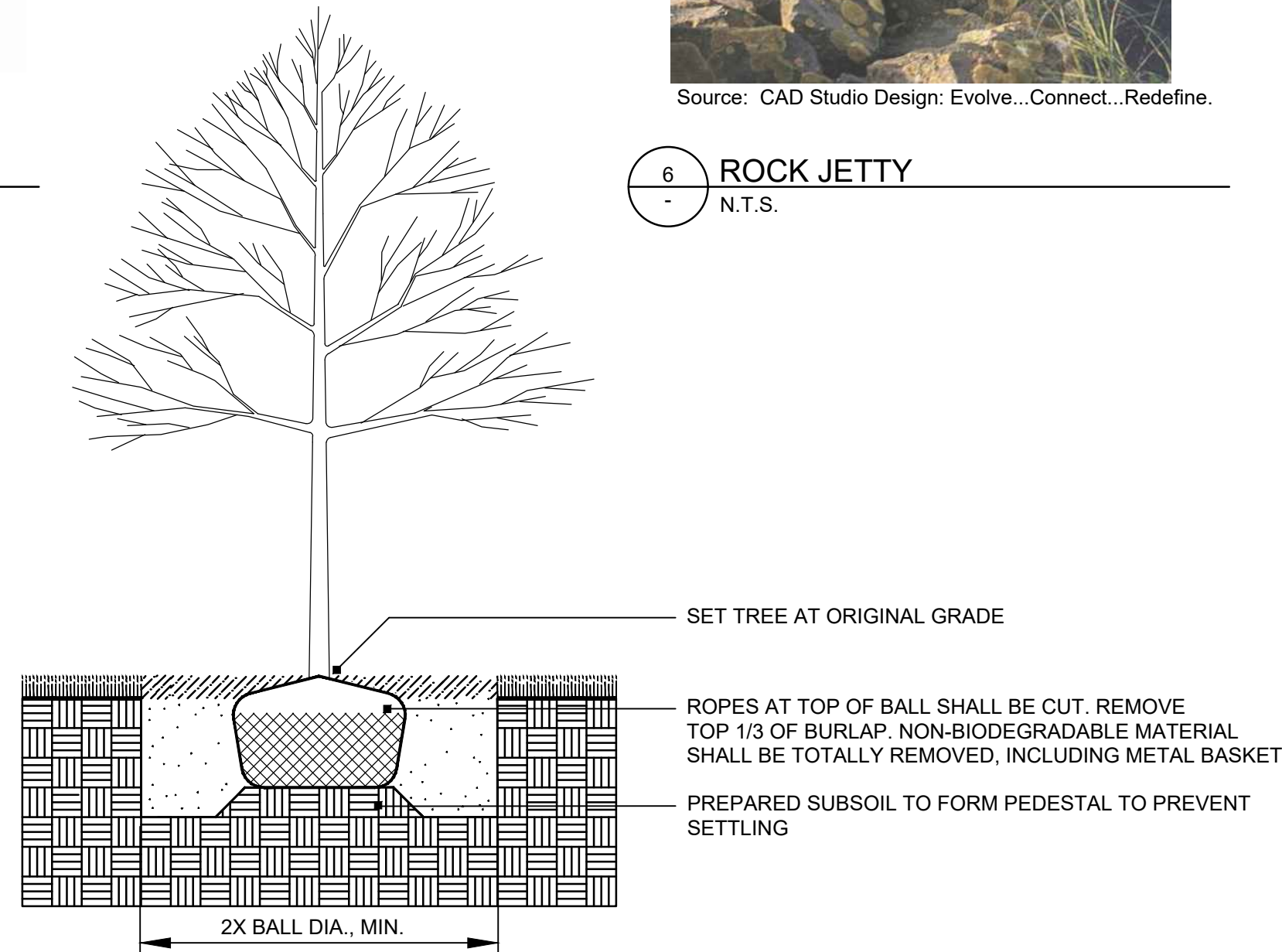
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Source: CAD Studio Design: Evolve...Connect...Redefine.

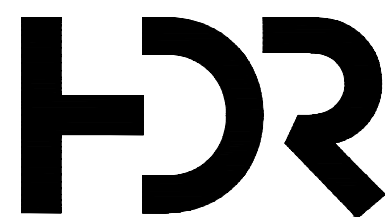
6 ROCK JETTY

N.T.S.



8 TREE PLANTING DETAIL

N.T.S.



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DETAILS

FILENAME
SCALE

SHEET
C-501