



Shabica & Associates, Inc.

Title: Elder/Centennial Park Shoreline Stabilization
225 - 299 Sheridan Road
Winnetka, Illinois 60093

Submittal Date: February 24, 2022

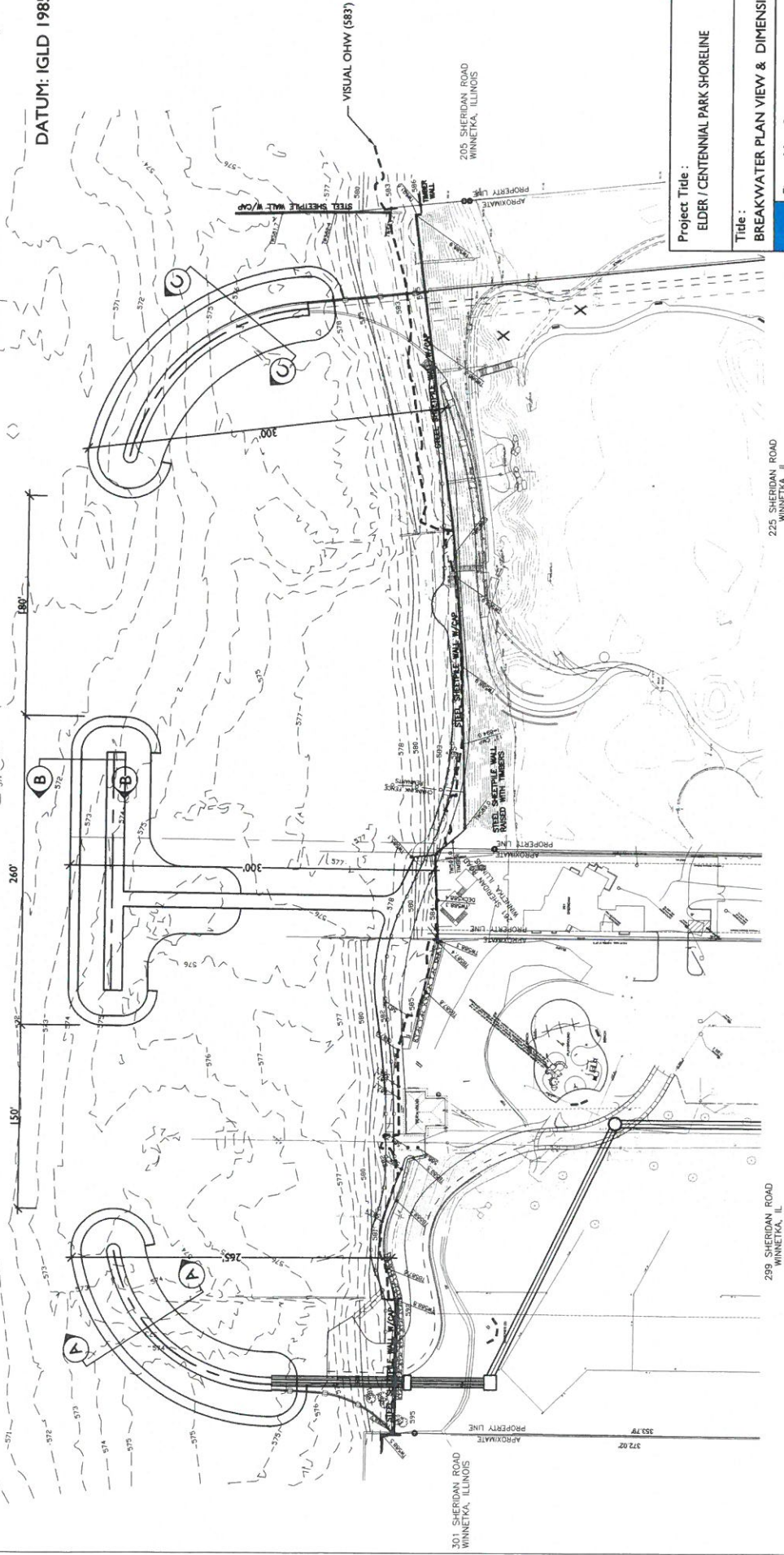
Plan Sheets: 2022.2.24 Elder/Centennial Park Vicinity Map/Project Location Plan – Figure No. 1
2022.2.24 Elder Centennial Park Existing Conditions Plan – Figure No. 2
2022.2.24 Elder/Centennial Park Breakwater Plan View & Dimensions – Figure No. 3
2022.2.24 Elder/Centennial Park Breakwater Section A and C – Figure No. 4
2022.2.24 Elder/Centennial Park Breakwater Section B – Figure No. 5
2022.2.24 Elder/Centennial Park Pier & Planting Pocket Plan – Figure No. 6
2022.2.24 Elder/Centennial Park Steel and Concrete Pier & Planting Pocket Cross Sections – Figure No. 7
2022.2.24 Elder/Centennial Park Sand Plan View with Contours – Figure No. 8
2022.2.24 Elder/Centennial Park Sand Calculations – Figure No. 9
2022.2.24 Elder/Centennial Park Sand Calculations – Figure No. 10



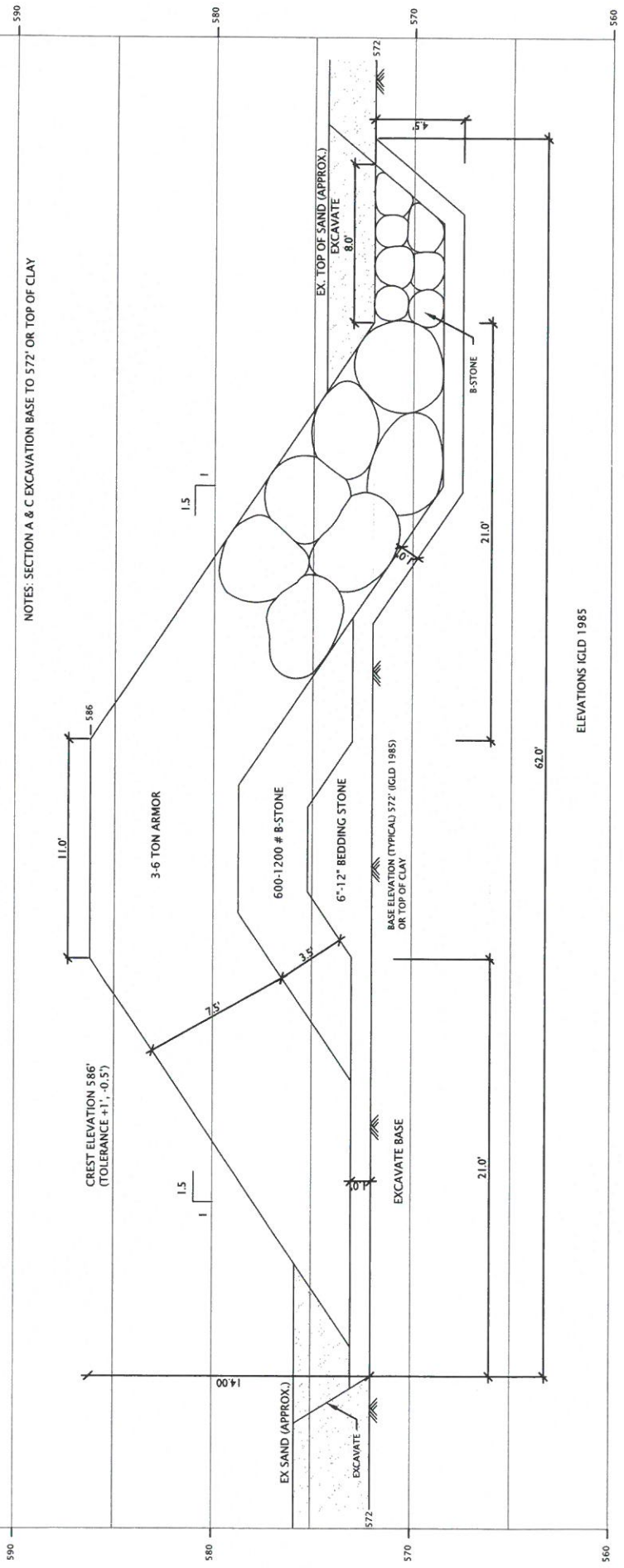
LAKE MICHIGAN
LAKE LEVEL=581.9 IGLD85
(11-4-2021)



DATUM: IGLD 1985



Project Title :	ELDER / CENTENNIAL PARK SHORELINE
Title :	BREAKWATER PLAN VIEW & DIMENSIONS
Figure No. :	3
Date :	24 FEBRUARY 2022
Scale :	0' 40' 80'



A & C SECTION A & C
FIG-4 SCALE: 0' 2.5' 5'

Project Title :	ELDER / CENTENNIAL PARK SHORELINE
Title :	SECTION A & C
Figure No. :	4
Date :	24 FEBRUARY 2022
Scale :	0' 2.5' 5'



B SECTION B
FIG-5 SCALE: 1"=10'

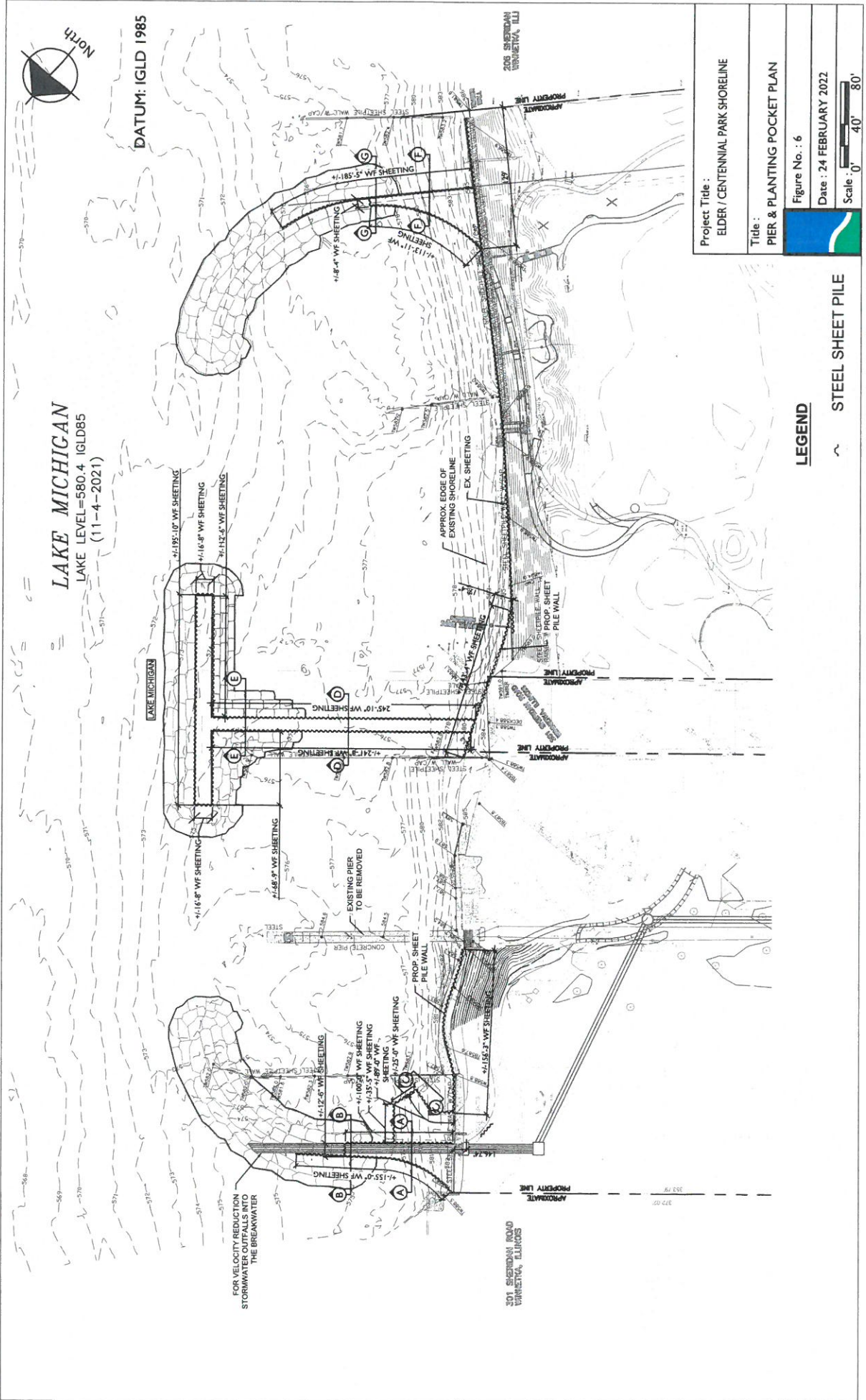
Project Title :
ELDER / CENTENNIAL PARK SHORELINE

Title: SECTION B

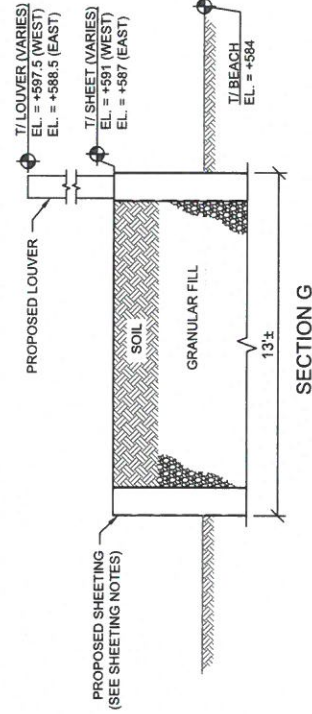
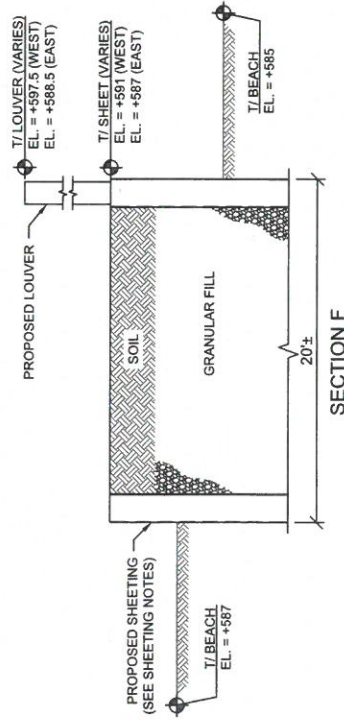
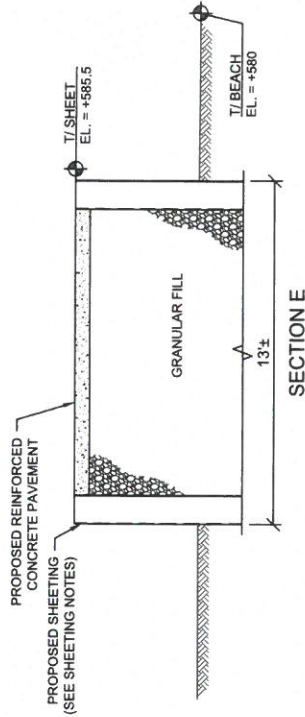
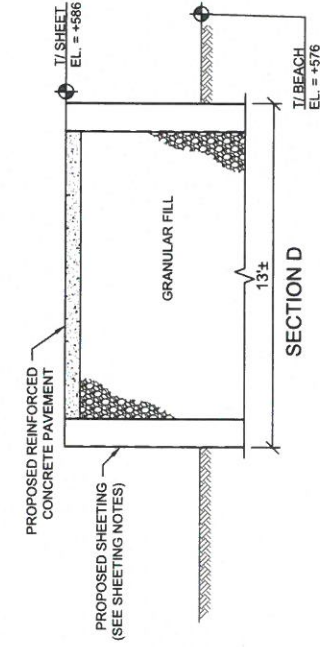
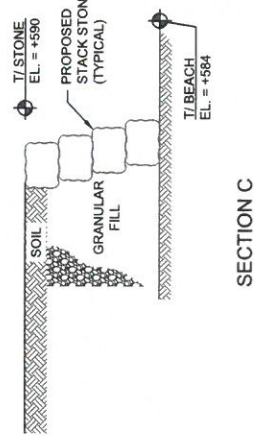
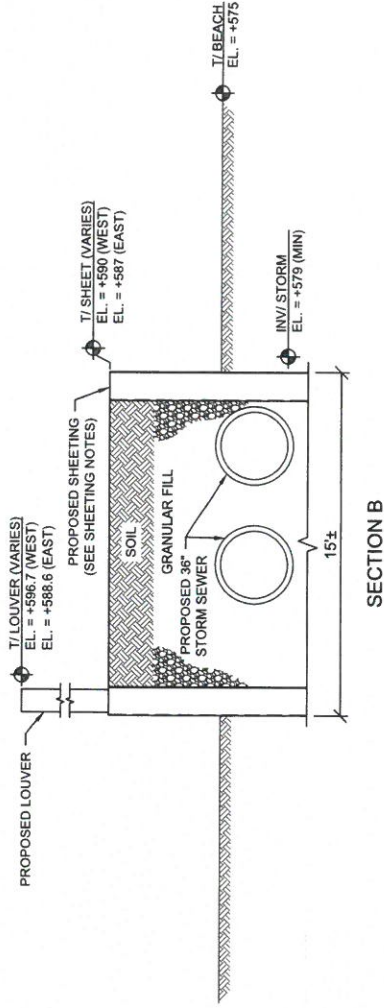
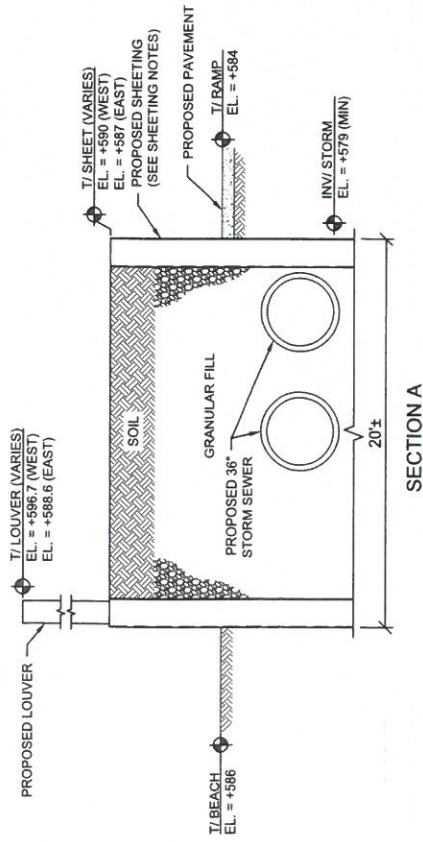
Figure No. : 5

Date : 24 FEBRUARY 2022

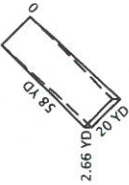
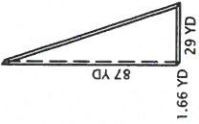
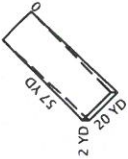
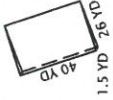
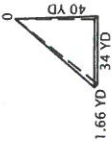
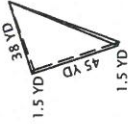
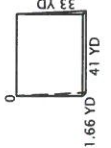
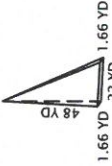
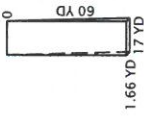
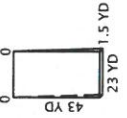
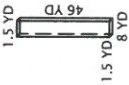
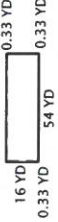
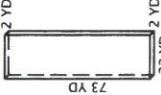
Scale: 0' 2.5' 5'

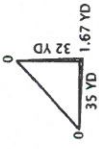
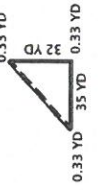
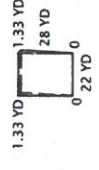
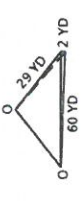
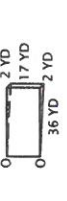
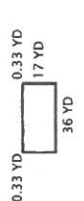


Project Title :	ELDER / CENTENNIAL PARK SHORELINE
Title :	PIER & PLANTING POCKET PLAN
Figure No. :	6
Date :	24 FEBRUARY 2022
Scale :	0' 40' 80'



Project Title :	ELDER / CENTENNIAL PARK SHORELINE
Title :	STEEL AND CONCRETE PIER & PLANTING POCKET CROSS SECTIONS
Figure No. :	7
Date :	24 FEBRUARY 2022
Scale :	N.T.S.

A		$\frac{20 \text{ YD} \times 5.8 \text{ YD} \times 2.66}{2} = 1,543 \text{ CU. YD}$	H		$\frac{2.9 \text{ YD} \times 8.7 \text{ YD} \times 1.66}{2} = 2,094 \text{ CU. YD}$
B		$\frac{20 \text{ YD} \times 5.8 \text{ YD} \times 2}{2} = 1,160 \text{ CU. YD}$	I		$\frac{2.6 \text{ YD} \times 4.0 \text{ YD} \times 1.5}{2} = 780 \text{ CU. YD}$
C		$\frac{34 \text{ YD} \times 4.0 \text{ YD} \times 1.66}{6} = 376 \text{ CU. YD}$	J		$\frac{3.8 \text{ YD} \times 4.5 \text{ YD} \times 1.5}{6} = 427.5 \text{ CU. YD}$
D		$\frac{33 \text{ YD} \times 4.1 \text{ YD} \times 1.66}{2} = 1,123 \text{ CU. YD}$	K		$\frac{2.2 \text{ YD} \times 4.8 \text{ YD} \times 1.66}{6} = 292 \text{ CU. YD}$
E		$\frac{1.7 \text{ YD} \times 6.0 \text{ YD} \times 1.66}{2} = 847 \text{ CU. YD}$	L		$\frac{2.3 \text{ YD} \times 4.3 \text{ YD} \times 1.5}{2} = 742 \text{ CU. YD}$
F		$8 \text{ YD} \times 4.6 \text{ YD} \times 1.5 = 552 \text{ CU. YD}$	M-LOWER		$1.6 \text{ YD} \times 5.4 \text{ YD} \times 0.33 = 285 \text{ CU. YD}$
G		$2.2 \text{ YD} \times 7.3 \text{ YD} \times 2 = 3,212 \text{ CU. YD}$			

M-UPPER		$\frac{16 \text{ YD} \times 54 \text{ YD} \times 1.66}{2} = 717 \text{ CU. YD}$	R-UPPER		$\frac{35 \text{ YD} \times 32 \text{ YD} \times 1.67}{6} = 312 \text{ CU. YD}$
N		$23 \text{ YD} \times 55 \text{ YD} \times 1.5 = 1,898 \text{ CU. YD}$	R-LOWER		$\frac{35 \text{ YD} \times 32 \text{ YD} \times 0.33 \text{ YD}}{2} = 185 \text{ CU. YD}$
O		$\frac{17 \text{ YD} \times 49 \text{ YD} \times 2}{2} = 833 \text{ CU. YD}$	S		$\frac{22 \text{ YD} \times 28 \text{ YD} \times 1.33 \text{ YD}}{2} = 410 \text{ CU. YD}$
P		$\frac{29 \text{ YD} \times 60 \text{ YD} \times 2}{6} = 580 \text{ CU. YD}$	T		$9 \text{ YD} \times 15 \text{ YD} \times 0.8 \text{ YD} = 108 \text{ CU. YD}$
Q-UPPER		$\frac{36 \text{ YD} \times 17 \text{ YD} \times 2 \text{ YD}}{2} = 612 \text{ CU. YD}$	U		$\frac{15 \text{ YD} \times 26 \text{ YD} \times 0.66 \text{ YD}}{6} = 43 \text{ CU. YD}$
Q-LOWER		$36 \text{ YD} \times 17 \text{ YD} \times 0.33 \text{ YD} = 202 \text{ CU. YD}$			$\text{TOTAL} = 19,333.5 \text{ CU. YD}$

19,333.5 CU. YD x 20% (OVERFILL) = 3,866.7 CU. YD
19,333.5 CU. YD + 3,866.7 CU. YD = 23,200.2 CU. YD
23,200.2 CU. YD x 1.25 TONS / CU. YD = 29,000 TONS CLEAN SAND

Project Title :
ELDER / CENTENNIAL PARK SHORELINE

Title :
SAND CALCULATIONS

Figure No. : 10

Date : 24 FEBRUARY 2022

Scale :