

LOT: \_\_\_\_\_ BLOCK: \_\_\_\_\_ SUBDIVISION 8433 Busway Terminal ADDRESS: 130 MacArthur Causeway

## ALTERATIONS & ADDITIONS

100

#M05902 9/10/82 Union Air Cond - spray paint booth

### BUILDING PERMITS

#25302 5/7/84 Packard Roof - reroof 7 sqs \$1,200.

#25313 5/9/84 AvG Corp - remove 12 windows & 1 door. block up with conc blks & stucco \$2,000.

#M08206 6/25/86 Otis Elevator - 1 pass enger elevator

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### PLUMBING PERMITS

#62032 4/8/85 Harold G. Jaffer Inc - 1-24" domestic well

#62436 1/22/86 Able Onr Iron (Able Bldgers) 1 temp water closet

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### ELECTRICAL PERMITS

COASTAL CONTROL ZONE

CUMULATIVE COST OF CONSTRUCTION OF PERMITS ISSUED

DATE	PROCESS	DESCRIPTION	WORK	CUMULATIVE	APPRAISED BLDG.			BUILDING
ISSUED	NO.	OF WORK	COST	WORK COST	VALUE BEFORE REMODEL	%	COMMENTS	PERMIT NO.
5-11-88		Demolition 48,500 SF.	\$20,000.00					32350
8-2-89		1300 sq. ft. PAVED DRIVEWAY (CONCRETE)	\$15,000.00					05891811

BUILDING PERMITS: #32350 - 5-11-88 - Miguel Rodriguez Demolition - Demolition 48,500 S.F. - \$20,000.00  
#BS891811 - 8-2-89 - Doug Amos Construction - 1300 sq. ft.-paved driveway (concrete) -  
\$15,000.00

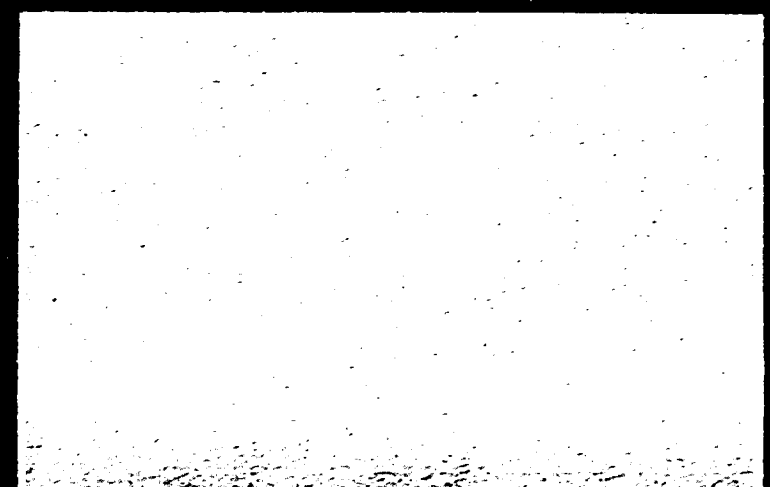
**NEXT**  
Professional Microfilm Services, Inc.  
Miami, Florida  
**FILE**

THIS IS TO CERTIFY THAT PROFESSIONAL MICROFILM SERVICE, INC. PRESENTS THE FOLLOWING IMAGES AS AN ACCURATE AND COMPLETE MICROFILM COPY OF THE ORIGINAL BUSINESS FILES AS EDITED BY THE INSTITUTION INSTRUCTIONS.

**PERMIT**  
B 9200164

10

00092







B  
9200-64

00095

**NEXT**

Professional Microfilm Services, Inc.  
Miami, Florida

**FILE**

THIS IS TO CERTIFY THAT PROFESSIONAL MICROFILM SERVICE, INC. PRESENTS THE FOLLOWING IMAGES AS AN ACCURATE AND COMPLETE MICROFILM COPY OF THE ORIGINAL BUSINESS FILES AS EDITED BY THE INSTITUTION INSTRUCTIONS.

PERMIT #

B0103100

28

**CITY OF MIAMI BEACH**  
Miami Beach, Florida 33139  
Receipt of Payment

**Building Work Permit**

Activity Number: **18000000000000000000**  
Status: **APPROVED**

Permit No: **05290001**  
Date Issued: **05/08/2008**  
Entered By: **SCULLERY**

Address: **120 MACARTHUR CSWY MIAMI BEACH**  
Business Dist: **30.00**  
Valuation: **22,000.00**

Contractor: **ANTERIORA FENCE CORP.**  
F.O.B. NO: **04556**  
M.I.A.M. BEACH: **2200**  
M.I.A.M. BEACH: **2200**  
M.I.A.M. BEACH: **2200**

Owner: **TERMINAL INV CORP.**  
400 MIAMI AVENUE  
CORAL GABLES FL 33134

Project: **ERECT 1500 FT CHAIN LINK FENCE @ 1200**

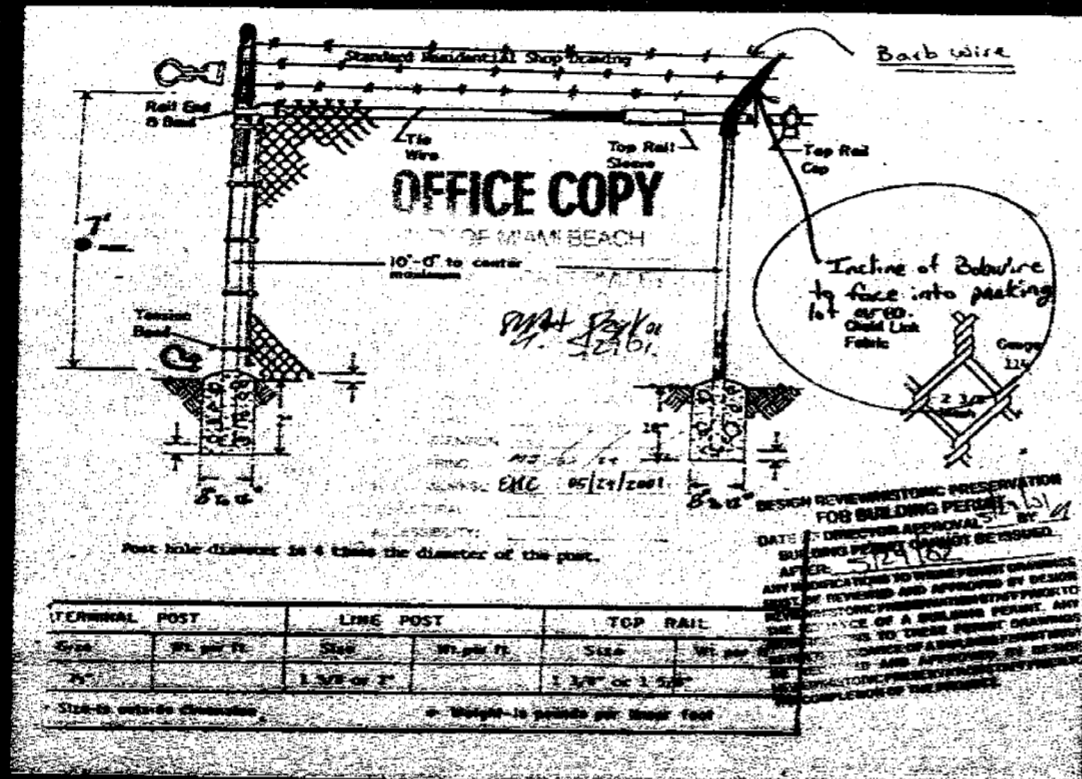
Permit ready for this receipt:

Permit Fee: **200.00**

Permit Issued to the Following Owner:

Permit Issued to the Following Contractor:

Permit No.	Permit Fee	Permit Type	Permit Status
05290001	200.00	Building Work Permit	APPROVED



Paradise Investment Corp.  
120 MacArthur Causeway Miami Beach, Florida

**LEGAL DESCRIPTION**

Commencing at a point which is 1500 feet North and 2015 feet West of the Southeast corner of Section 4, Township 24 South, Range 42 East, said point being at the intersection of the center line of the roadway of the original Miami County Causeway Viaduct and the line of the West Bridge Abutment, run South 67° 05' West, along a center line of said roadway grade, a distance of 28.7 feet to a point; thence run South 31° 43' East a distance of 44.25 feet to the point of beginning of the Tract of land described here:

From said point of beginning run South 67° 05' West along the roadway line of the Miami County Causeway, a distance of 138.21 feet to a point; thence run along the arc of a circular curve deflecting to the right, having for its elements a central angle of 6° 15' 30" and a radius of 243.86 feet, a distance of 26.64 feet to a point; said point being the point of Compound Curvature of a circular curve; thence run along the arc of a circular curve deflecting to the right and having for its elements a central angle of 1° 25' 44" and a radius of 1566.95 feet a distance of 29.08 feet to a point; thence run South 31° 43' East a distance of 403.8 feet to a point; thence run South 25° 29' West a distance of 97.46 feet to a point; thence run North 64° 31' West a distance of 120.0 feet to a point; thence run South 25° 29' West a distance of 100.0 feet to a point; thence run South 64° 31' East, along a line parallel to the roadway Centerline a distance of 432.55 feet to a point; thence run North 31° 43' West a distance of 1009.40 feet to the point of beginning of the Tract of land herein described.

**28**

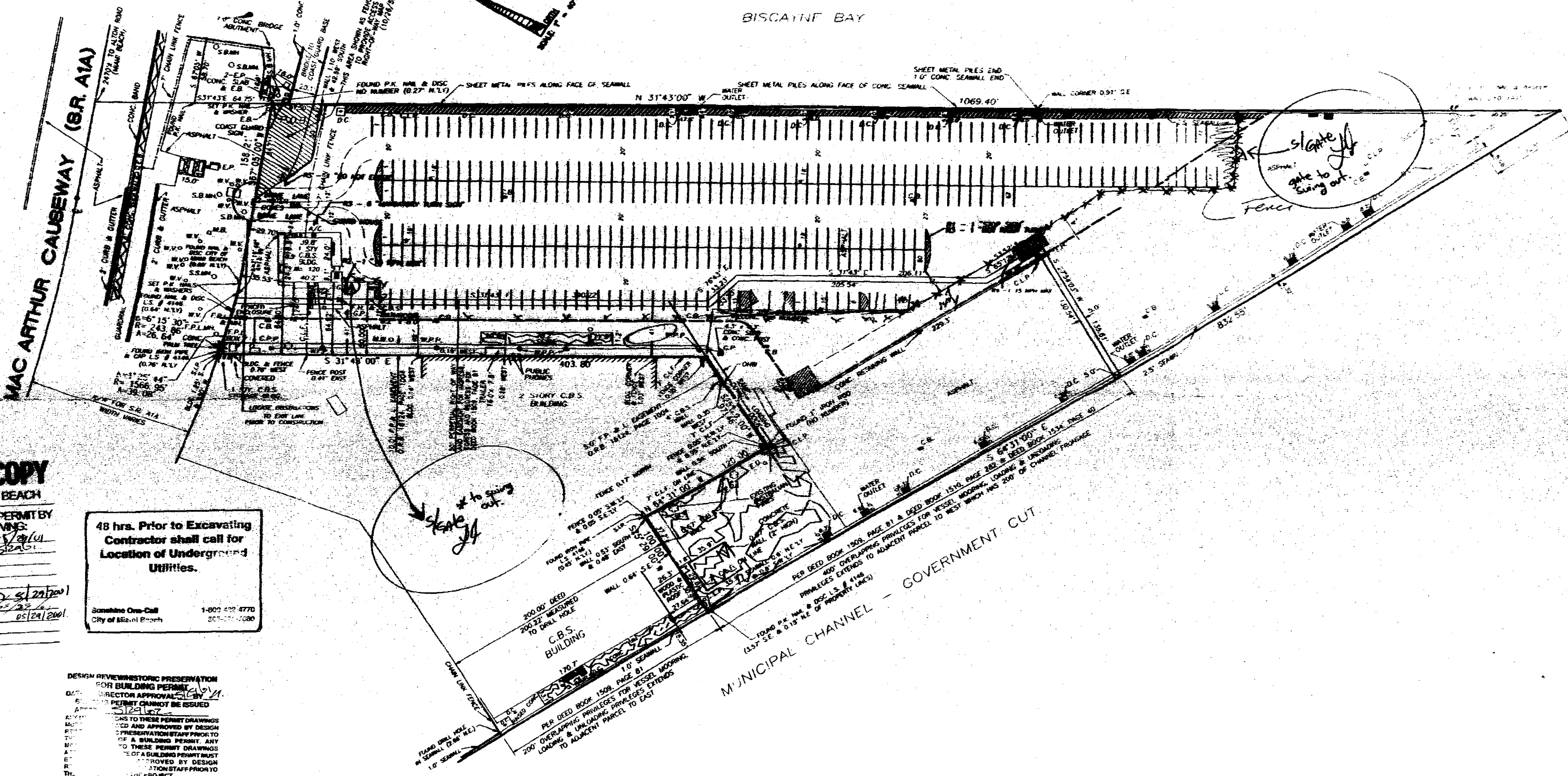


**RETAKE  
OF  
PREVIOUS  
DOCUMENT**

**28**

PARKING SKETCH

BISCAYNE BAY



5/1/07  
Biscayne

OFFICE COPY  
CITY OF MIAMI BEACH

APPROVED FOR PERMIT BY THE FOLLOWING:

BUILDING: [Signature]  
 ZONING: [Signature]  
 PLUMBING: [Signature]  
 ELECTRICAL: [Signature]  
 MECHANICAL: [Signature]  
 FIRE PREVENTION: [Signature]  
 ENGINEERING: [Signature]  
 PUBLIC WORKS: [Signature]  
 STRUCTURAL: [Signature]  
 ACCESSIBILITY: [Signature]

48 hrs. Prior to Excavating  
Contractor shall call for  
Location of Underground  
Utilities.

Somebody One-Call  
City of Miami Beach  
1-800-430-4770  
305-251-7080

DESIGN REVIEW HISTORIC PRESERVATION  
FOR BUILDING PERMIT  
D.C. DIRECTOR APPROVAL BY [Signature]  
 PERMIT CANNOT BE ISSUED  
 UNLESS THESE PERMIT DRAWINGS  
 ARE APPROVED AND APPROVED BY DESIGN  
 PRESERVATION STAFF PRIOR TO  
 THE ISSUANCE OF A BUILDING PERMIT. ANY  
 CHANGES TO THESE PERMIT DRAWINGS  
 MUST BE APPROVED BY DESIGN  
 PRESERVATION STAFF PRIOR TO  
 THE ISSUANCE OF A BUILDING PERMIT.

B0103100

28

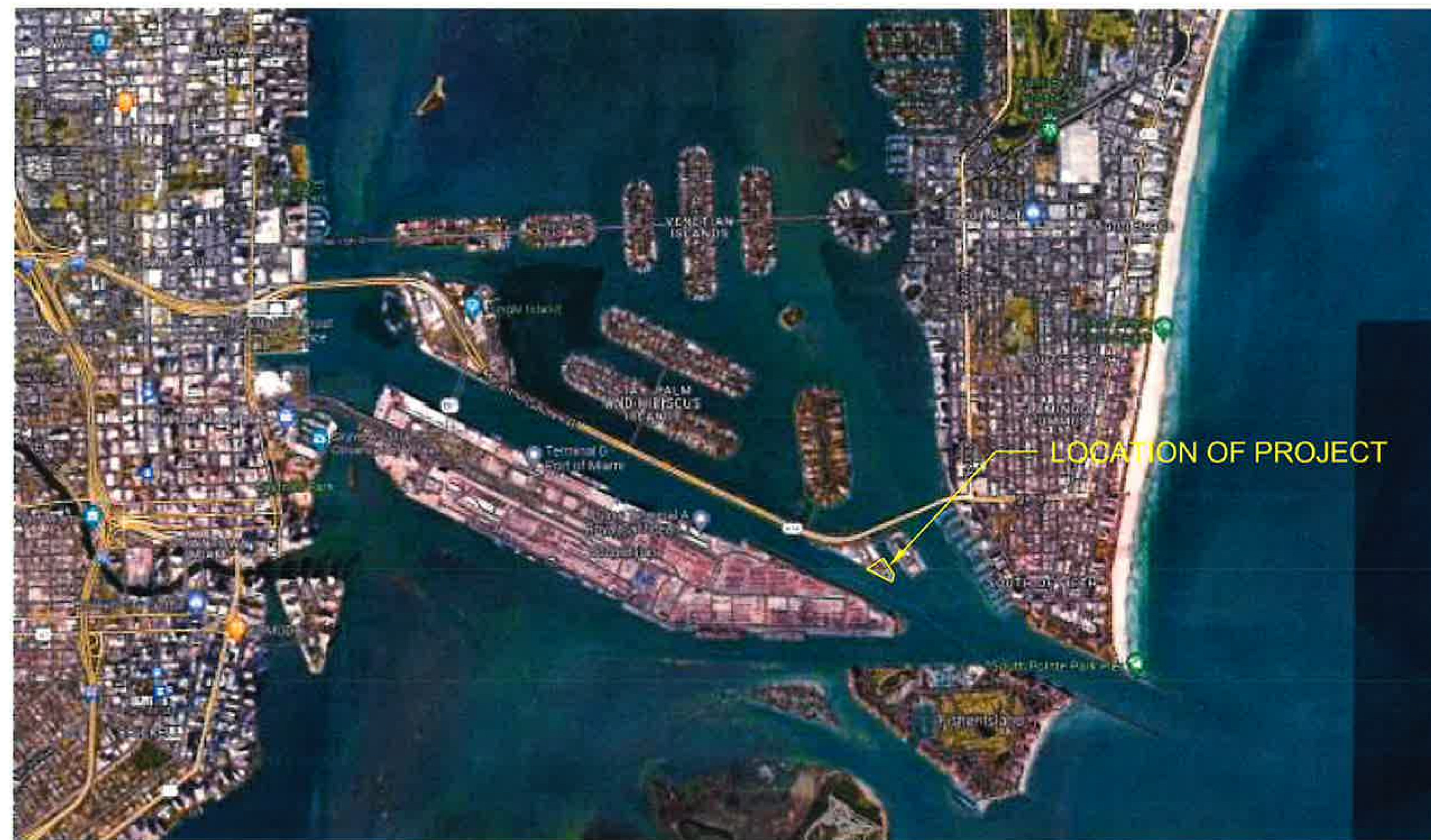


# ONE ISLAND PARK BULKHEAD RENOVATIONS

MIAMI BEACH PORT, LLC.

Certification by Michael C. Bone, P.E. covers the following Sheets 1 through 21:

<u>SHEET TITLE</u>	<u>SHEET NO.</u>
COVER SHEET AND CONTENTS	1
GENERAL NOTES	2
EXISTING SITE CONDITIONS (1 OF 2)	3
EXISTING SITE CONDITIONS (2 OF 2)	4
DEMOLITION PLAN (1 OF 2)	5
DEMOLITION PLAN (2 OF 2)	6
SITE PLAN AND KEYS	7
BULKHEAD PLAN SECTION 1	8
BULKHEAD PLAN SECTION 2	9
BULKHEAD PLAN SECTION 3	10
TYPICAL SECTIONS A & B	11
TYPICAL SECTIONS C & D	11A
TYPICAL SECTION E	12
BULKHEAD CAP DETAILS	13
CAP CORNER REINFORCING	14
ANCHOR BEAM TYPICAL 84'-0" SEGMENT	15
WALER & TIE ROD PLAN AT SE CORNER	16
WALER DETAILS (1 OF 3)	17
WALER DETAILS (2 OF 3)	18
WALER DETAILS (3 OF 3)	19
RETURN AT ENDS OF BULKHEAD & BOLLARD DETAILS	20
TYPICAL TIE ROD DEVIATIONS	21



This document has been digitally signed and sealed by:

**Michael C Bone** Digitally signed by Michael C Bone  
Date: 2023.01.25 10:58:05 -05'00'

Printed copies of this document are not considered signed and sealed. The signature must be verified on the electronic documents.

RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL

**NAME** Ashley Dominguez  
**DATE** 02/01/2023

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS CONSTRUCTION COST ESTIMATES DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS	OWNER:  <b>MIAMI BEACH PORT, LLC.</b>	PROJECT:  <b>ONE ISLAND PARK BULKHEAD RENOVATIONS</b>	SHEET TITLE:  <b>COVER SHEET AND CONTENTS</b>	ORIGINAL: 26AUG22 REVISIONS: 1. 03OCT22 2. 15DEC22 3. 4.	MICHAEL C. BONE, P.E. FL19383 
	5391 N. NOB HILL ROAD SUNRISE, FLORIDA 33351							DRAWN: KCB SHEET NO. 1
	(954) 922-6917 CERT. NO.7616							

# ONE ISLAND PARK BULKHEAD RENOVATIONS

MIAMI BEACH PORT, LLC.

RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL

**NAME** Ashley Dominguez  
**DATE** 02/01/2023

**GENERAL NOTES:**

1. Project Datum is NAVD88.
2. Bulkhead design loads:  
 Case 1 – 0.250 ksf uniform surcharge with mooring loads of 34 kips horizontal and 6 kips vertical spaced at 30'. Water outside at El.-1.0, water inside at El.+2.0.  
 Case 2 – Storm event, water outside at El. 0.0, water inside at El.+6.0. No surcharge or mooring loads.
3. Concrete design is by ACI318-14, steel design is by AISC 16th Edition, LRFD. Construction shall be in accordance with the FDOT Standard Specifications for Road and Bridge Construction, 2020.
4. Concrete shall have a minimum 28-day strength (f'c) of 5,000 psi, maximum water/cement ratio 0.40 and meet FDOT requirements for an extremely aggressive environment. Grout strength for auger cast piles is 5,000 psi. Provide 1" chamfer on all exposed corners. Minimum cover is 3" on all surfaces.
5. Reinforcing steel is ASTM A615, Grade 60.
6. Steel sheet piling shall meet the requirements of ASTM A572, Grade 60. Coat waterside face with 16 mils of coal tar epoxy to 5' below the scour elevation(-37.0). Coating material and application to meet FDOT specifications.
7. Double channel walers shall be ASTM A992 or A572, Grade 50, hot-dip galvanized or receive 15 mils of coal tar epoxy. Coat damaged coating in field with coal tar epoxy.
8. All plates are ASTM A572, Grade 50, hot-dip galvanized per ASTM A123. Bolts are ASTM A325 Type 1 hot dip galvanized. Exclude threads from shear plane. Pipe spacers are hot-dip galvanized.
9. Tie rods are ASTM A615, Grade 75 or 80, all-thread or approved equal. Bars and hardware may be hot-dip galvanized or receive 16 mils of coal tar epoxy.
10. All-thread bar in auger cast piles shall have a minimum ultimate strength of 150 ksi.
11. All welding is by certified welders using E70XX electrodes handled and stored per the manufacturer's instructions.
12. Unfactored Design Loads for auger cast piles are 270 kips compression and 240 kips tension. Conduct one compression and one tension pile load test to at least twice the design load. Test piles shall be sacrificial plumb piles cut-off 2 ft. below finished grade. Coordinate test pile location with Owner and EOR. The Geotechnical Engineer has the option of conducting one tension test only to 540 kips minimum and certifying the compression pile based on the skin resistance from the tension test. Submit test pile Report to CEC for review.

13. Piling contractor shall demonstrate successful experience installing auger cast piles to a 1:4 batter and a depth of 50 ft. or greater.
14. Contractor to reuse and reinstall existing Trelleborg kidney bollards in accordance with the bollard installation plan. Contractor to provide new hot-dip galvanized hardware for all bollard installation in accordance with manufacturer's installation recommendations. Bollards to be installed and filled with regular weight 3,000 psi concrete minimum. Where required, Contractor to provide additional new bollards to match existing bollards. Bollards to achieve Owners mooring requirements for 30 Ft. spacing. No bollards shall be installed on the easternmost 45'-7" bulkhead segment.
15. Place clean granular fill between new sheet piles and existing for full depth. Monitor outboard deflection of new wall during and after fill placement.
16. Contractor is responsible for maintaining stability of existing wall throughout construction. Monitor outboard movement of existing wall at all times. If required, install ties between the new anchor beam and the existing bulkhead. Install new pile supported anchor beam prior to driving sheet piles. Proposed temporary shoring plan is provided in this drawing set. Submit final design and details for stabilizing to CEC for review.

APPROXIMATE QUANTITIES		
NEW CONCRETE CAP	1306.6	LF
NEW STEEL SHEET PILES	1306.6	LF
ANCHOR BEAM	863.7	LF
NEW FENDERS	*	EA
NEW TIE-RODS	170	EA
NEW BOLLARD SYSTEMS	43	EA
TOTAL VOLUME OF #57 STONE FILL	2,500	CY
	(2,175)	(SF)
#57 STONE FILL WITHIN 18"	1,850	CY
	(1,600)	(SF)
#57 STONE FILL BEYOND 18"	650	CY
	(575)	(SF)

\* VESSELS HAVE BERTHING FENDERS

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS CONSTRUCTION COST ESTIMATES DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS	5391 N. NOB HILL ROAD SUNRISE, FLORIDA 33351  (954) 922-6917	CERT. NO.7616
	OWNER: MIAMI BEACH PORT, LLC.				
	PROJECT: ONE ISLAND PARK BULKHEAD RENOVATIONS				

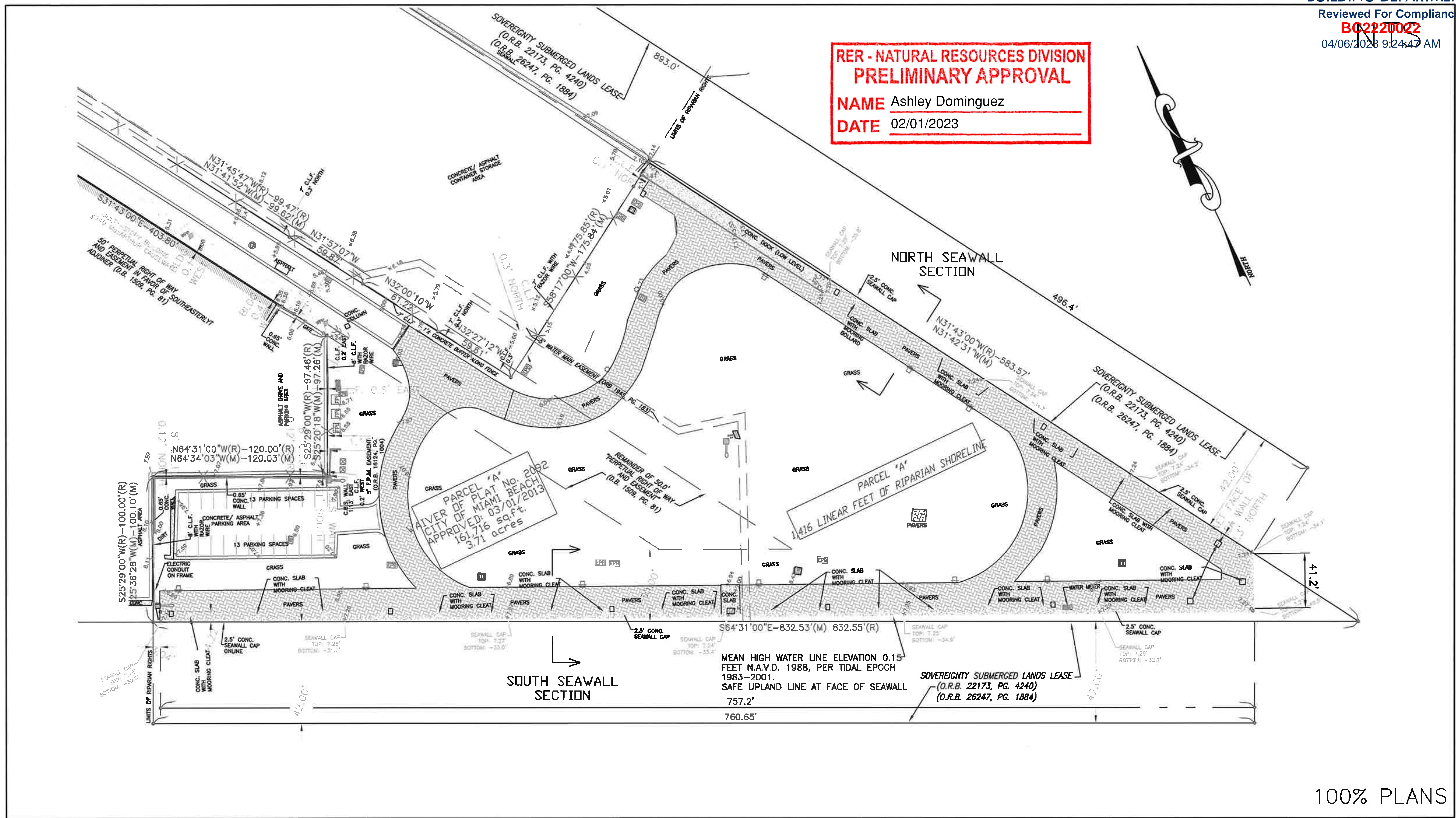
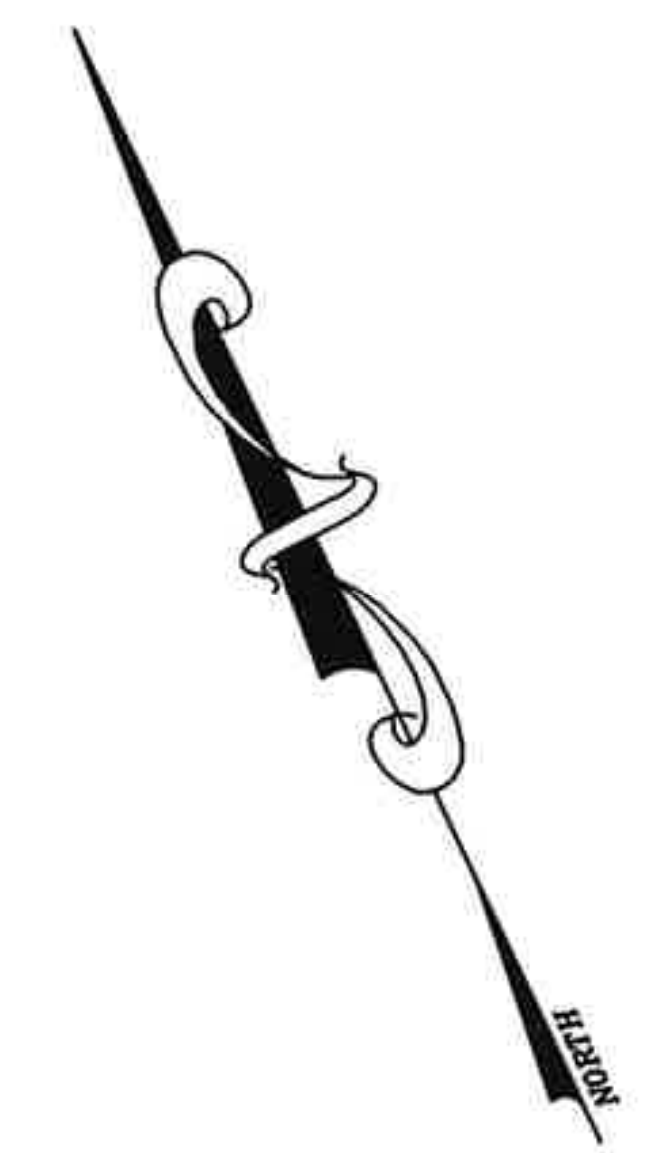
OWNER: MIAMI BEACH PORT, LLC.		PROJECT: ONE ISLAND PARK BULKHEAD RENOVATIONS	
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SHEET TITLE: GENERAL NOTES
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ORIGINAL: 26AUG22
REVISIONS:
1. 03OCT22
2. 15DEC22
3. 25JAN23
4. _____

MICHAEL C. BONE, P.E. FL19383
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004.
DRAWN: KCB SHEET NO. 2

**RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL**  
**NAME** Ashley Dominguez  
**DATE** 02/01/2023



100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS  
 CONSTRUCTION COST ESTIMATES  
 DESIGN  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

**OWNER:**  
 MIAMI BEACH PORT, LLC.

**PROJECT:**  
 ONE ISLAND PARK  
 BULKHEAD RENOVATIONS

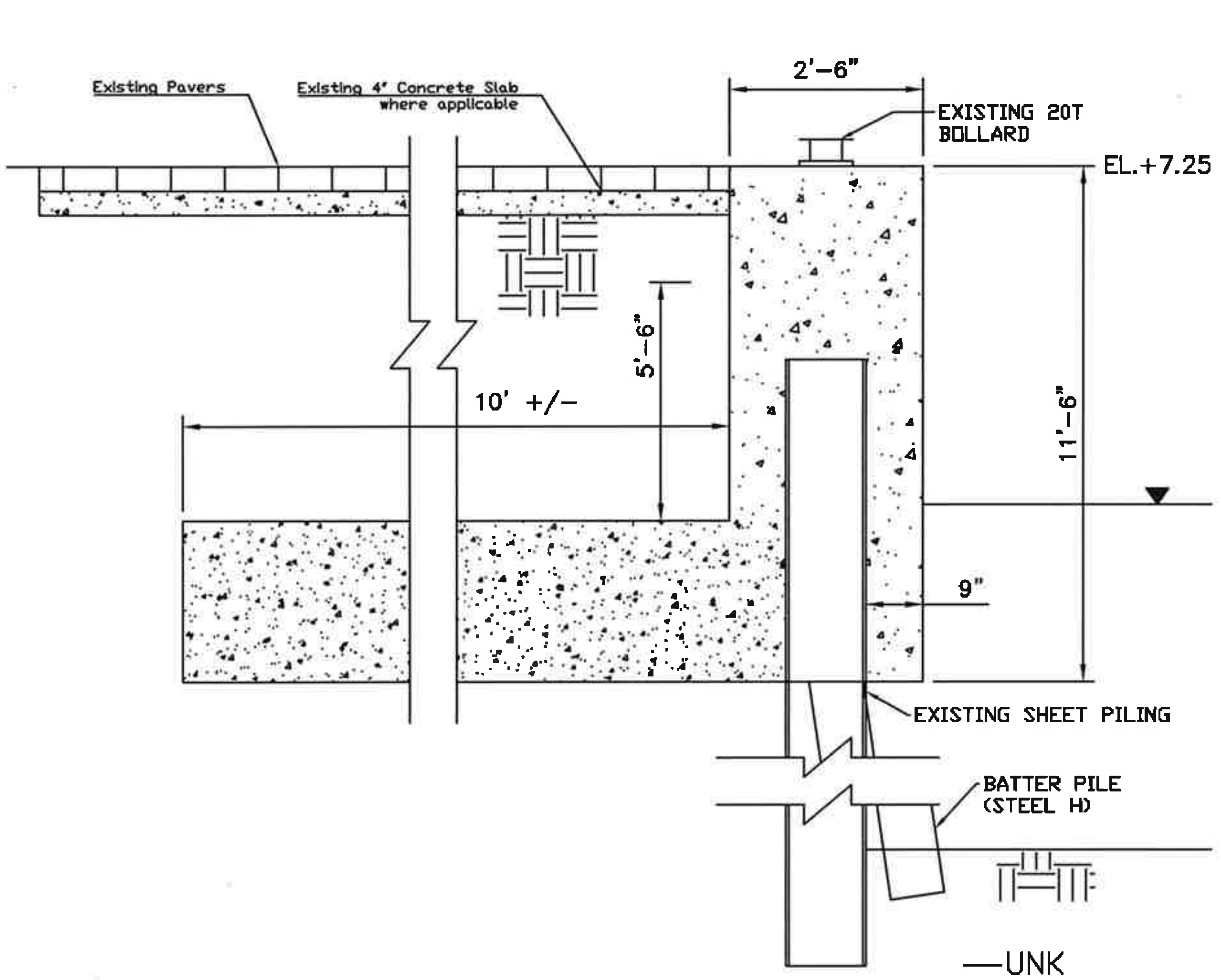
**SHEET TITLE:**  
 EXISTING SITE  
 CONDITION  
 (1 OF 2)

**ORIGINAL:** 26AUG22  
**REVISIONS:**  
 1. 03OCT22  
 2.  
 3.  
 4.

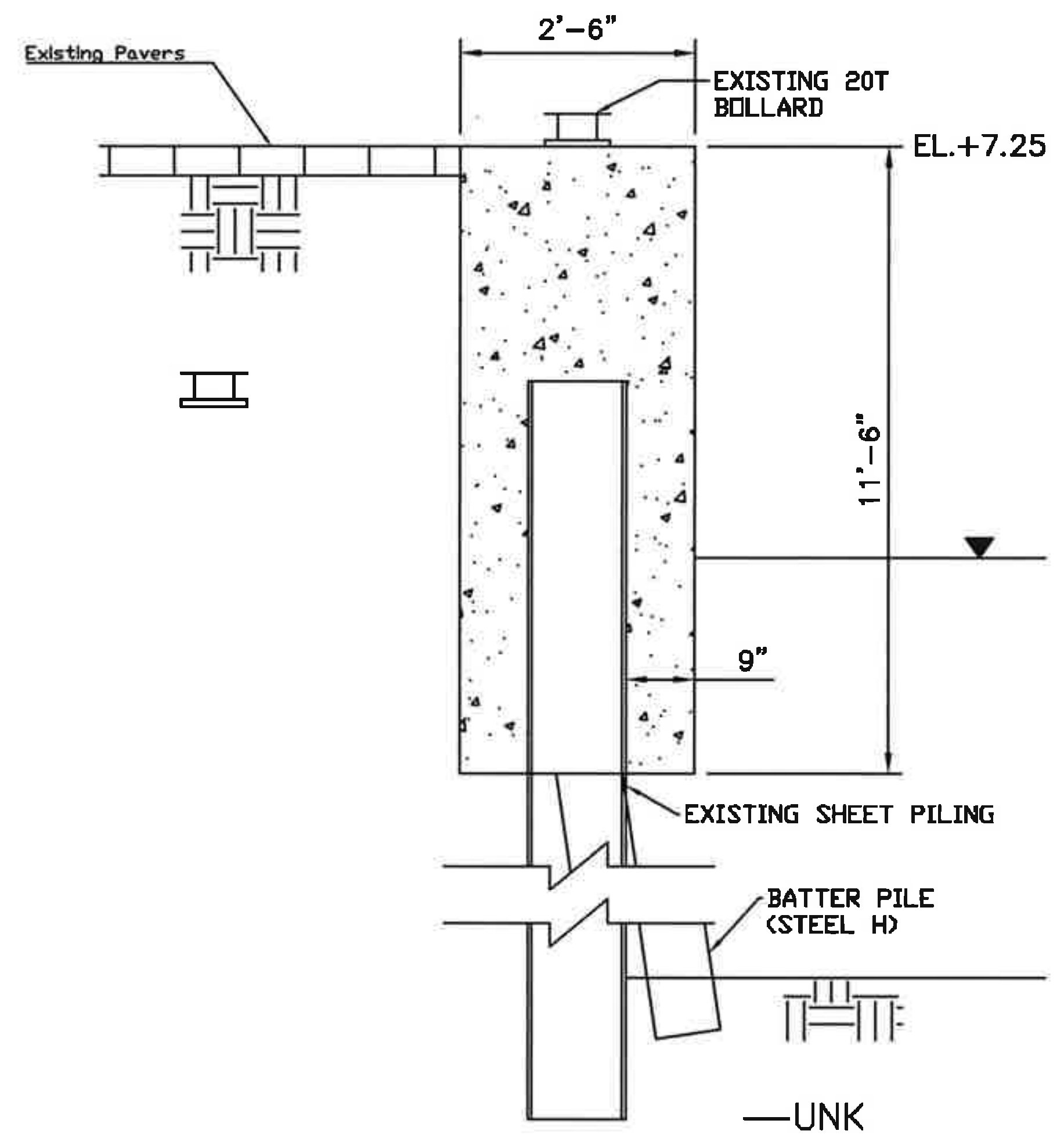
MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 3

**RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023

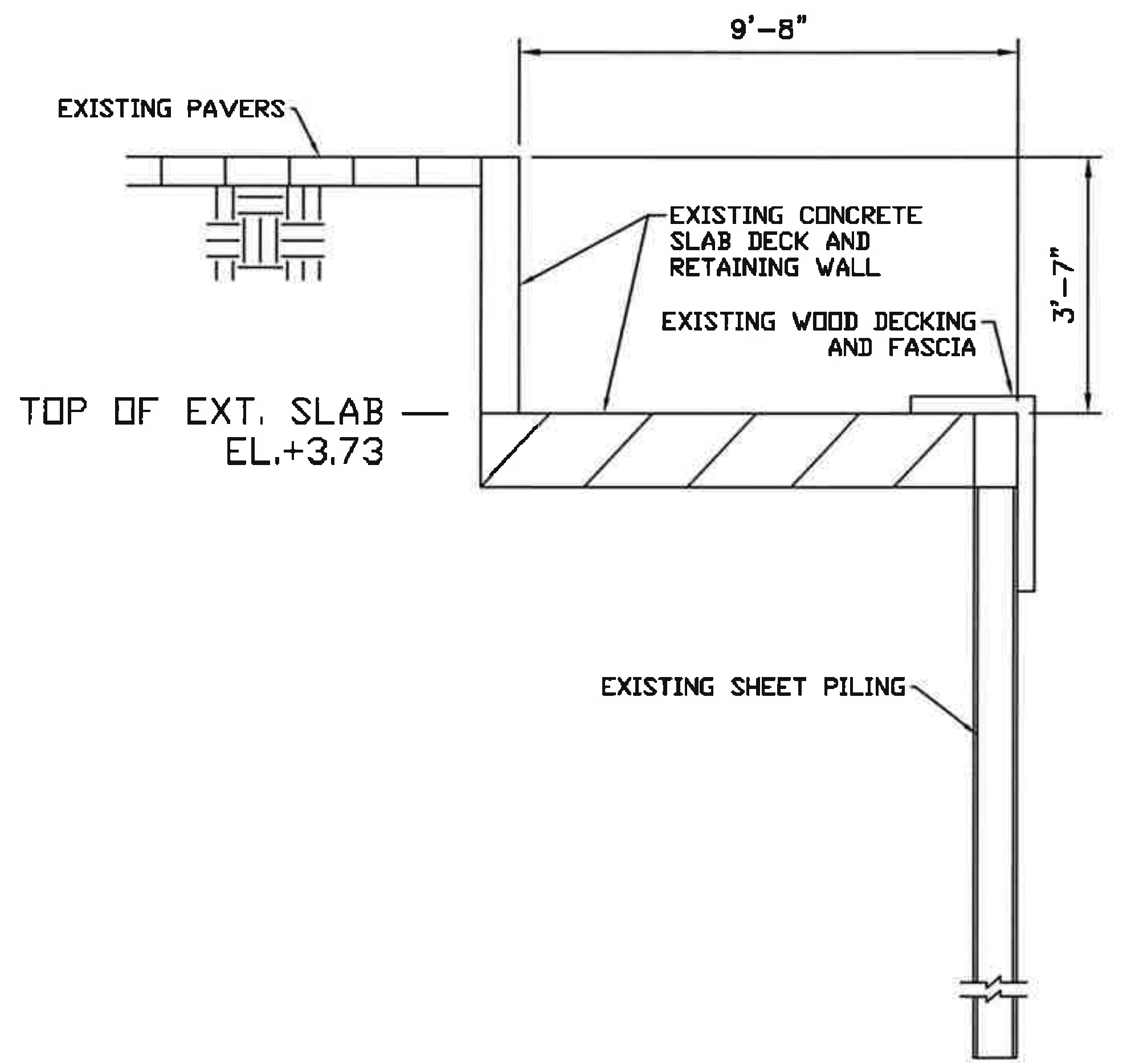
SEE DEMOLITION PLANS FOR  
 ITEMS TO BE REMOVED.



SOUTH EXISTING SEAWALL  
 SECTION (TYP)  
 FACE OF CAP FROM  
 SURVEY MAY 2022



NORTH EXISTING SEAWALL  
 SECTION (TYP)  
 FACE OF CAP FROM  
 SURVEY MAY 2022



EXISTING LOW LEVEL DOCK  
 AT NORTH PROPERTY LINE

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

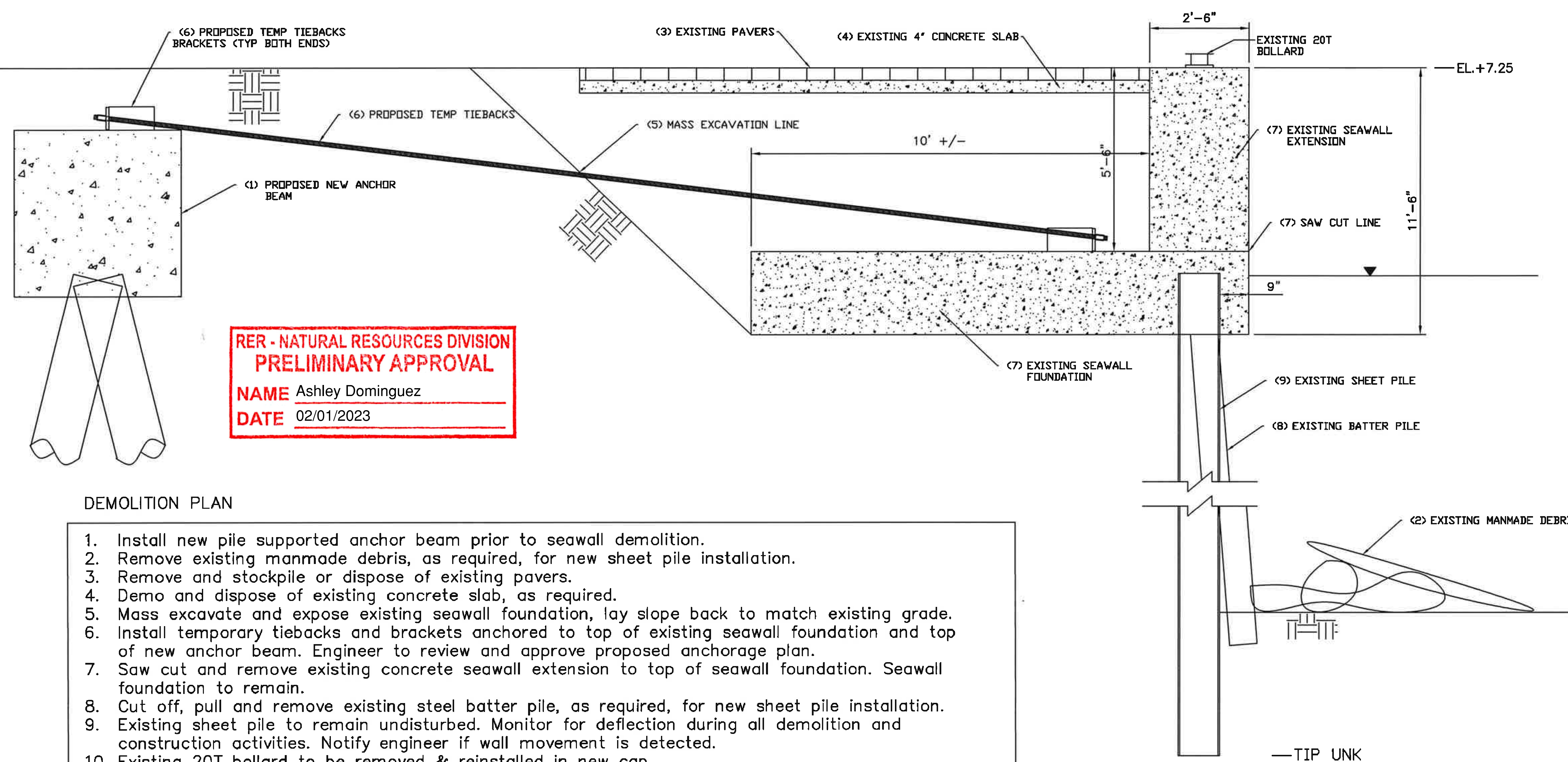
PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**EXISTING SITE  
 CONDITION  
 (2 OF 2)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. 15DEC22  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 61G15-23.004.  
 DRAWN: MCB SHEET No. 4

SOUTHERN SEAWALL SECTION (TYP)  
PARALLEL WITH GOVERNMENT CUT



**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023

DEMOLITION PLAN

1. Install new pile supported anchor beam prior to seawall demolition.
2. Remove existing manmade debris, as required, for new sheet pile installation.
3. Remove and stockpile or dispose of existing pavers.
4. Demo and dispose of existing concrete slab, as required.
5. Mass excavate and expose existing seawall foundation, lay slope back to match existing grade.
6. Install temporary tiebacks and brackets anchored to top of existing seawall foundation and top of new anchor beam. Engineer to review and approve proposed anchorage plan.
7. Saw cut and remove existing concrete seawall extension to top of seawall foundation. Seawall foundation to remain.
8. Cut off, pull and remove existing steel batter pile, as required, for new sheet pile installation.
9. Existing sheet pile to remain undisturbed. Monitor for deflection during all demolition and construction activities. Notify engineer if wall movement is detected.
10. Existing 20T bollard to be removed & reinstalled in new cap.

90% PLANS

**ENGINEERING CONSULTANTS**  
CONSTRUCTION DESIGN  
CONSTRUCTABILITY REVIEWS  
CONSTRUCTION COST ESTIMATES  
CLAIMS AVOIDANCE & ANALYSIS  
CONTRACTOR'S SPECIALTY ENGINEERING  
CPM SCHEDULES  
INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
(954) 922-6917  
CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

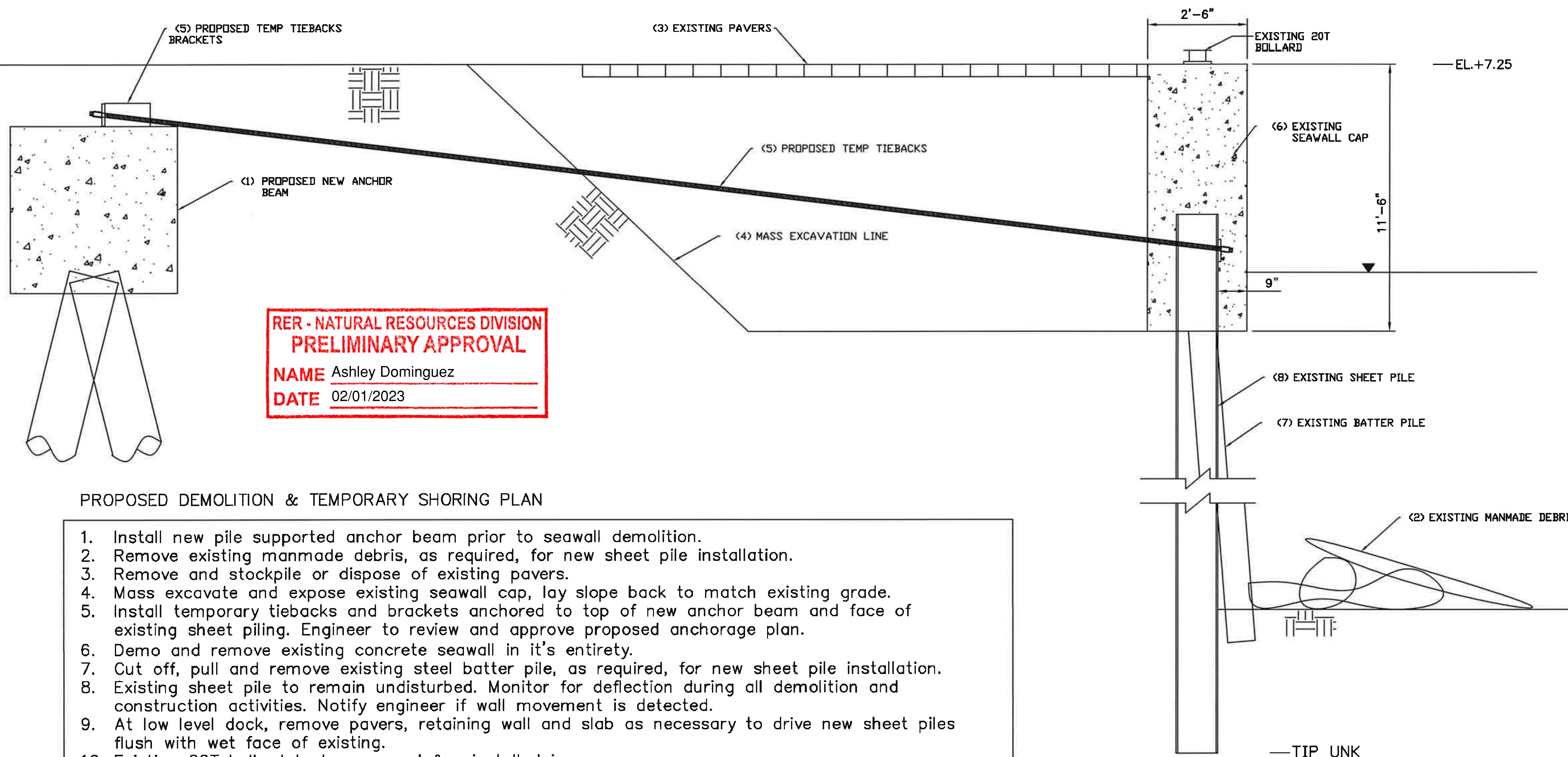
PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**DEMOLITION PLAN  
(1 OF 2)**

ORIGINAL: 01AUG22  
REVISIONS:  
1. 15DEC22  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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DRAWN: MCB SHEET No. 5

NORTHERN SEAWALL SECTION (TYP)  
PARALLEL WITH TERMINAL ISLE CUT



**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023

PROPOSED DEMOLITION & TEMPORARY SHORING PLAN

1. Install new pile supported anchor beam prior to seawall demolition.
2. Remove existing manmade debris, as required, for new sheet pile installation.
3. Remove and stockpile or dispose of existing pavers.
4. Mass excavate and expose existing seawall cap, lay slope back to match existing grade.
5. Install temporary tiebacks and brackets anchored to top of new anchor beam and face of existing sheet piling. Engineer to review and approve proposed anchorage plan.
6. Demo and remove existing concrete seawall in it's entirety.
7. Cut off, pull and remove existing steel batter pile, as required, for new sheet pile installation.
8. Existing sheet pile to remain undisturbed. Monitor for deflection during all demolition and construction activities. Notify engineer if wall movement is detected.
9. At low level dock, remove pavers, retaining wall and slab as necessary to drive new sheet piles flush with wet face of existing.
10. Existing 20T bollard to be removed & reinstalled in new cap.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
DESIGN CPM SCHEDULES INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
(954) 922-6917 CERT. NO. 7616

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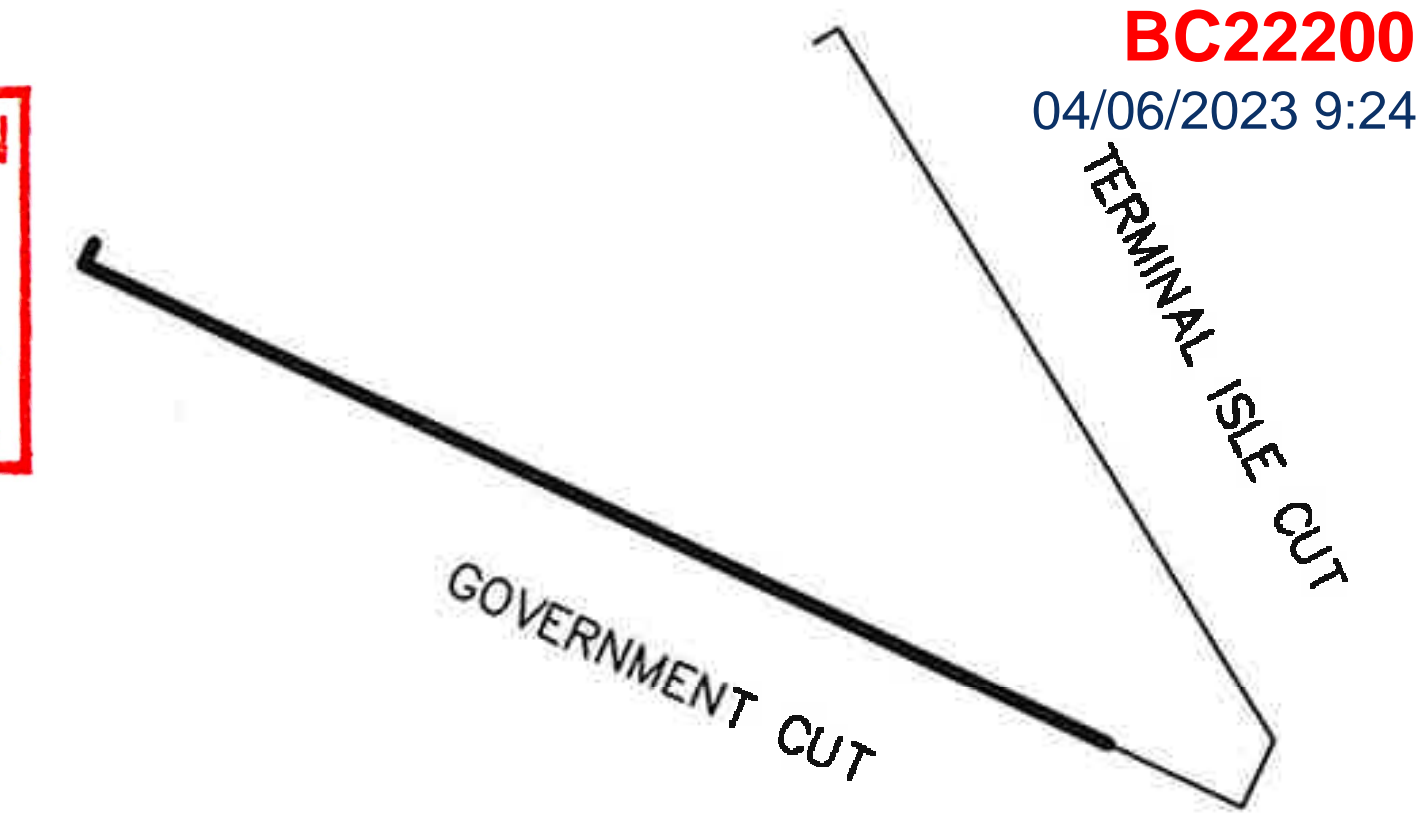
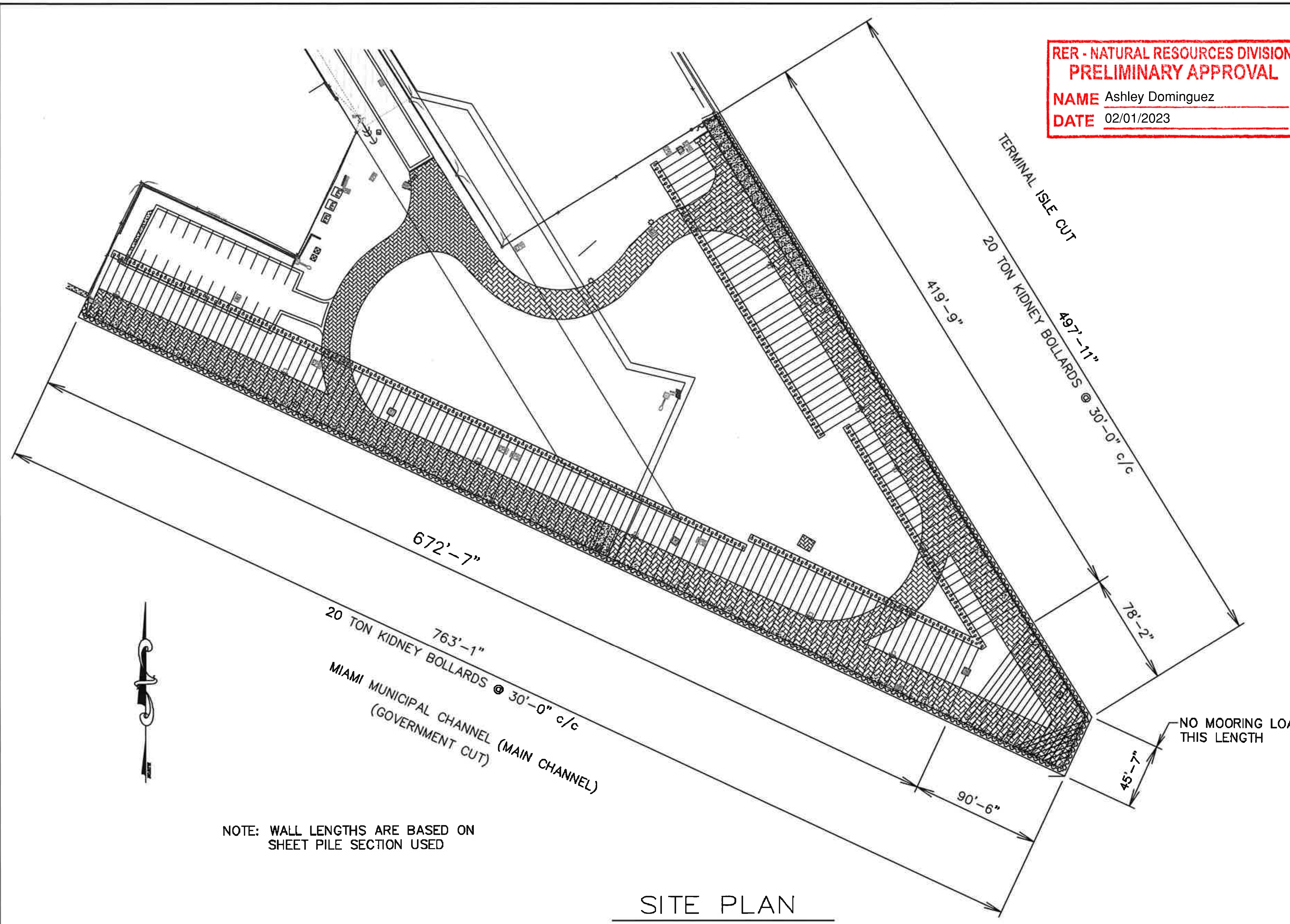
PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**DEMOLITION PLAN  
(2 OF 2)**

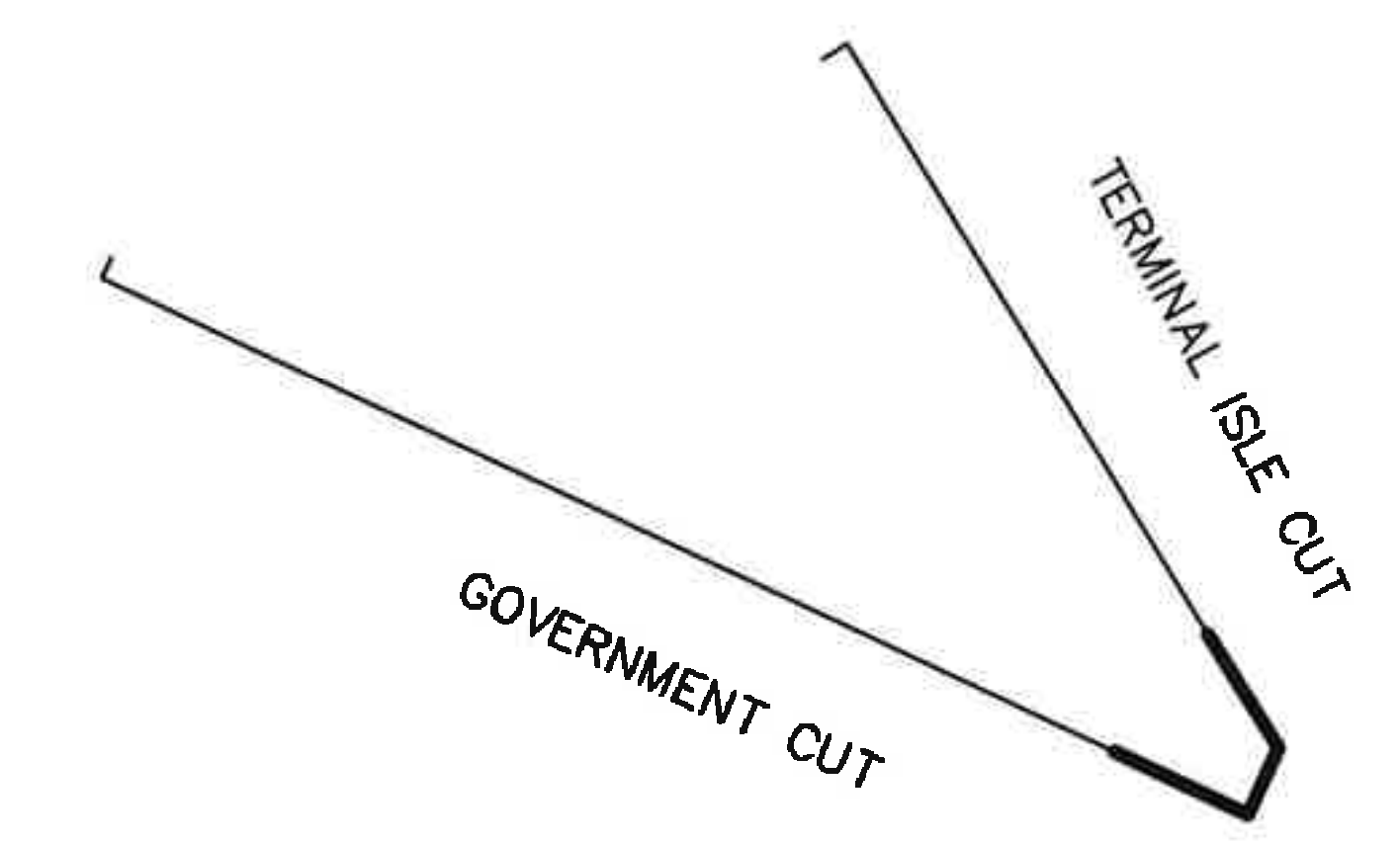
ORIGINAL: 26AUG22  
REVISIONS:  
1. 03OCT22  
2. 15DEC22  
3. \_\_\_\_\_  
4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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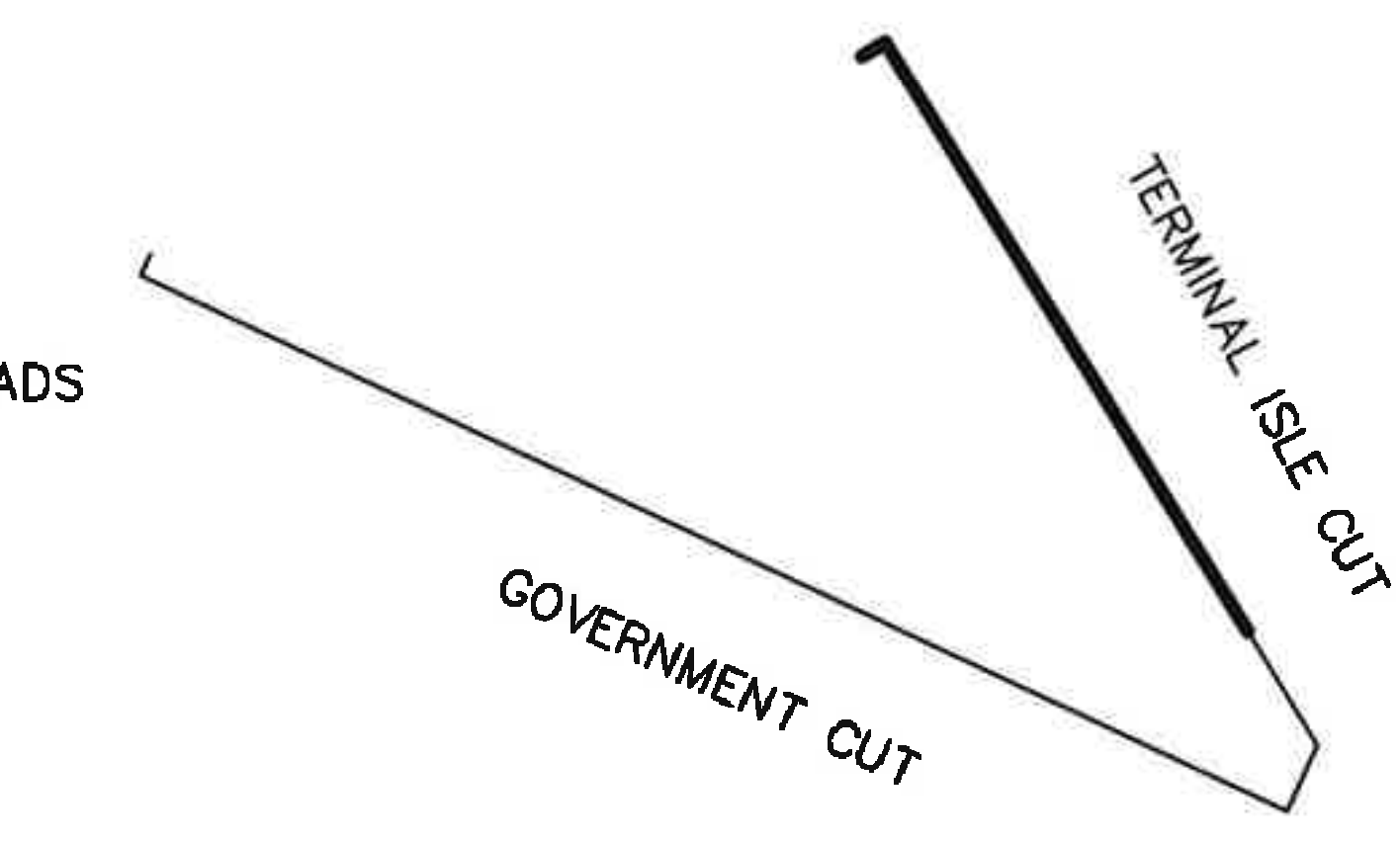
**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023



SECTION 1 LOCATION KEY



SECTION 2 LOCATION KEY



SECTION 3 LOCATION KEY

NOTE: WALL LENGTHS ARE BASED ON SHEET PILE SECTION USED

SITE PLAN

100% PLANS

**ENGINEERING CONSULTANTS**  
CONSTRUCTION DESIGN  
CONSTRUCTABILITY REVIEWS  
CONSTRUCTION COST ESTIMATES  
CLAIMS AVOIDANCE & ANALYSIS  
CONTRACTOR'S SPECIALTY ENGINEERING  
CPM SCHEDULES  
INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
(954) 922-6917  
CERT. NO. 7616

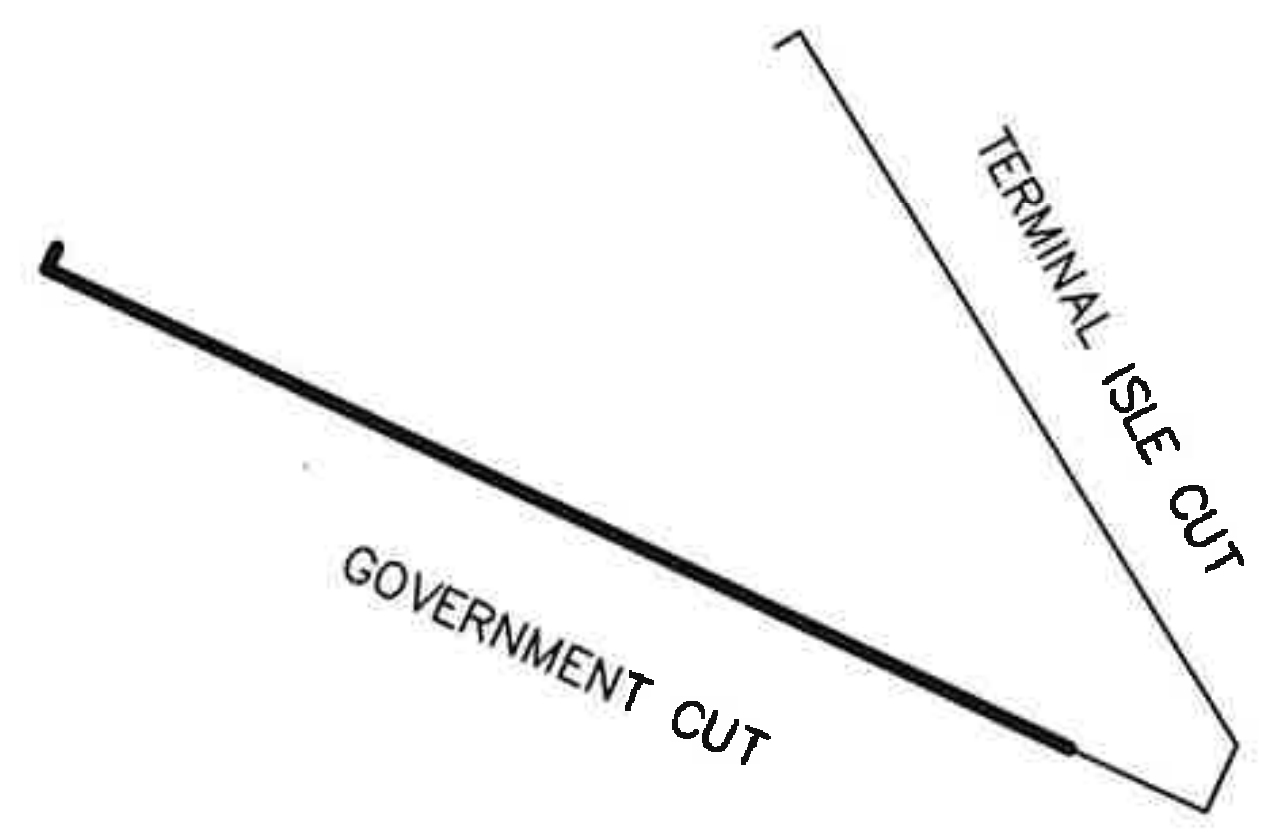
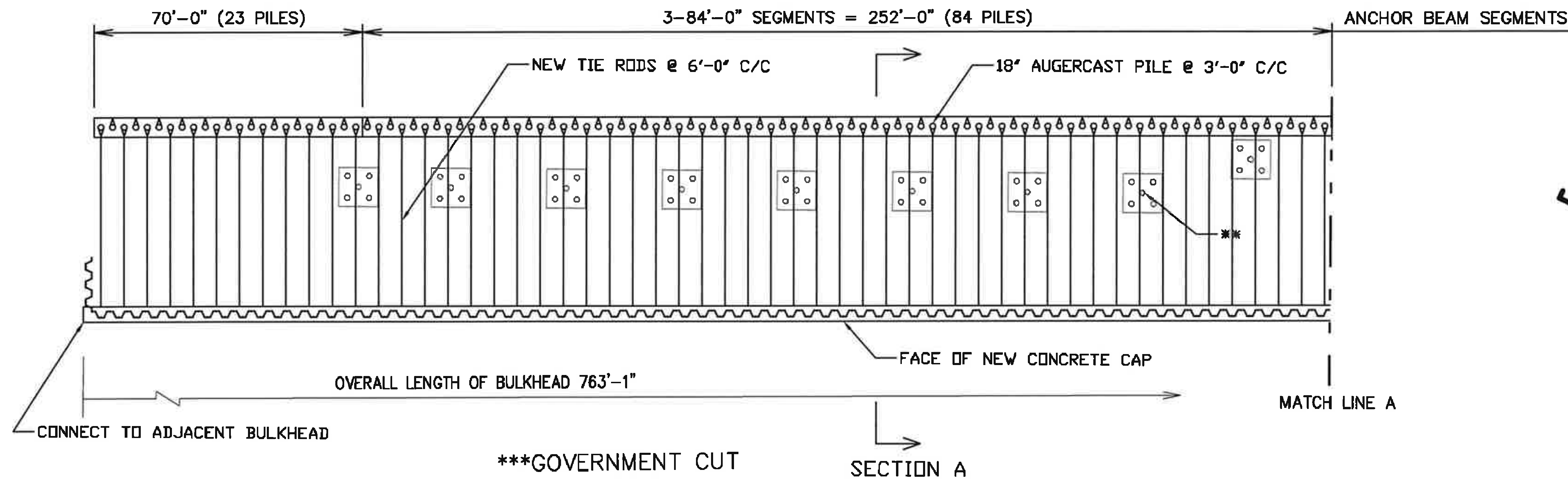
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

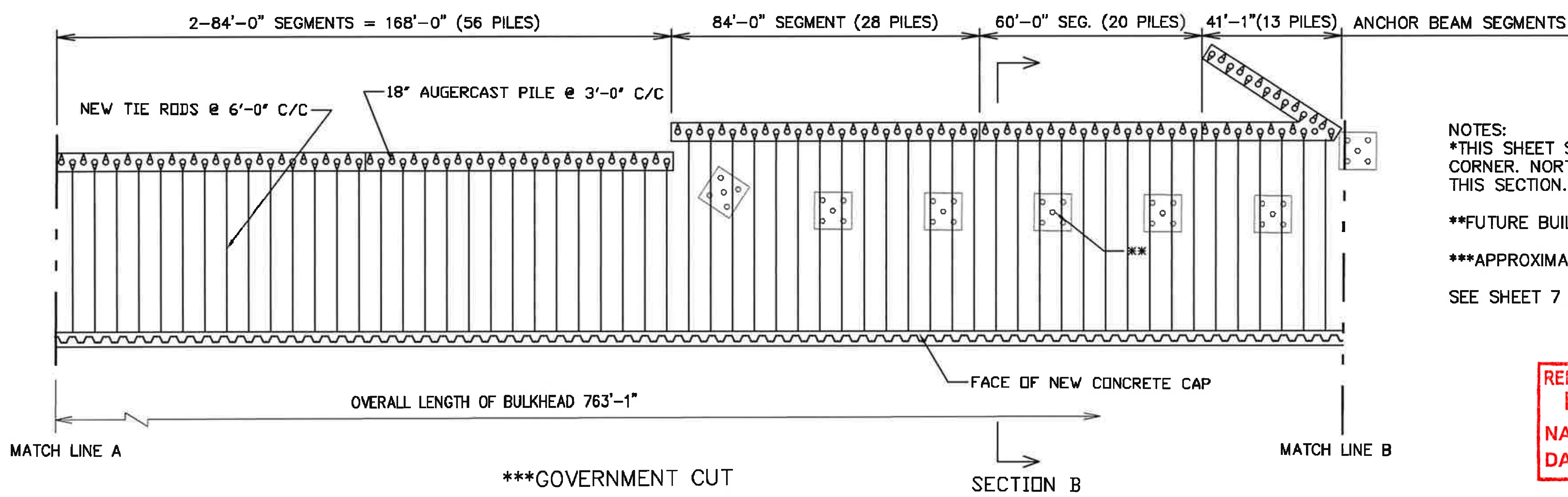
SHEET TITLE:  
**SITE PLAN  
AND KEYS**

ORIGINAL: 26AUG22  
REVISIONS:  
1. 03OCT22  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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DRAWN: MCB SHEET No. 7



LOCATION KEY



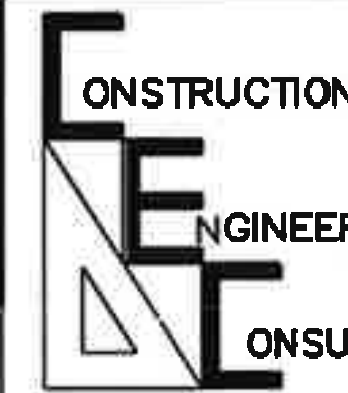
NOTES:  
\*THIS SHEET SHOWS SOUTHERN HALF OF ANCHOR BEAM CORNER. NORTHERN HALF TO BE INSTALLED MONOLITHIC WITH THIS SECTION.  
\*\*FUTURE BUILDING FOUNDATIONS (NIC).  
\*\*\*APPROXIMATE BOTTOM ELEVATION DESIGN SCOUR IS -37.0.  
SEE SHEET 7 FOR TYPICAL SECTION.

RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL  
NAME Ashley Dominguez  
DATE 02/01/2023

BULKHEAD PLAN

EXPANSION JOINTS REQUIRED IN ANCHOR BEAM AND CAP AT ENDS OF ANCHOR BEAM SEGMENTS.

100% PLANS

  
**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

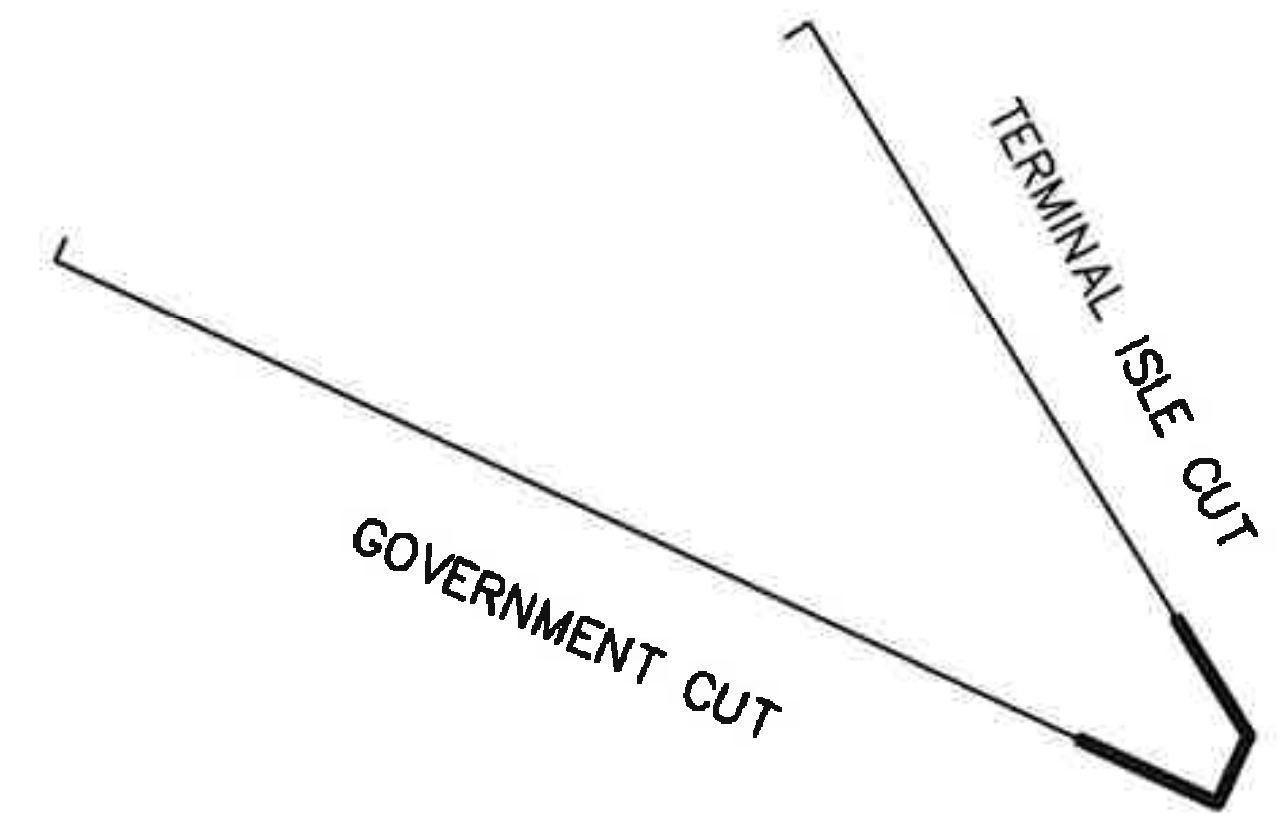
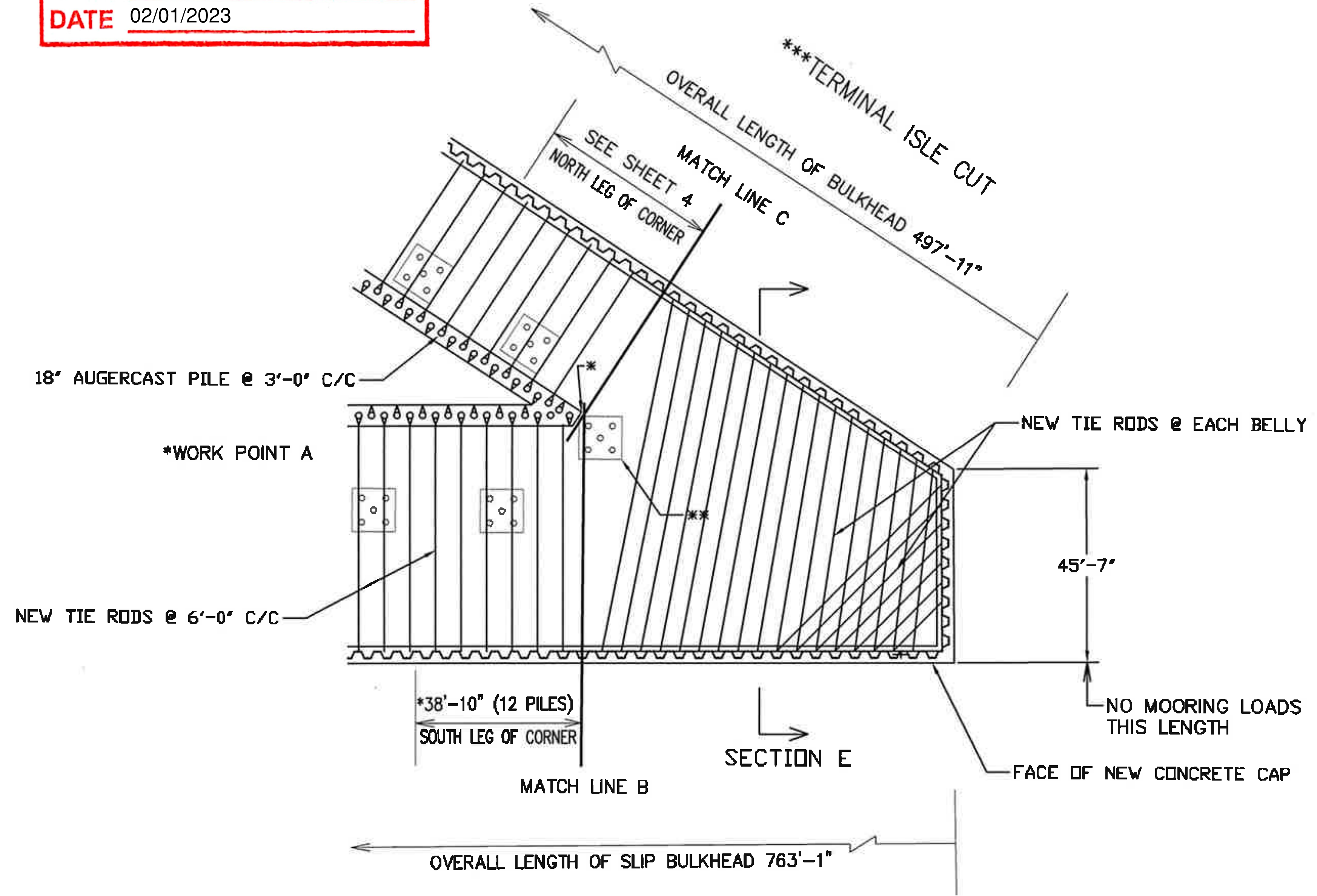
PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**BULKHEAD PLAN  
 SECTION 1**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 8

**RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023



LOCATION KEY

NOTES:  
 \*THIS SHEET SHOWS NORTHERN HALF OF ANCHOR BEAM CORNER. SOUTHERN HALF TO BE INSTALLED MONOLITHIC WITH THIS SECTION.  
 \*\*FUTURE BUILDING FOUNDATIONS (NIC).  
 \*\*\*APPROXIMATE BOTTOM ELEVATION DESIGN SCOUR IS -37.0.  
 SEE SHEET 8 FOR TYPICAL SECTION.

BULKHEAD PLAN

EXPANSION JOINTS REQUIRED IN ANCHOR BEAM AND CAP AT ENDS OF ANCHOR BEAM SEGMENTS.

100% PLANS

	CONSTRUCTION DESIGN CONSTRUCTABILITY REVIEWS CONSTRUCTION COST ESTIMATES CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS
	5391 N. NOB HILL ROAD SUNRISE, FL 33351 (954) 922-6917 CERT. NO. 7616

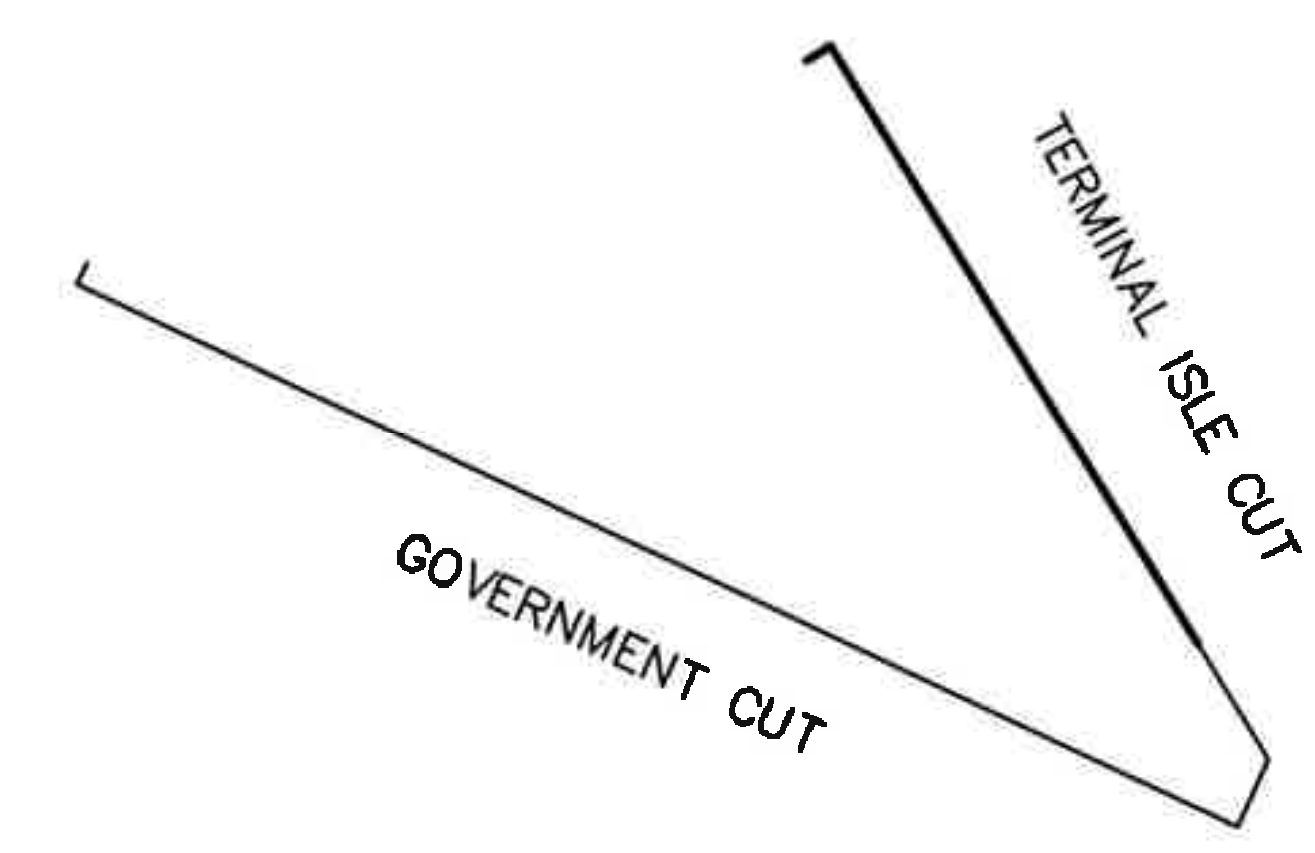
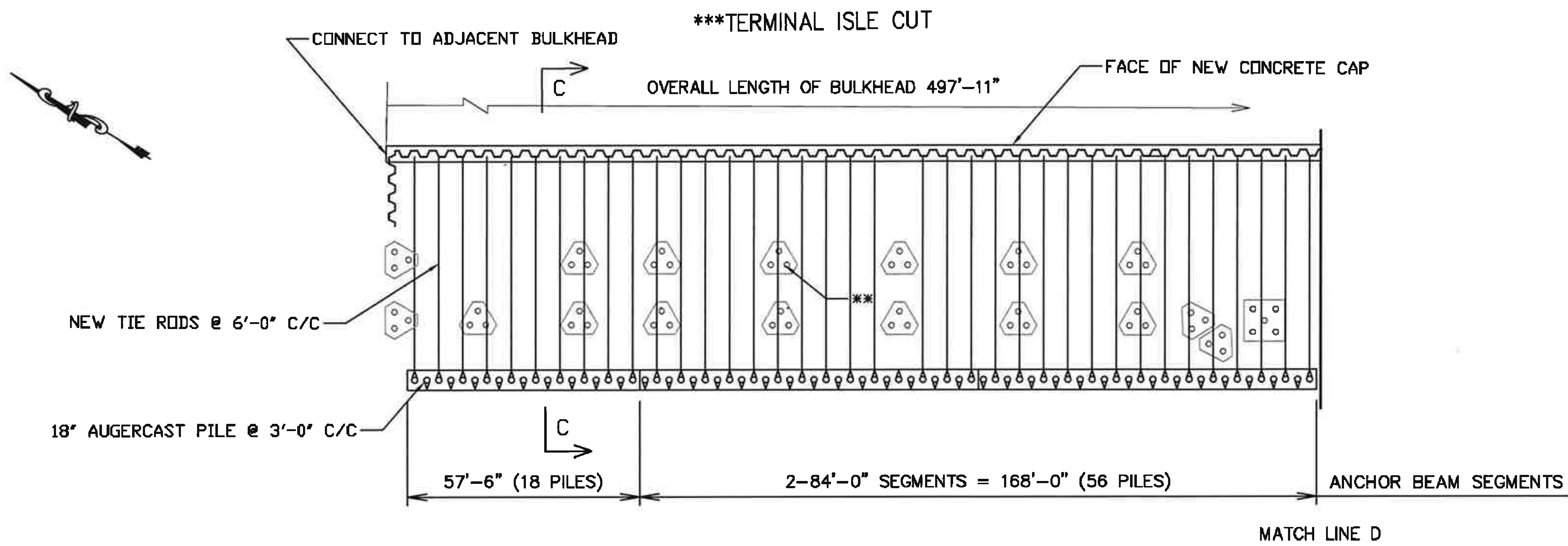
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**BULKHEAD PLAN  
 SECTION 2**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

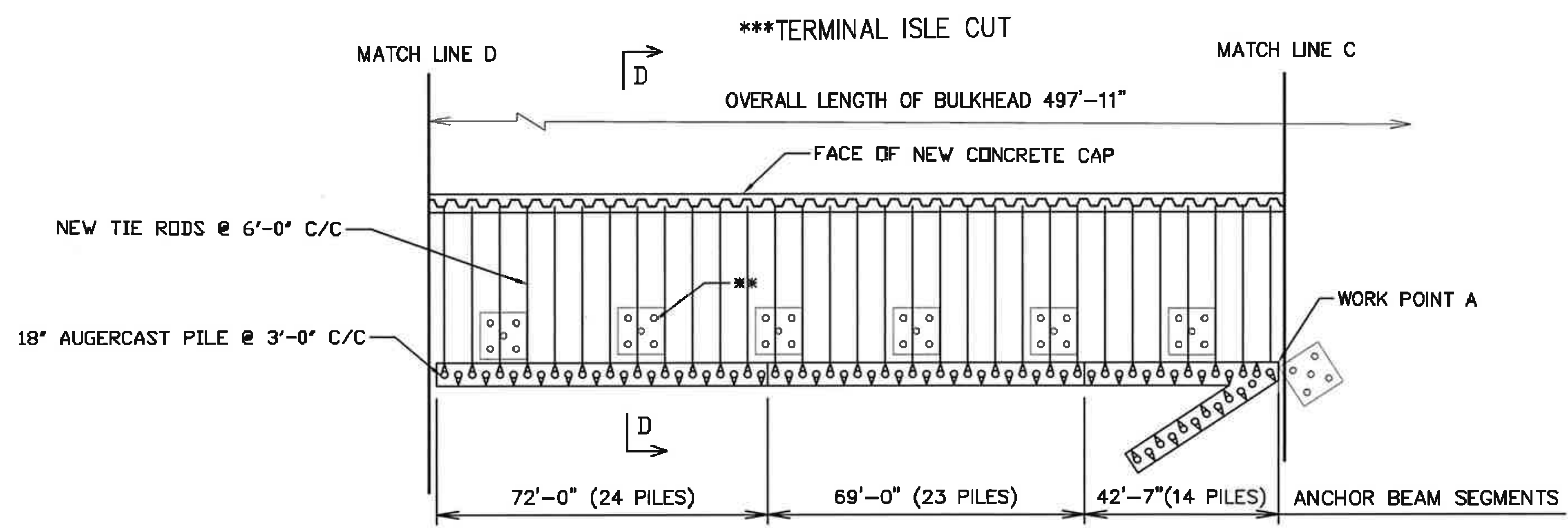
MICHAEL C. BONE, P.E. FL19383  
 THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004.  
 DRAWN: MCB SHEET No. 9



LOCATION KEY

**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023

NOTES:  
\*THIS SHEET SHOWS NORTHERN HALF OF ANCHOR BEAM CORNER. SOUTHERN HALF TO BE INSTALLED MONOLITHIC WITH THIS SECTION.  
\*\*FUTURE BUILDING FOUNDATIONS (NIC).  
\*\*\*APPROXIMATE BOTTOM ELEVATION DESIGN SCOUR IS -37.0.  
SEE SHEET 7 FOR TYPICAL SECTION.



BULKHEAD PLAN

EXPANSION JOINTS REQUIRED IN ANCHOR BEAM AND CAP AT ENDS OF ANCHOR BEAM SEGMENTS.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
DESIGN CPM SCHEDULES INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
(954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

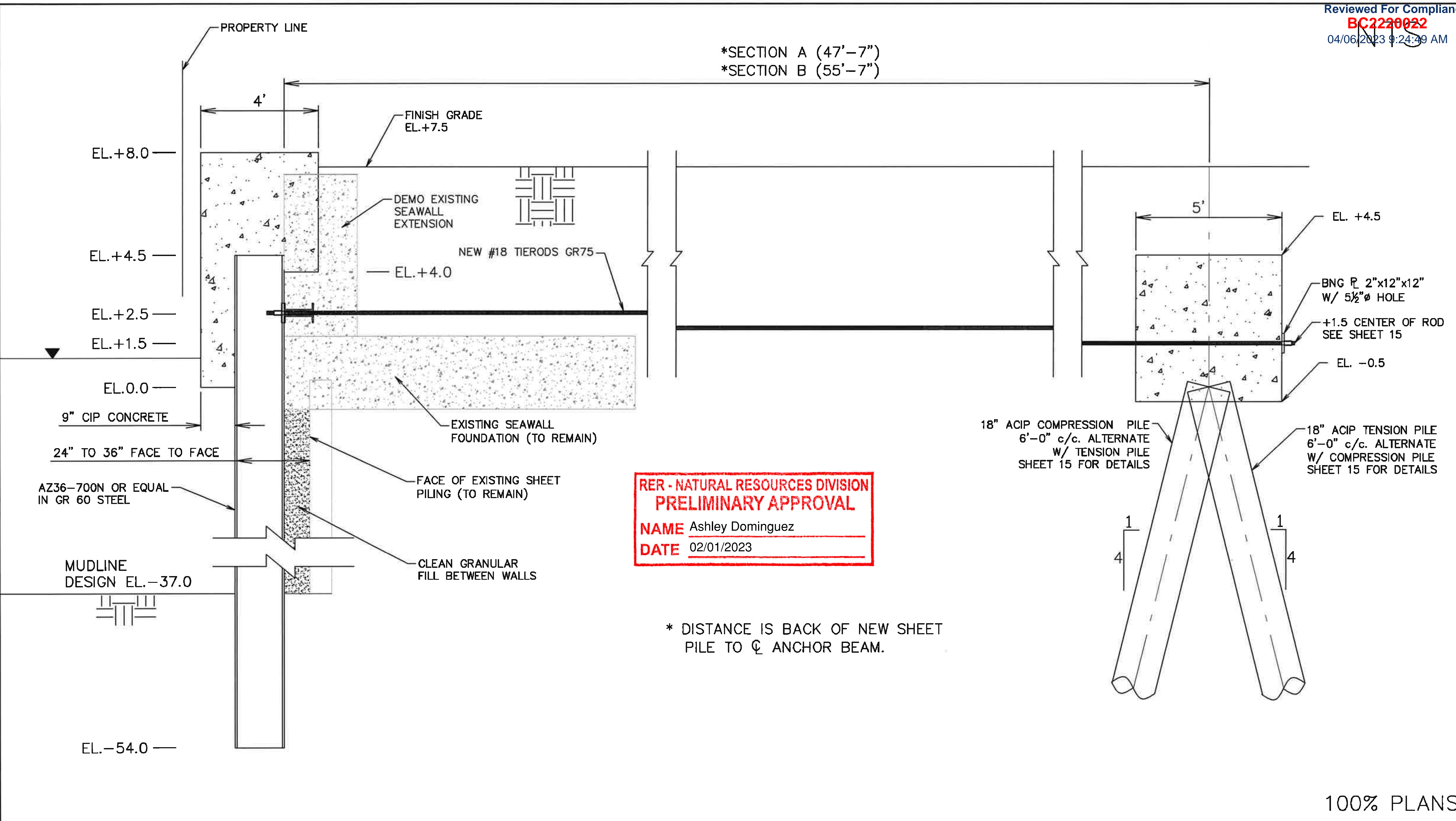
PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**BULKHEAD PLAN  
SECTION 3**

ORIGINAL: 26AUG22  
REVISIONS:  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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DRAWN: MCB SHEET No. 10

\*SECTION A (47'-7")  
\*SECTION B (55'-7")



**RER - NATURAL RESOURCES DIVISION**  
**PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023

\* DISTANCE IS BACK OF NEW SHEET PILE TO  $\phi$  ANCHOR BEAM.

100% PLANS

**ENGINEERING CONSULTANTS**  
CONSTRUCTION DESIGN  
CONSTRUCTABILITY REVIEWS  
CONSTRUCTION COST ESTIMATES  
CLAIMS AVOIDANCE & ANALYSIS  
CONTRACTOR'S SPECIALTY ENGINEERING  
CPM SCHEDULES  
INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
(954) 922-6917  
CERT. NO. 7616

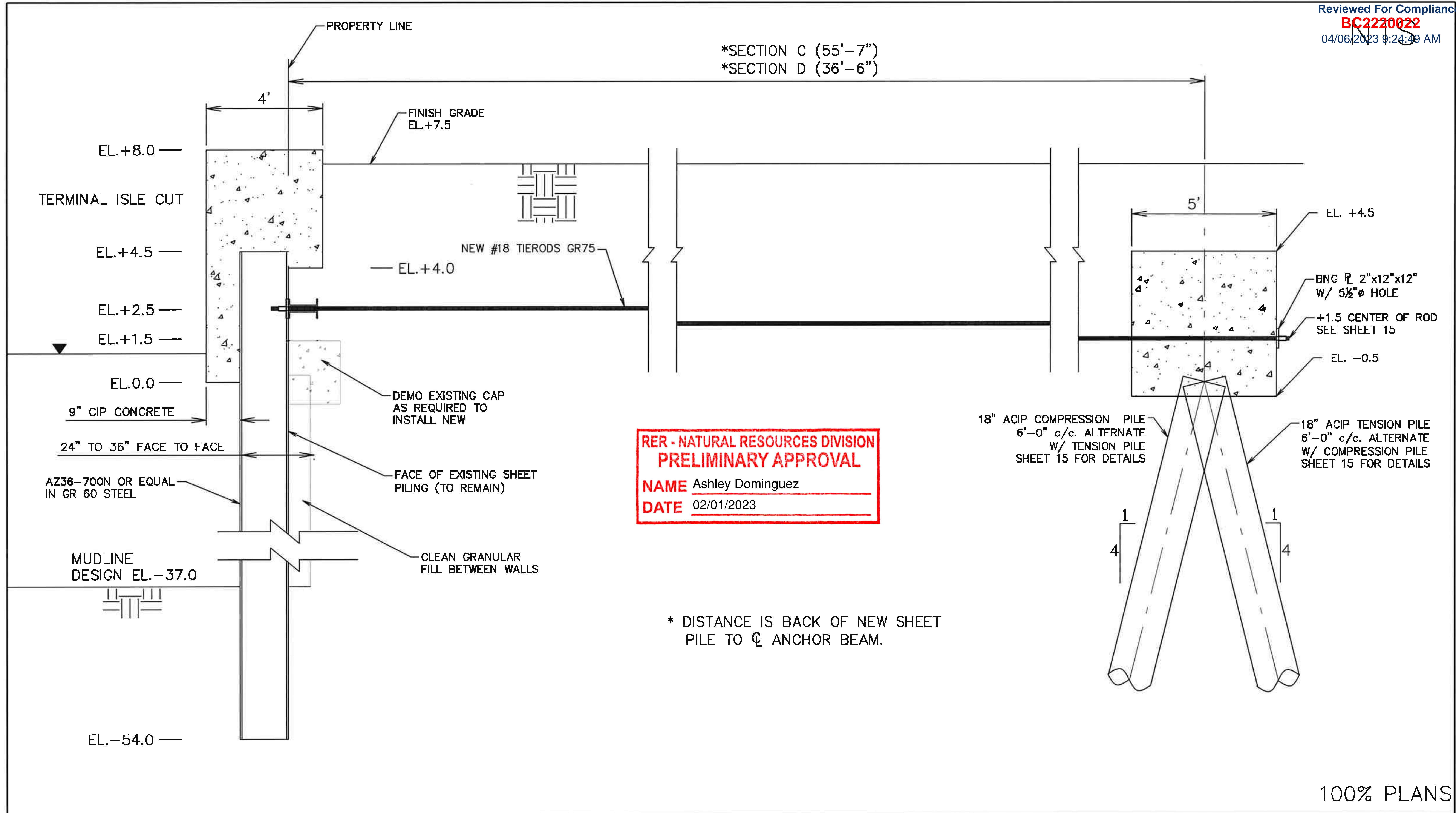
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**TYPICAL SECTIONS A AND B**

ORIGINAL: 26AUG22  
REVISIONS:  
1. 03OCT22  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

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DRAWN: MCB SHEET No. 11



**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023

\* DISTANCE IS BACK OF NEW SHEET PILE TO CL ANCHOR BEAM.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

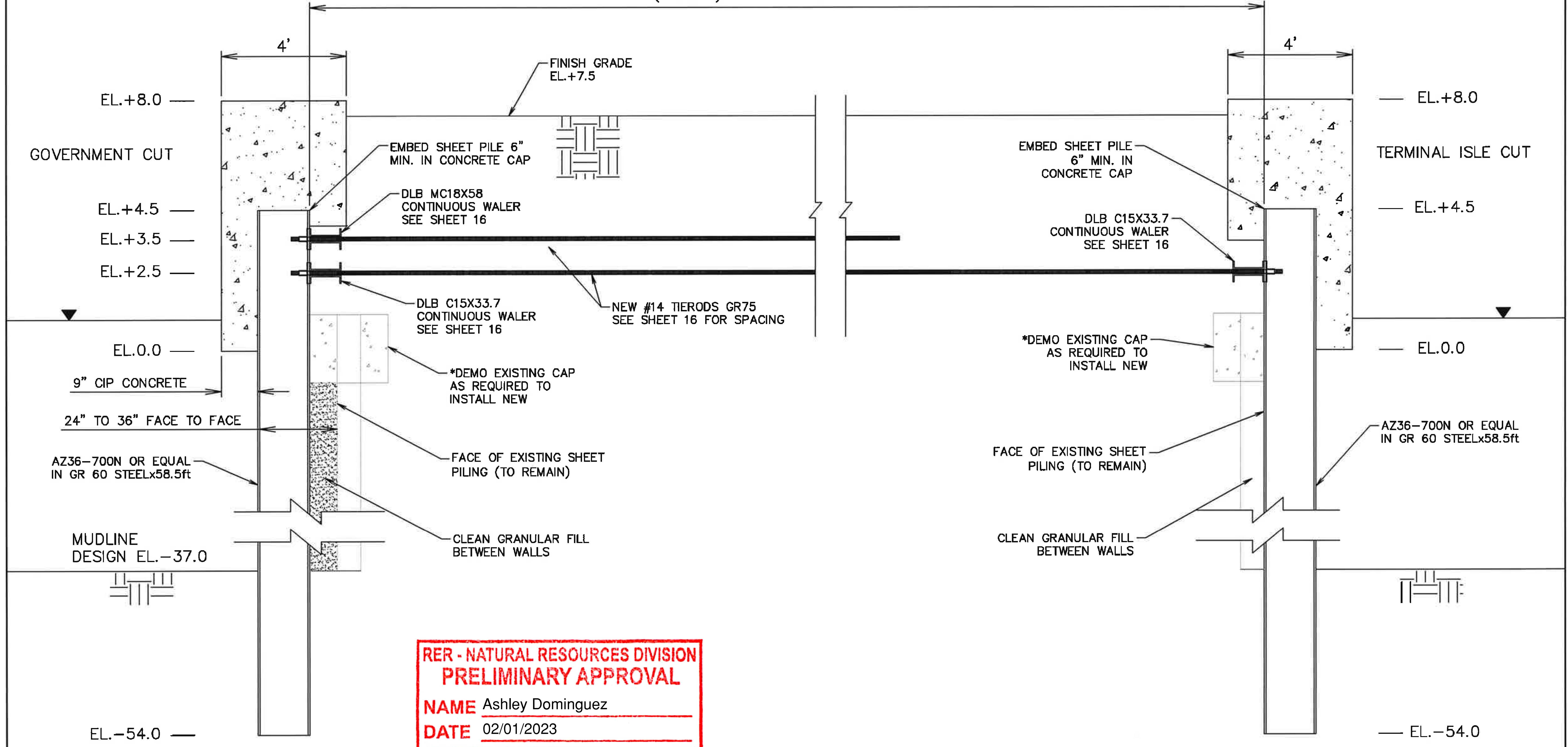
PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**TYPICAL SECTIONS  
 C AND D**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 11A

SECTION E (VARIES) BACK OF NEW SHEET PILE TO PROPERTY LINE



**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME Ashley Dominguez  
DATE 02/01/2023

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
DESIGN CPM SCHEDULES INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
(954) 922-6917 CERT. NO. 7616

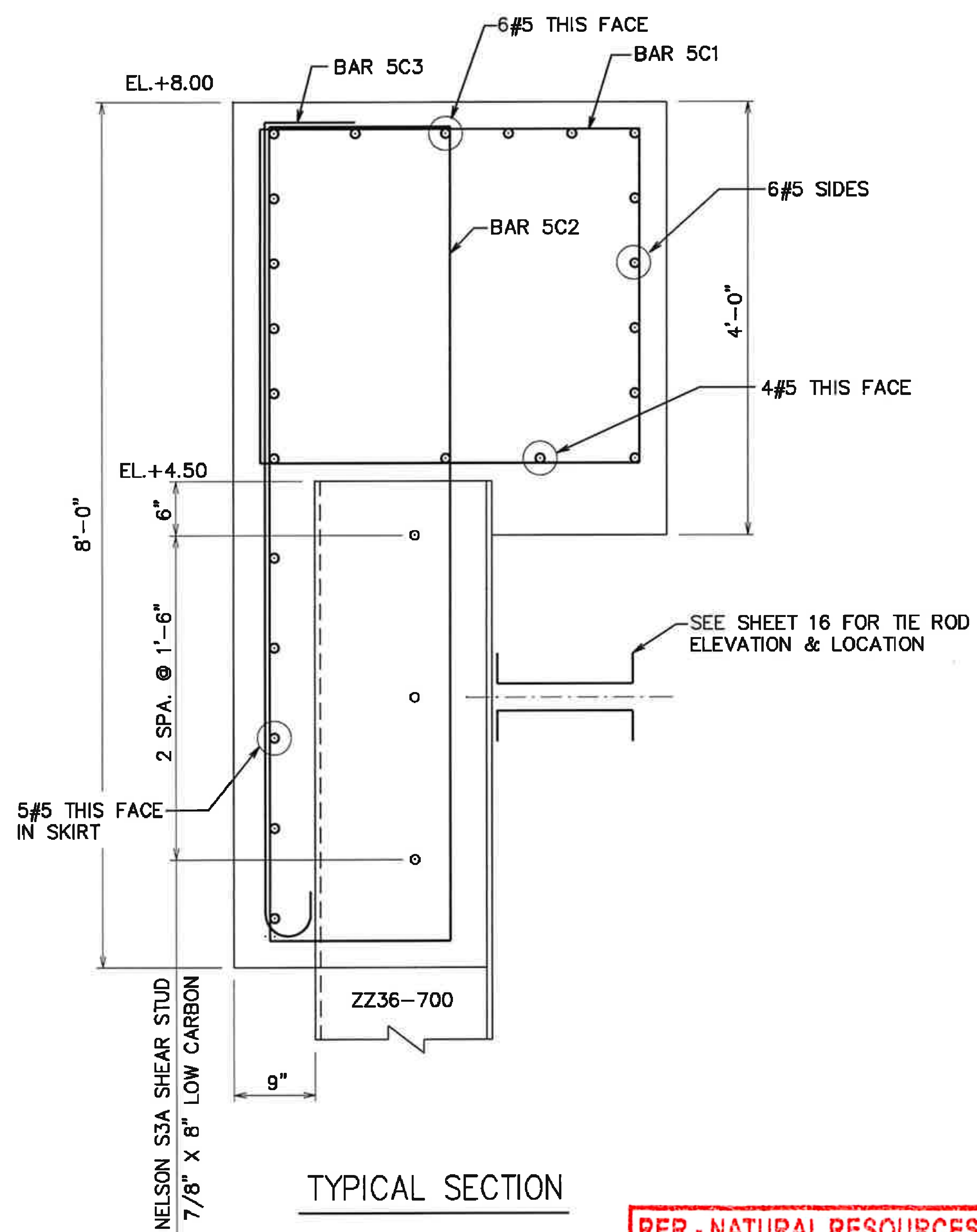
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

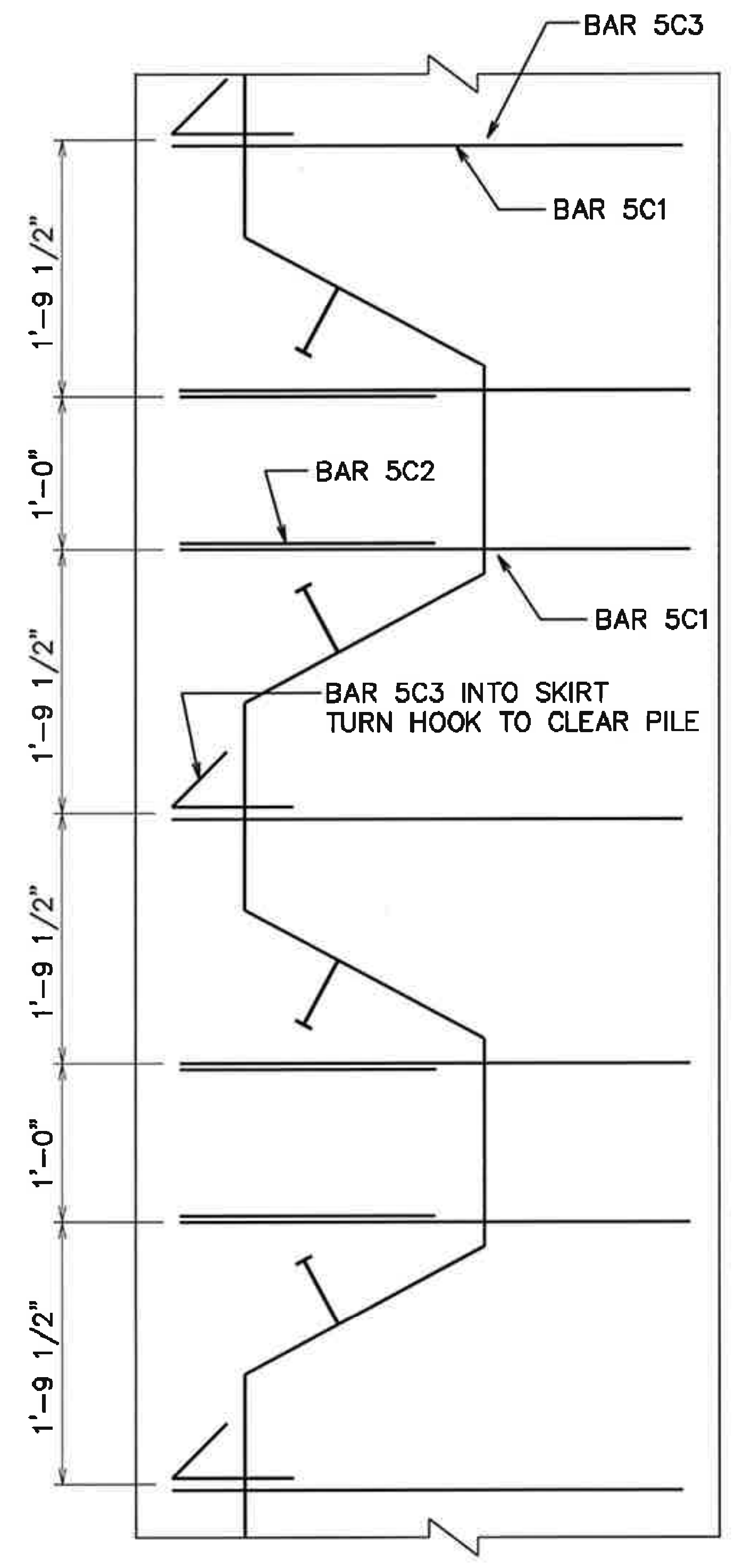
SHEET TITLE:  
**TYPICAL SECTION E**

ORIGINAL: 26AUG22  
REVISIONS:  
1. 03OCT22  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

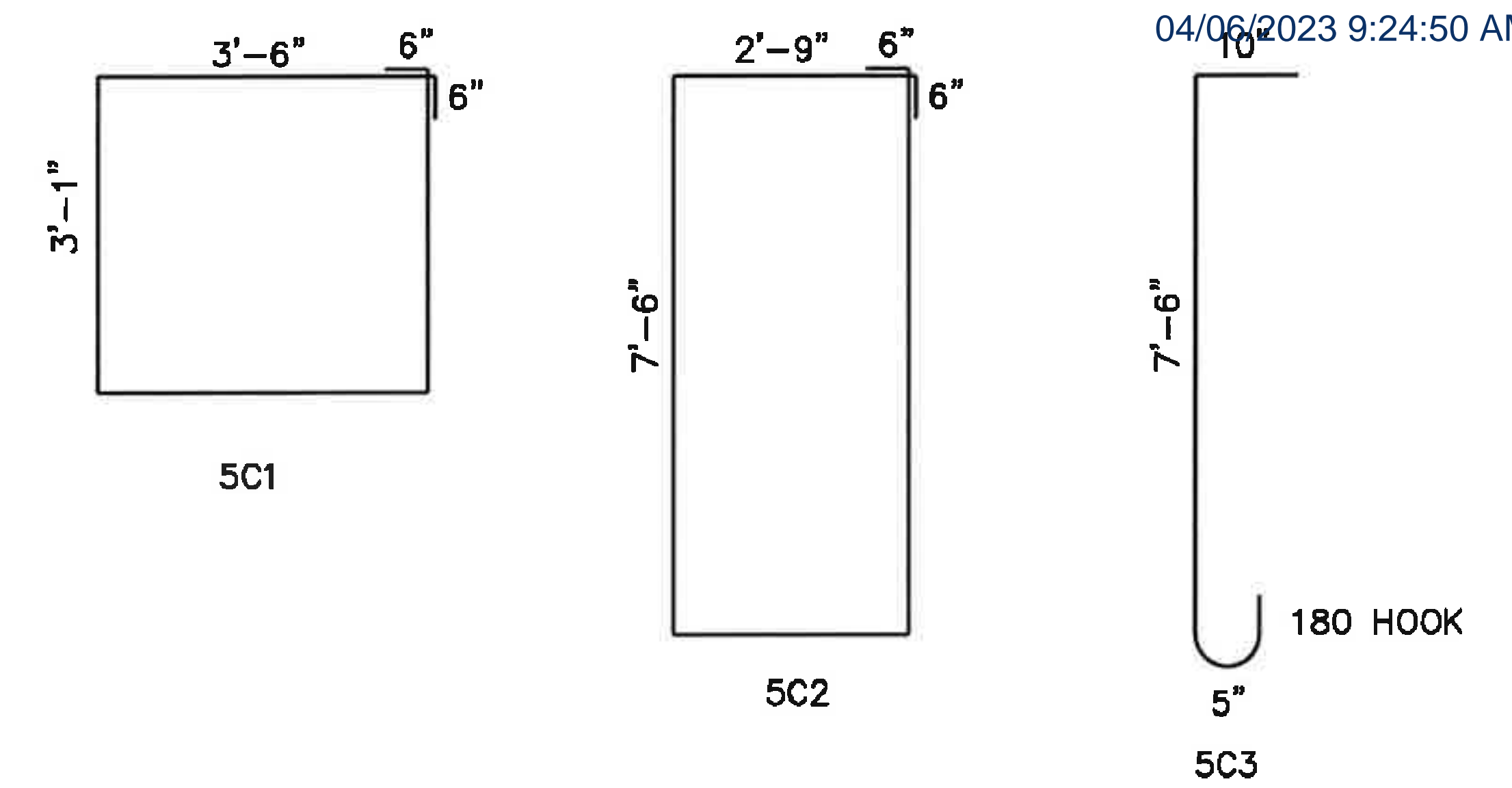
MICHAEL C. BONE, P.E. FL19383  
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004.  
DRAWN: MCB SHEET No. 12



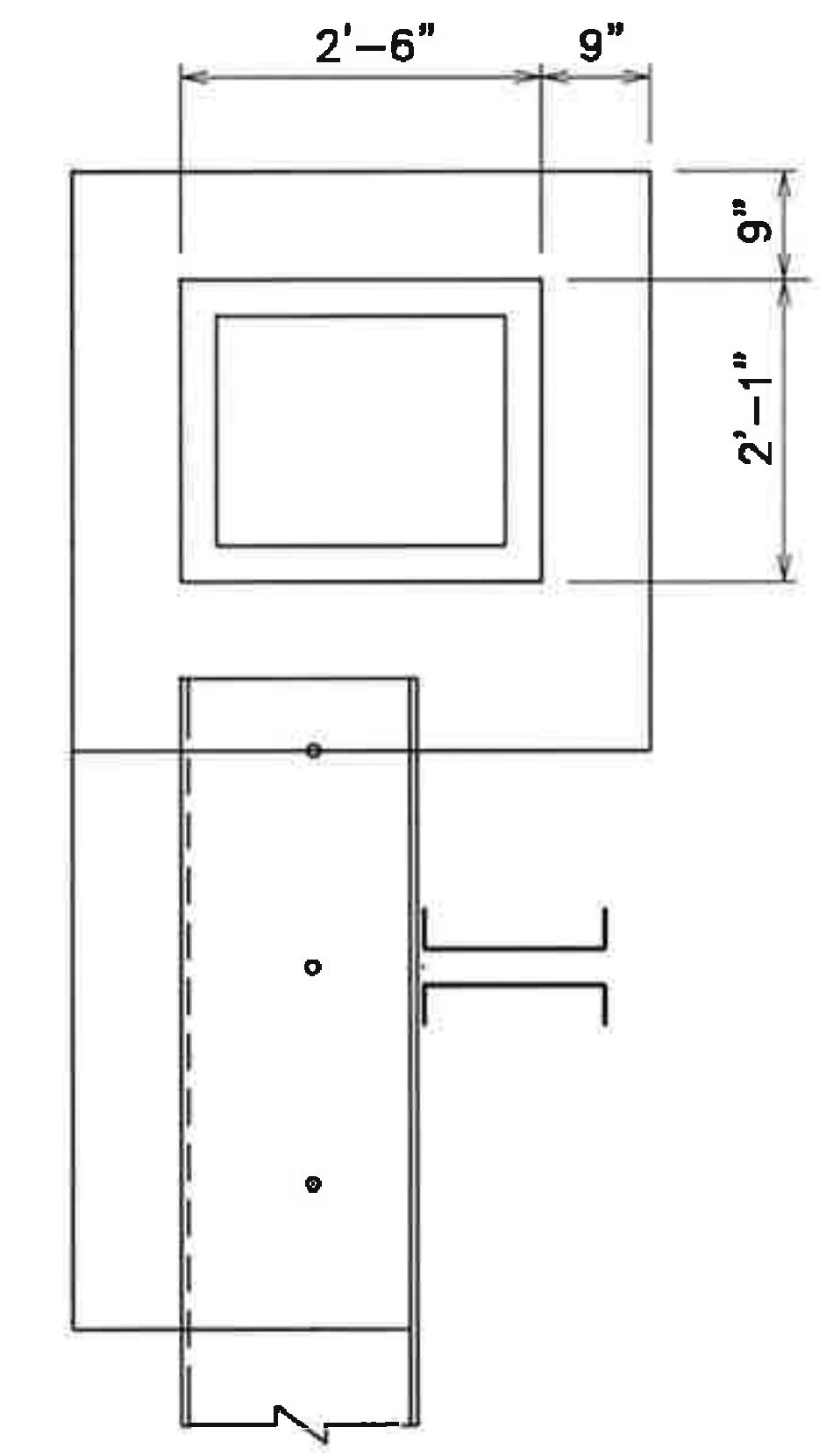
TYPICAL SECTION



PARTIAL PLAN



BAR BENDING DETAILS



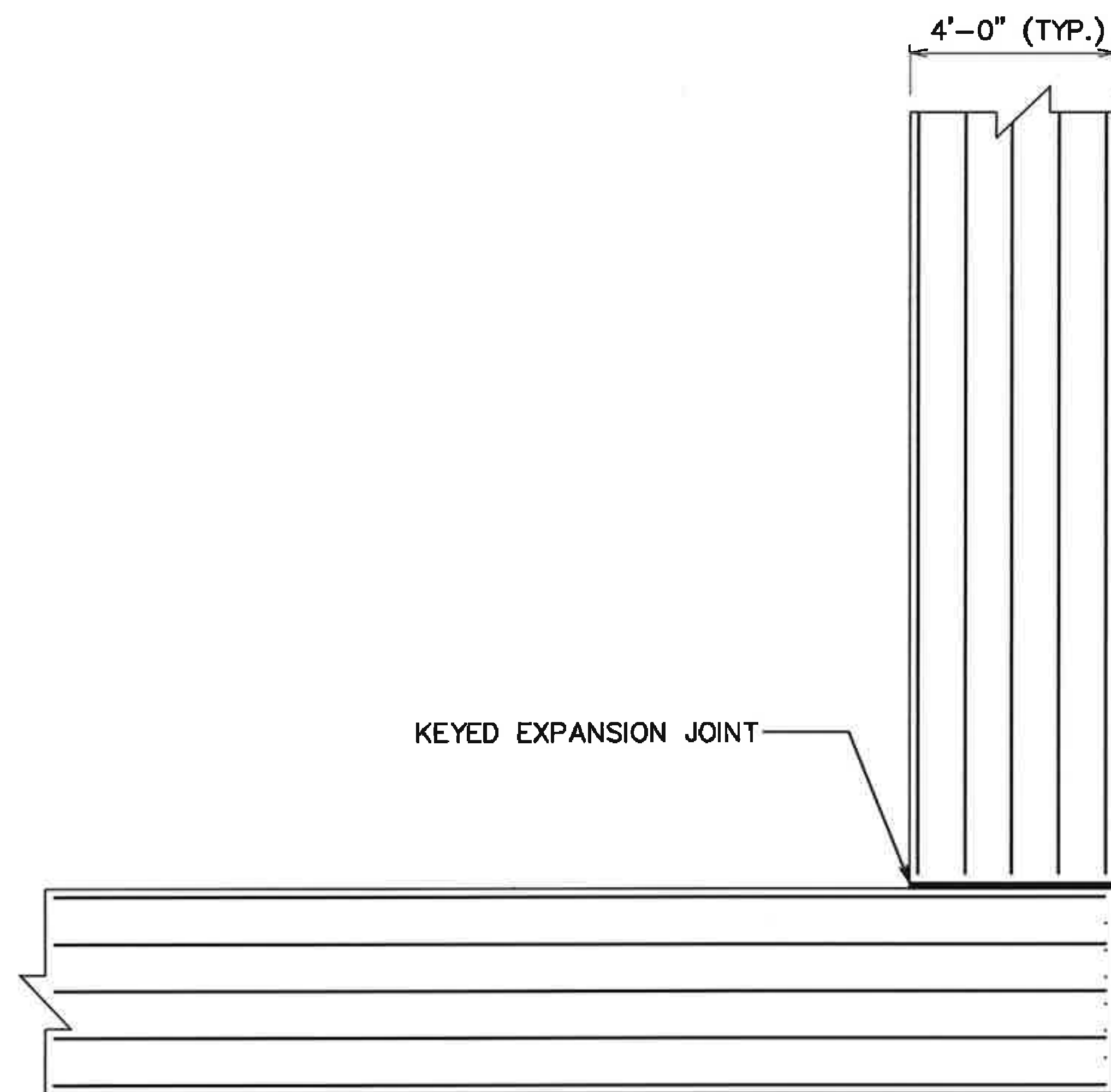
EXPANSION JOINT DETAILS

**RER - NATURAL RESOURCES DIVISION**  
**PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023

PROVIDE 1" PREMOULDED EXP. MAT'L @ EXPANSION JT'S.  
 STOP REBAR 3" FROM END OF CAP.  
 MAXIMUM DISTANCE BETWEEN EXP. JT'S = 84'

100% PLANS

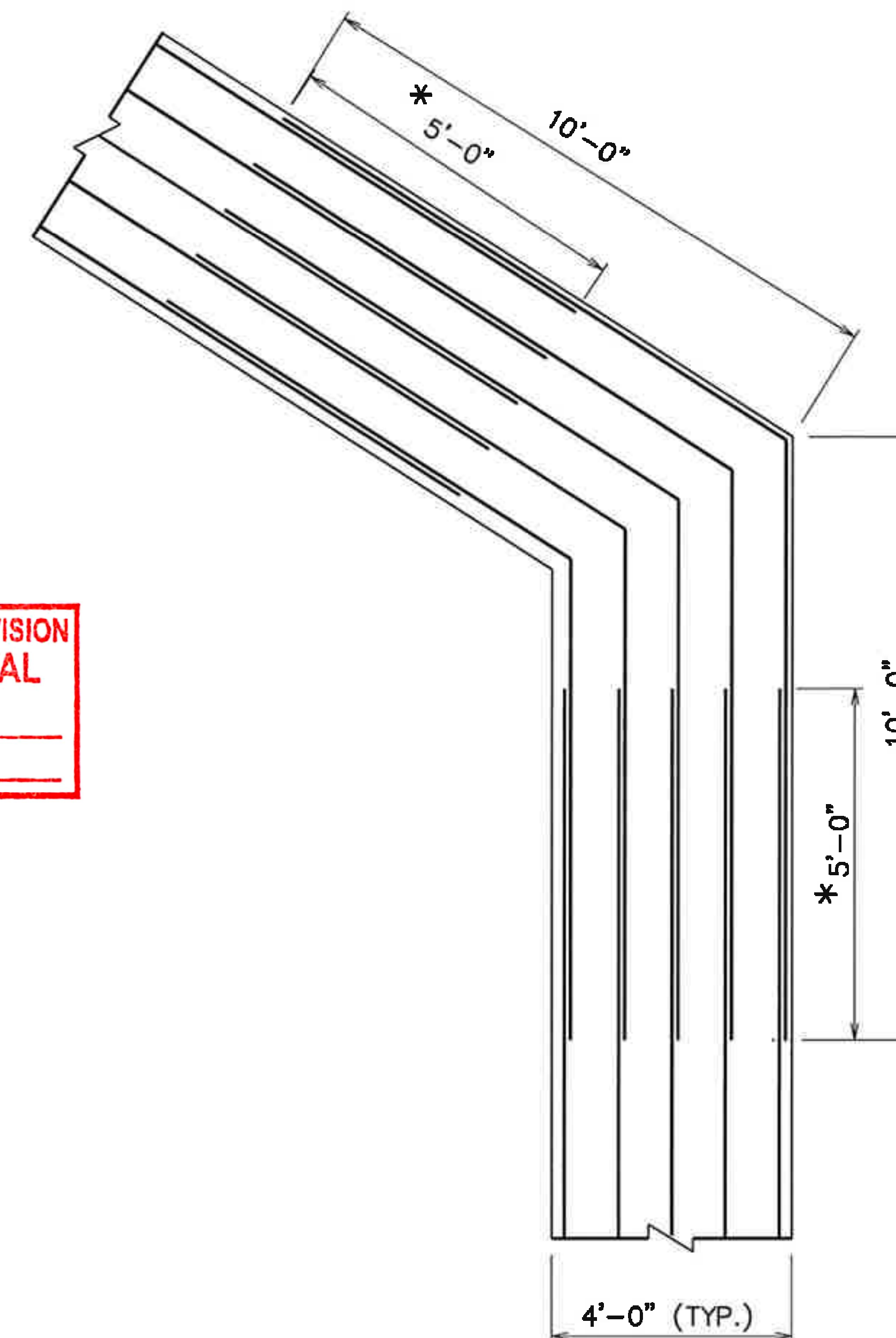
	CONSTRUCTION DESIGN ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS DESIGN CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING INSPECTIONS	OWNER:  <b>MIAMI BEACH PORT, LLC.</b>
	5391 N. NOB HILL ROAD SUNRISE, FL 33351 (954) 922-6917	PROJECT:  <b>ONE ISLAND PARK          BULKHEAD RENOVATIONS</b>	SHEET TITLE:  <b>BULKHEAD CAP DETAILS</b>
	CERT. NO. 7616	ORIGINAL: 26AUG22 REVISIONS: 1. _____ 2. _____ 3. _____ 4. _____	MICHAEL C. BONE, P.E. FL19383 THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004. DRAWN: MCB SHEET No. 13



LONGITUDINAL REBAR AT 90 DEGREE CORNER

SEE SHEET 13 FOR ADDITIONAL DETAILS

RER - NATURAL RESOURCES DIVISION  
**PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023



LONGITUDINAL REBAR AT 57.5 DEGREE CORNER

SEE SHEET 13 FOR ADDITIONAL DETAILS

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS	OWNER:  <b>MIAMI BEACH PORT, LLC.</b>
	(954) 922-6917	5391 N. NOB HILL ROAD SUNRISE, FL 33351	CERT. NO. 7616	

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**CAP CORNER REINFORCING**

ORIGINAL: 26AUG22

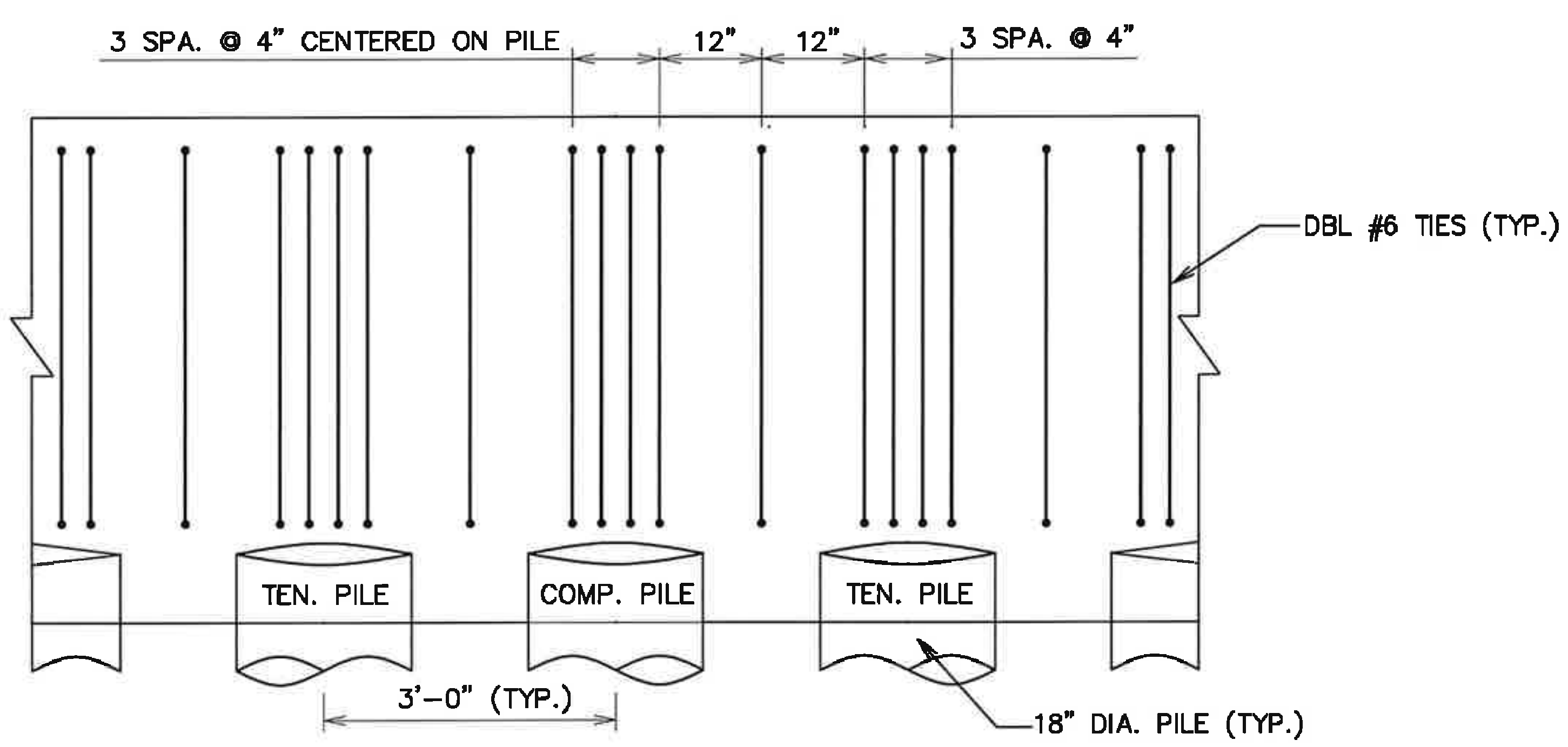
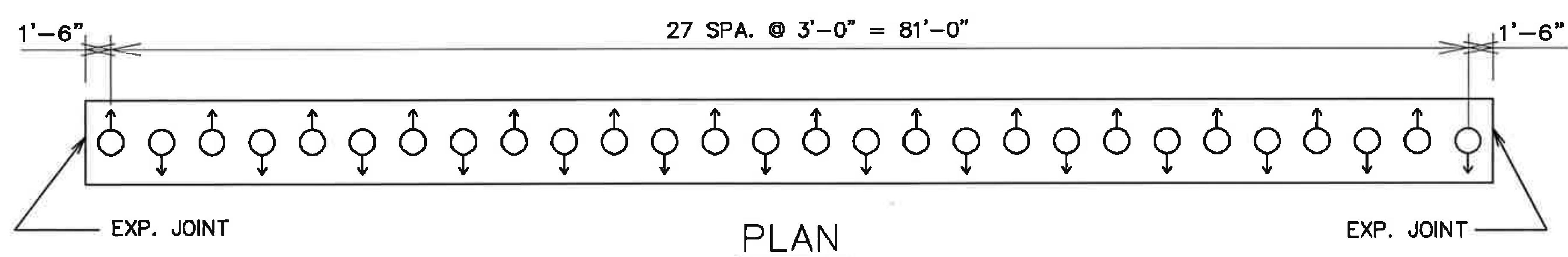
REVISIONS:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383

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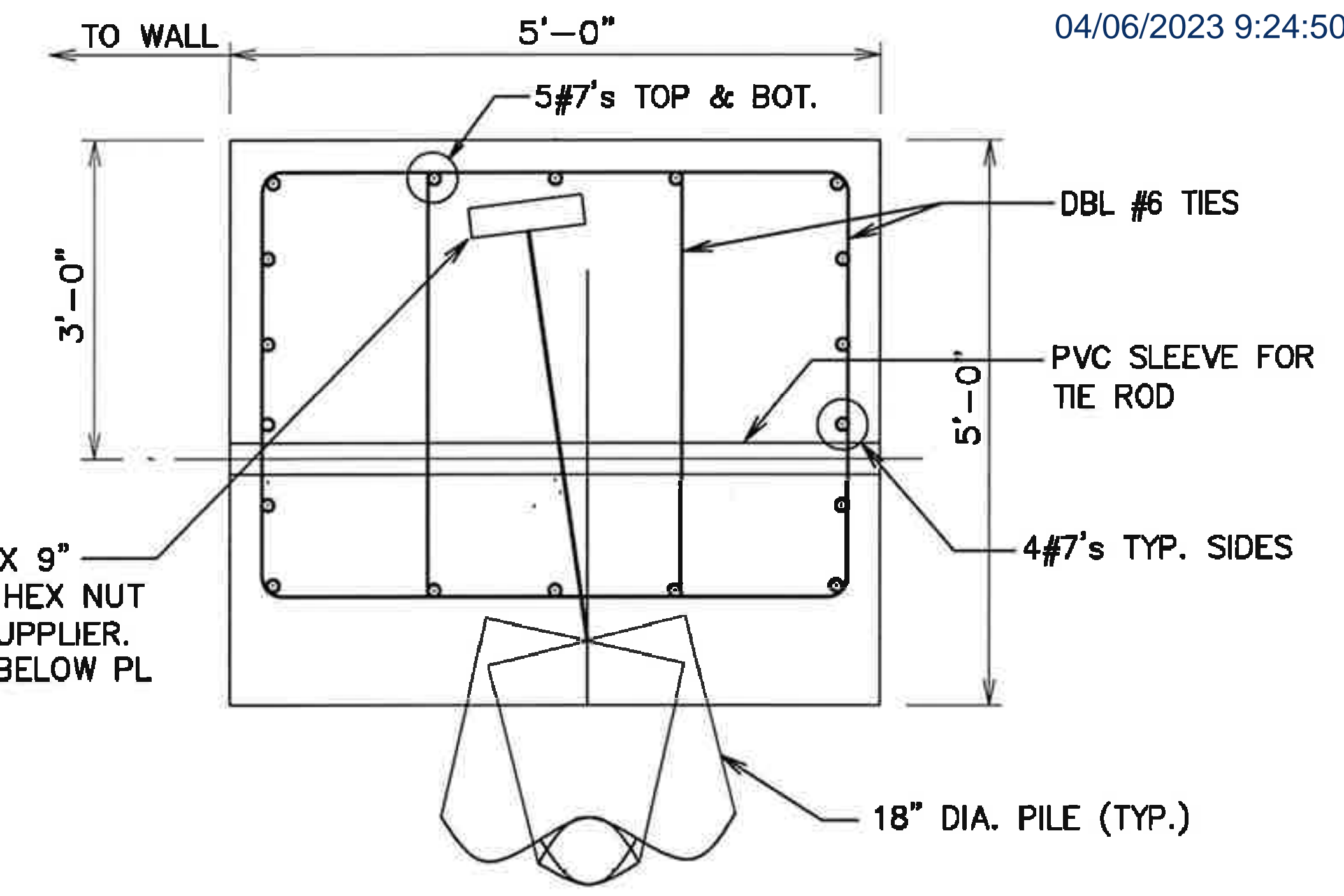
DRAWN: MCB SHEET No. 14



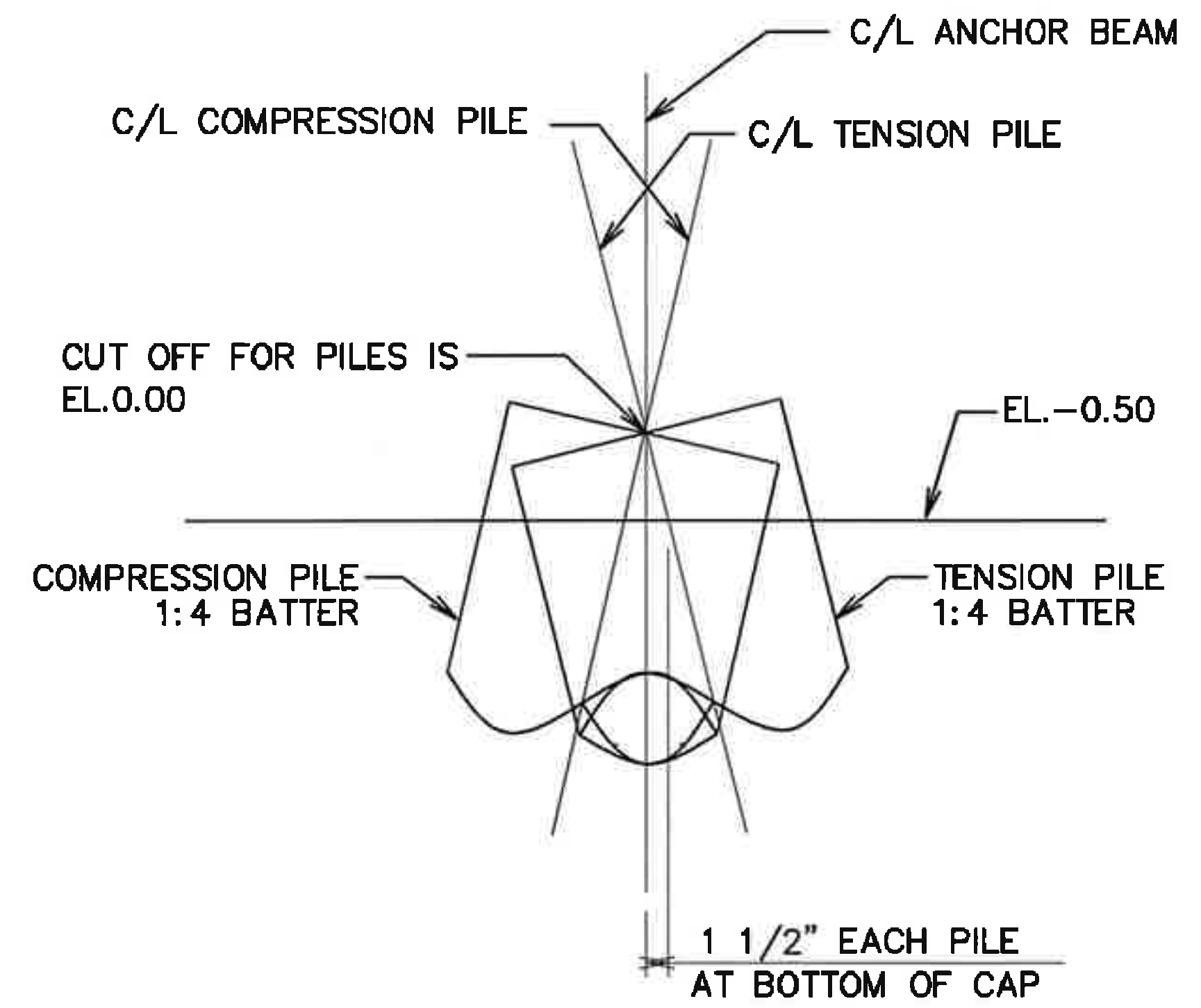
#6 TIE SPACING  
 LONGITUDINAL BARS NOT SHOWN  
 NOT TO SCALE

AUGER CAST PILE SUMMARY		
	Compression	Tension
Diameter	18"	18"
Design Load	270k	240k
Cut-off	0.00	+4.50 *
Min. Tip	-60	-60
Length	60'	65' *
Primary bars	6#7's	1 - 2 1/4" 150k
Ties	#3@16"	#3@16" **
Upper cage	N/A	6#7 x 30'

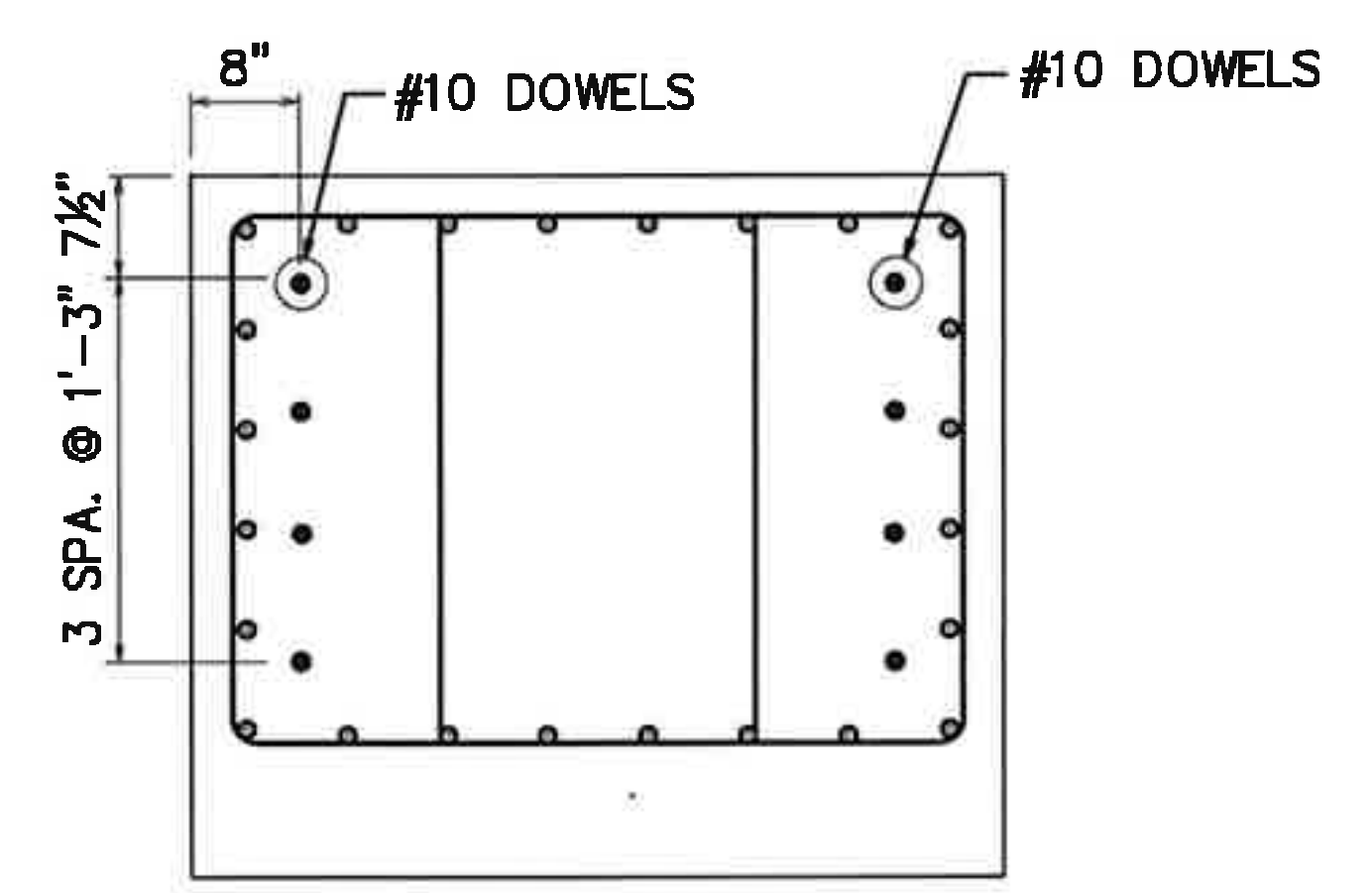
\* Allows for bar extension  
 \*\* Upper cage



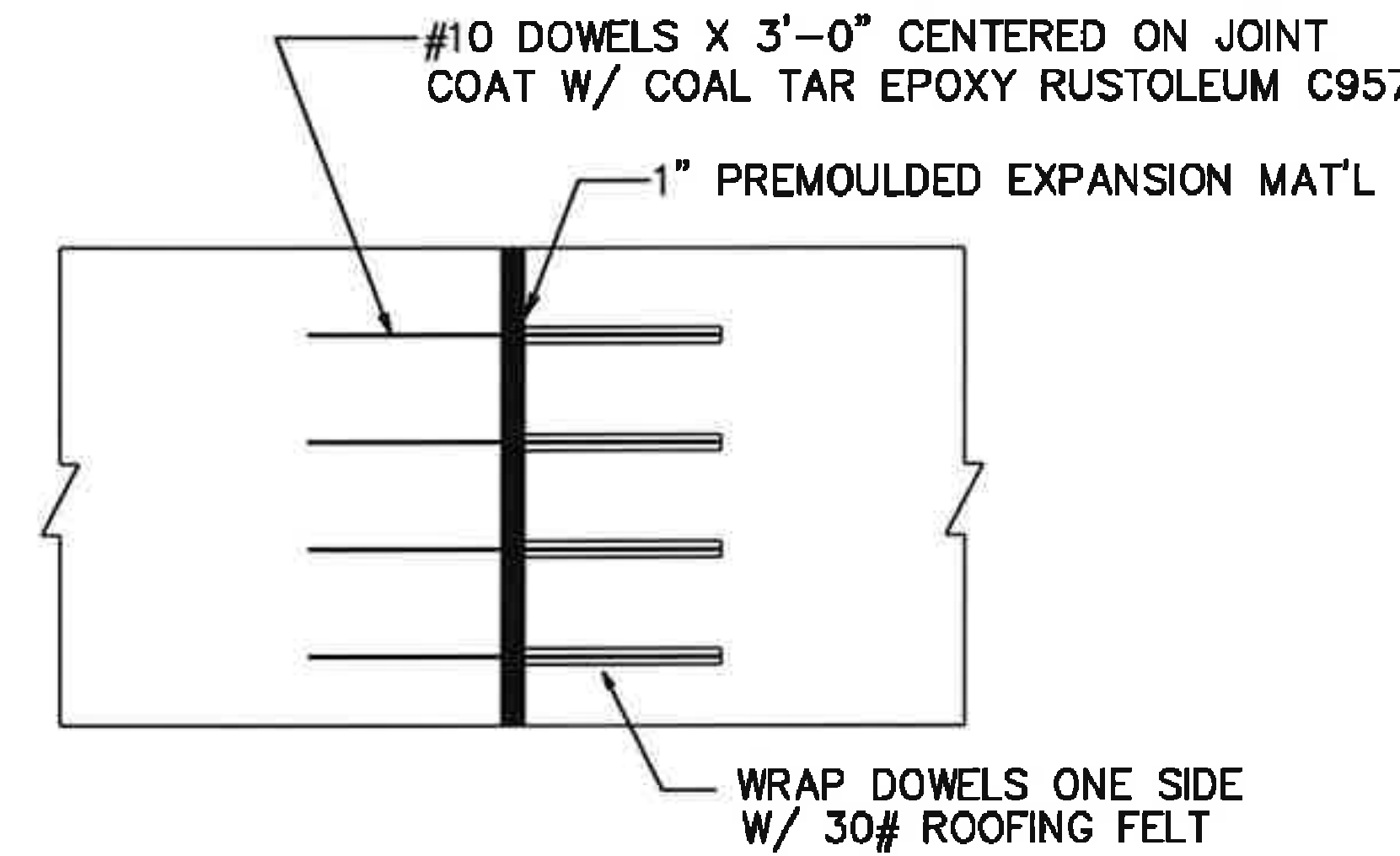
TYPICAL SECTION



PILE OFFSETS



DOWELS @ EXPANSION JOINT



ELEVATION AT EXPANSION JOINT  
 STOP REBARS 3" FROM END OF BEAM

RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL  
 NAME Ashley Dominguez  
 DATE 02/01/2023

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

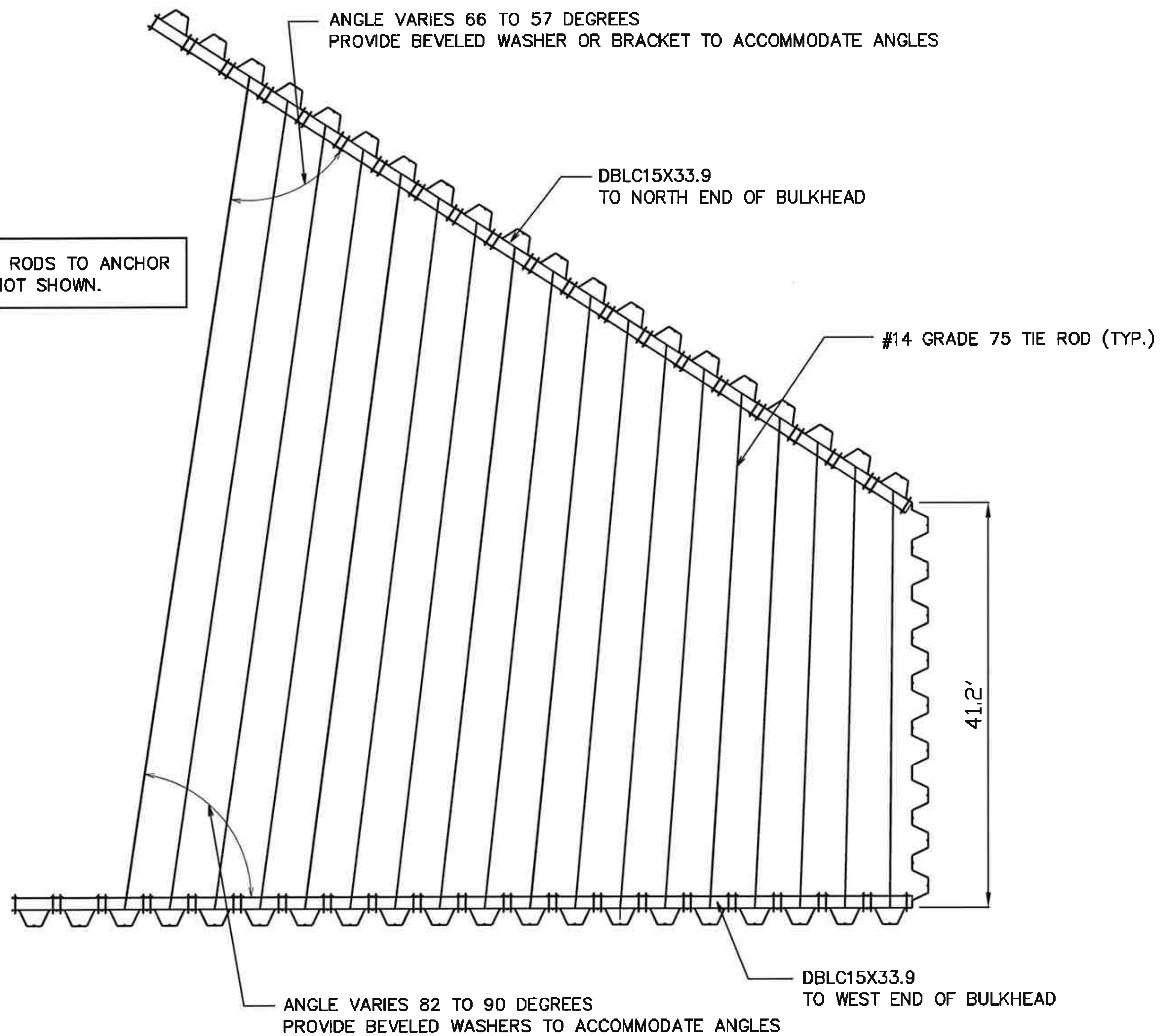
SHEET TITLE:  
**ANCHOR WALL TYPICAL 84'-0" SEGMENTS**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

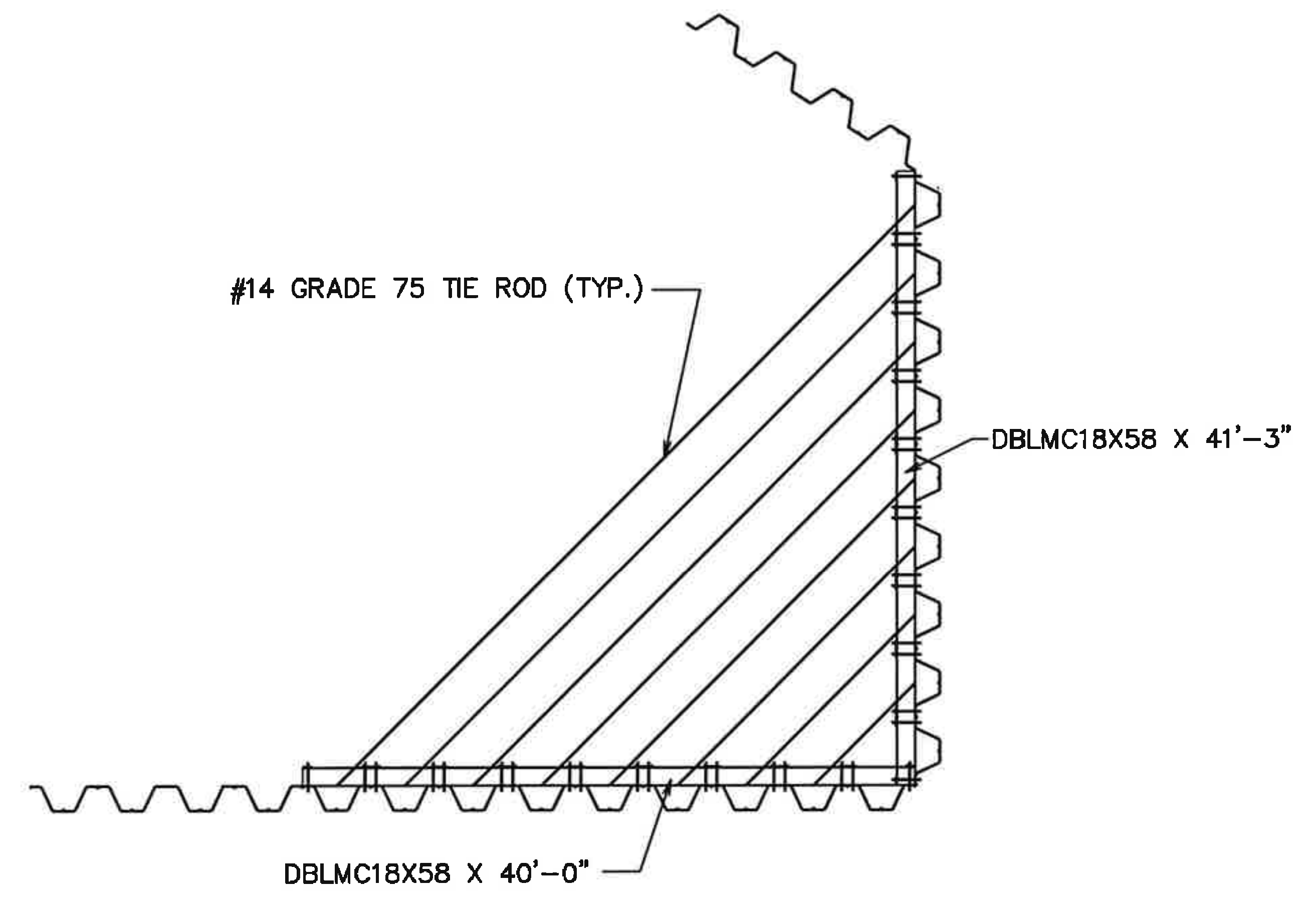
MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 15

**RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023

#18 TIE RODS TO ANCHOR  
 BEAM NOT SHOWN.



WALERS AND TIE RODS AT EL.+2.50



WALERS AND TIE RODS AT EL.+3.50

100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 COST ESTIMATES  
 OPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

CLIENT:  
**MIAMI BEACH PORT, LLC.**

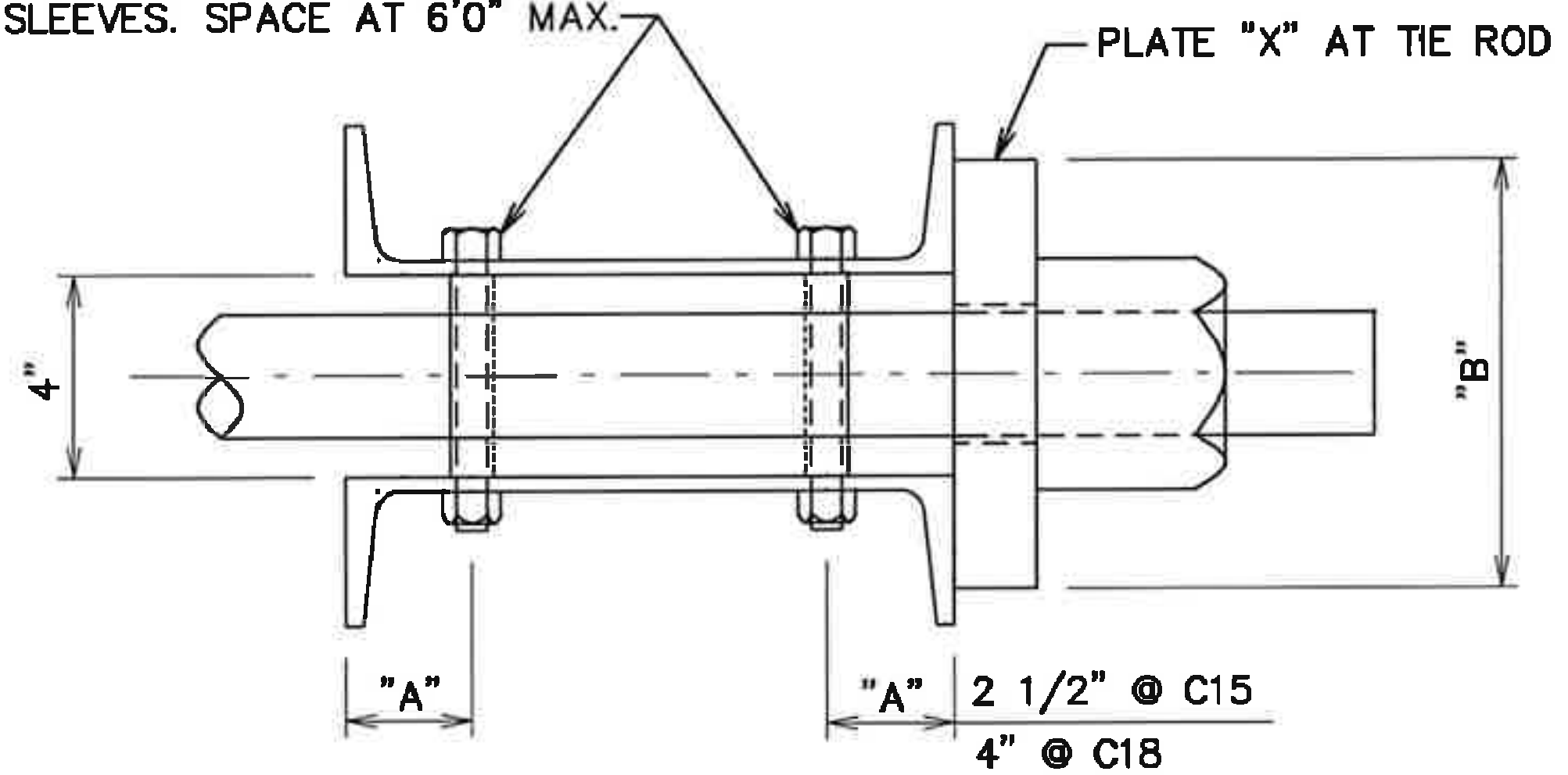
PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**WALER AND TIE ROD PLAN  
 AT SOUTHEAST CORNER**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET NO. 16

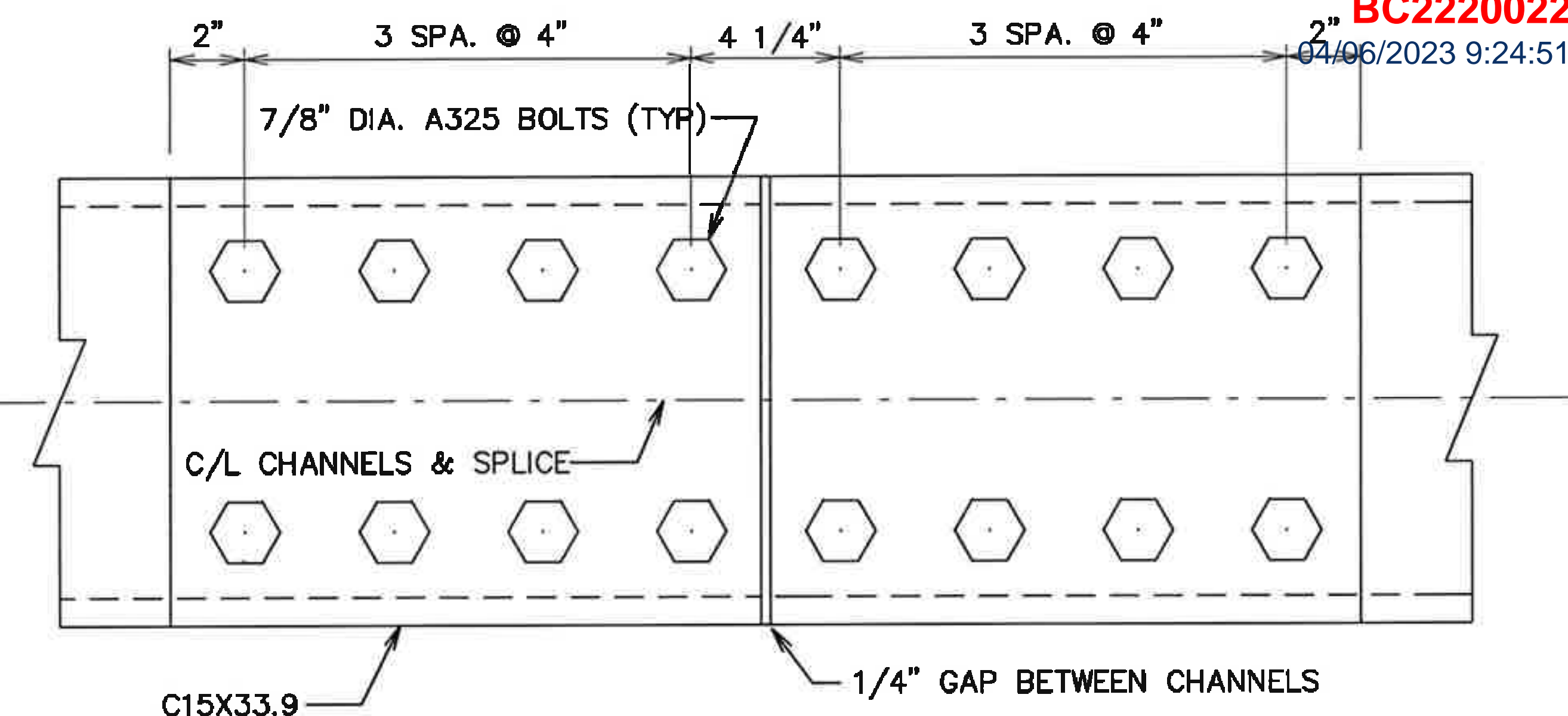
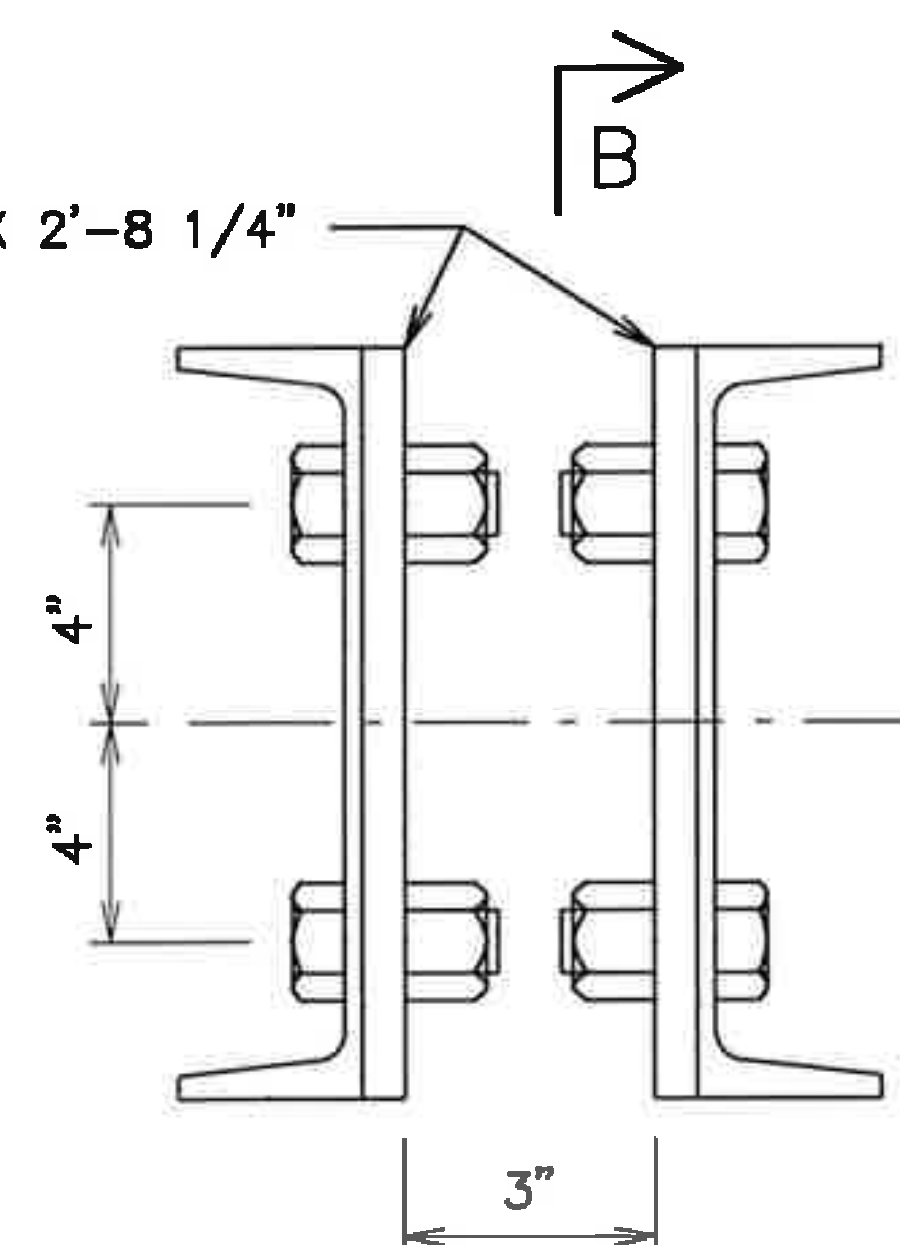
5/8" A307 SPACER BOLTS IN 3/4" STD PIPE SLEEVES. SPACE AT 6'0" MAX.



DETAIL AT TIE ROD & SPACERS

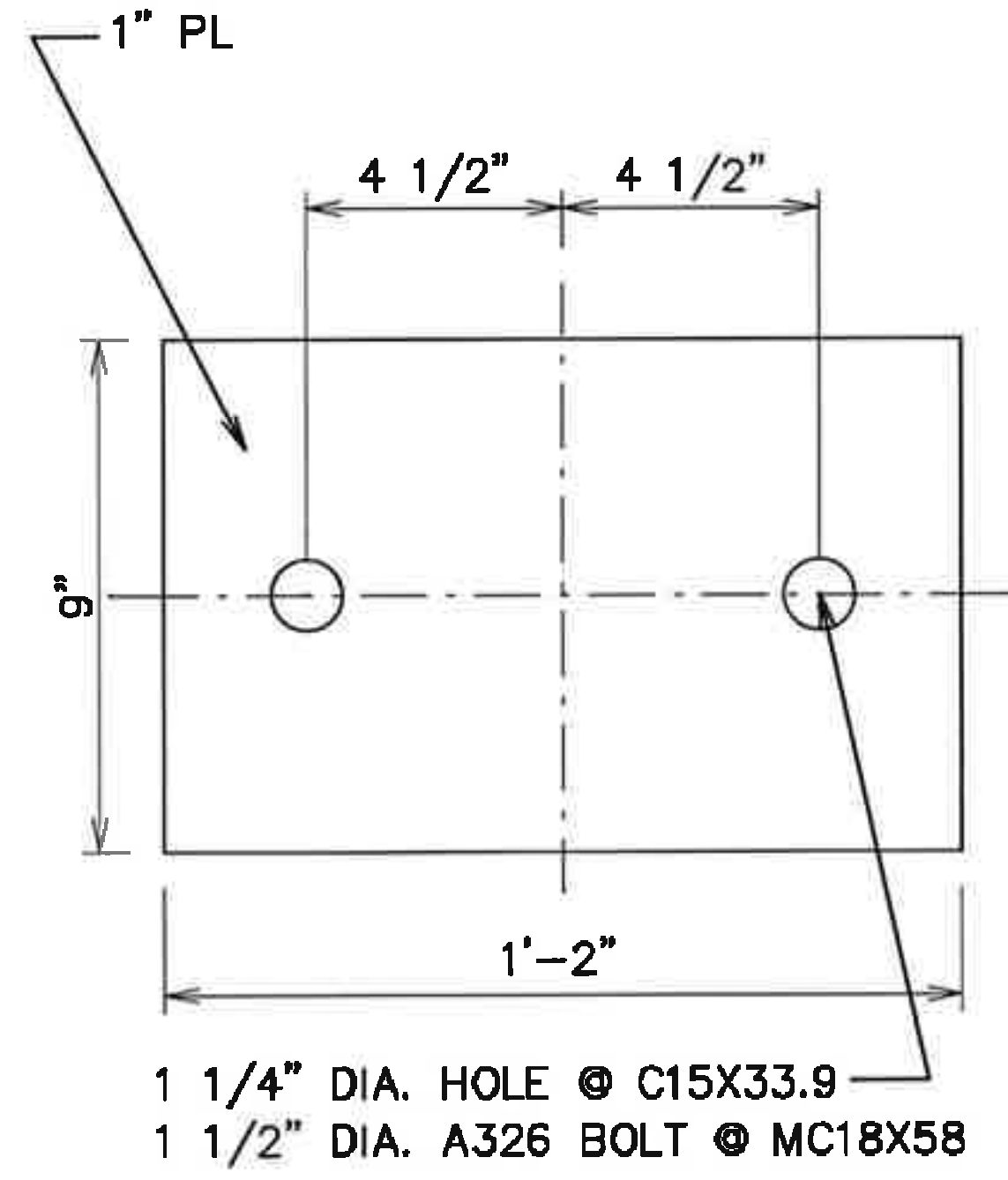
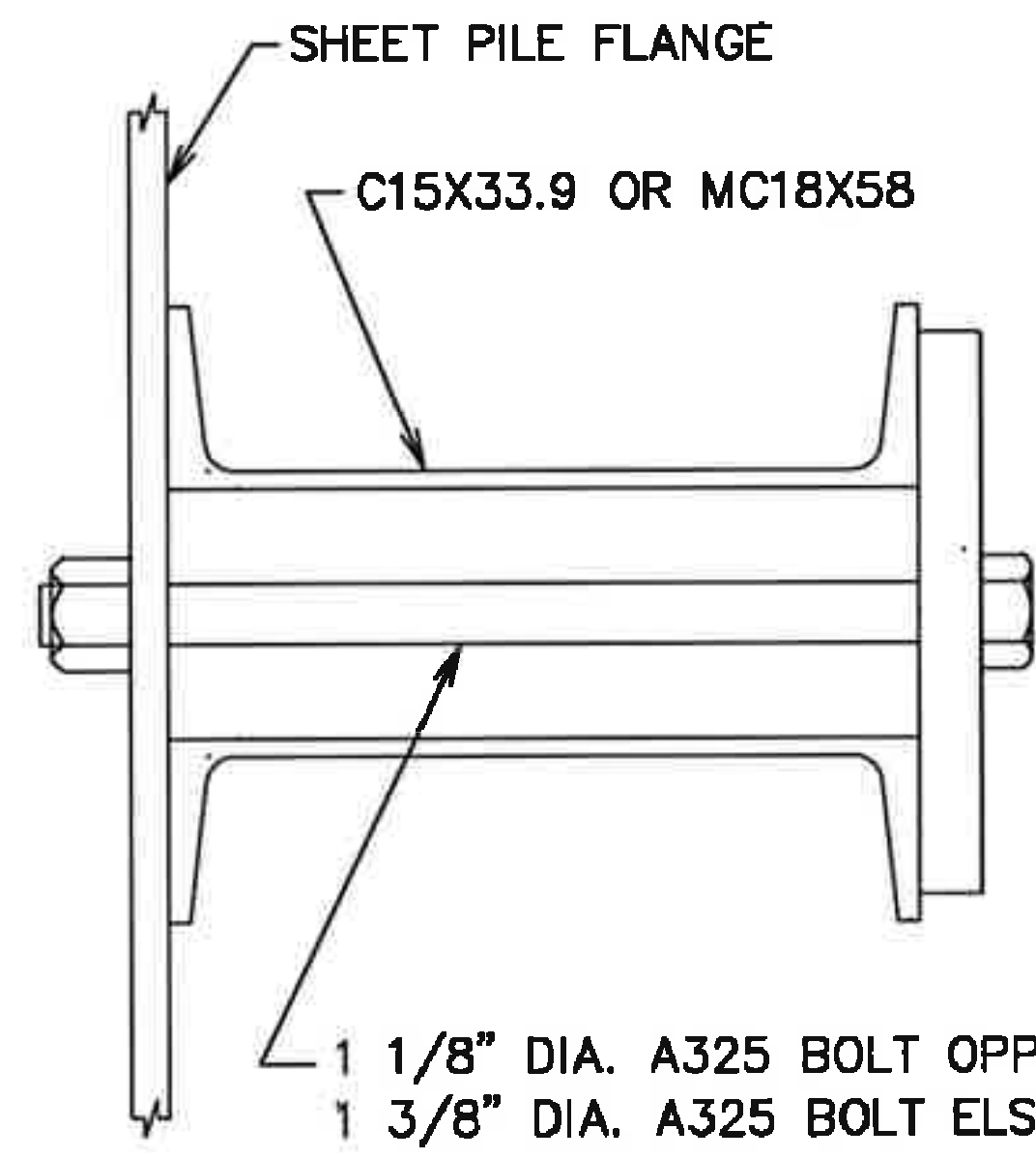
	PLATE "X"	DIM "B"	HOLE
2 1/4" TIE ROD	1 3/8"x9" X 1'-0"	9"	2 1/2"
1 3/4" TIE ROD ALONG GOVERNMENT CUT	1 1/8"x9" X 1'-0"	9"	2"

PL1/2"x15" X 2'-8 1/4"



VIEW B-B

SPLICE AT C15X33.9 TO C15X33.9  
N.T.S.



DETAIL AT WALER BOLTS

RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL  
 NAME Ashley Dominguez  
 DATE 02/01/2023

100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

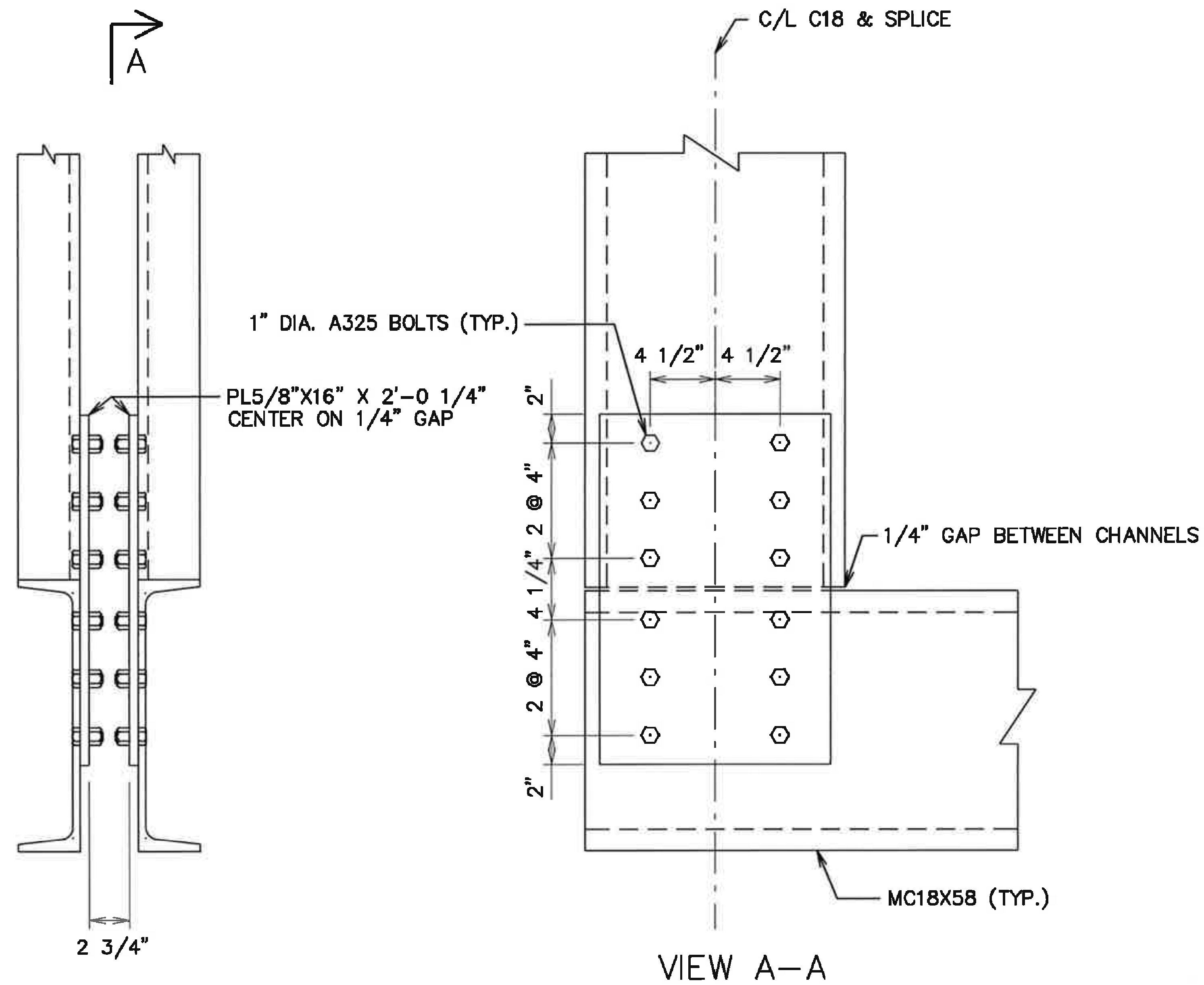
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**WALER DETAILS  
 (1 OF 3)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 17



**RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023

SPLICE AT MC18X58 TO MC18X58  
 N.T.S.  
 90 DEGREE SPLICE IS LOCATED AT SOUTH END OF 45'-7" WALL.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
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 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
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 (954) 922-6917 CERT. NO. 7616

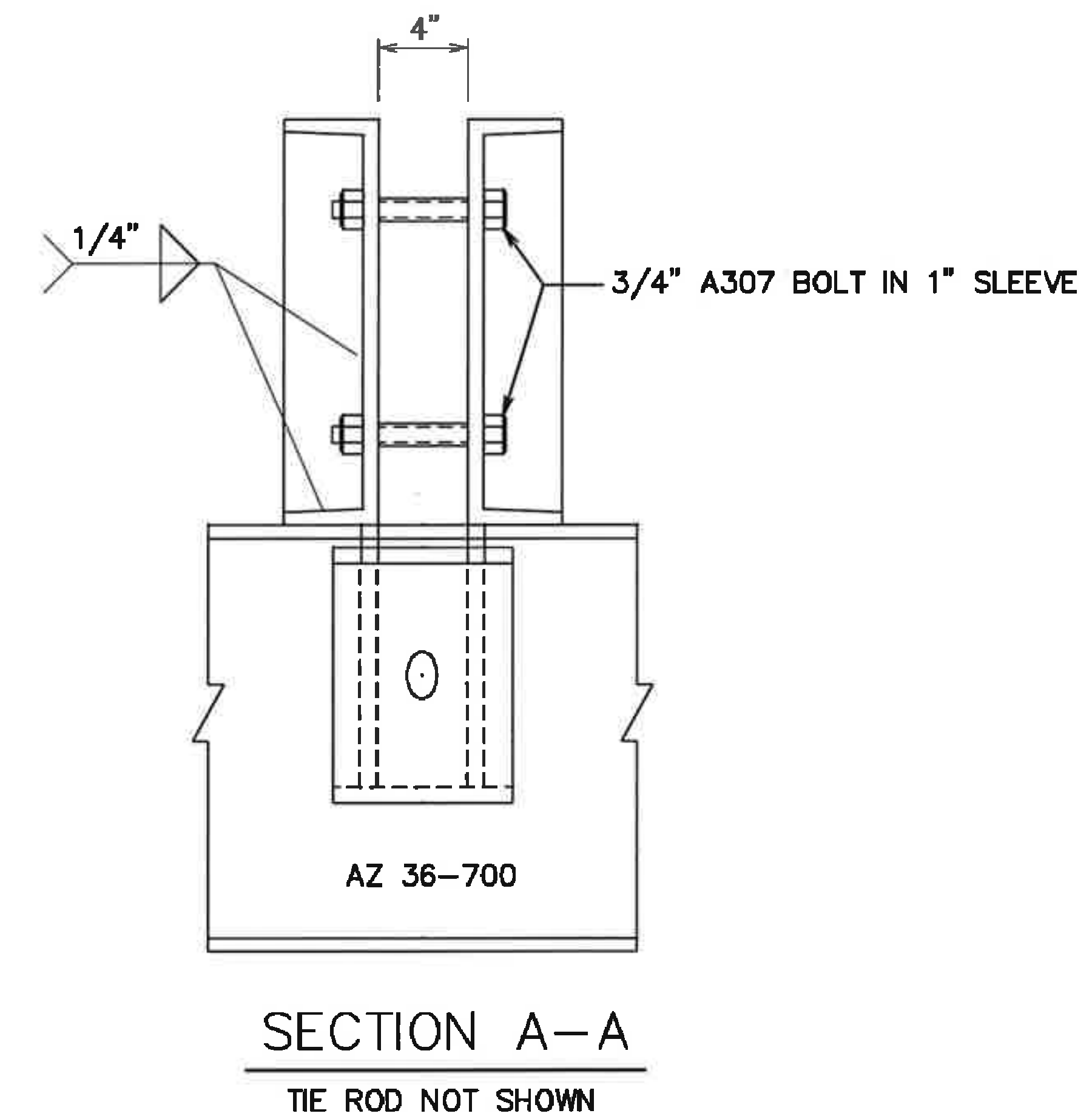
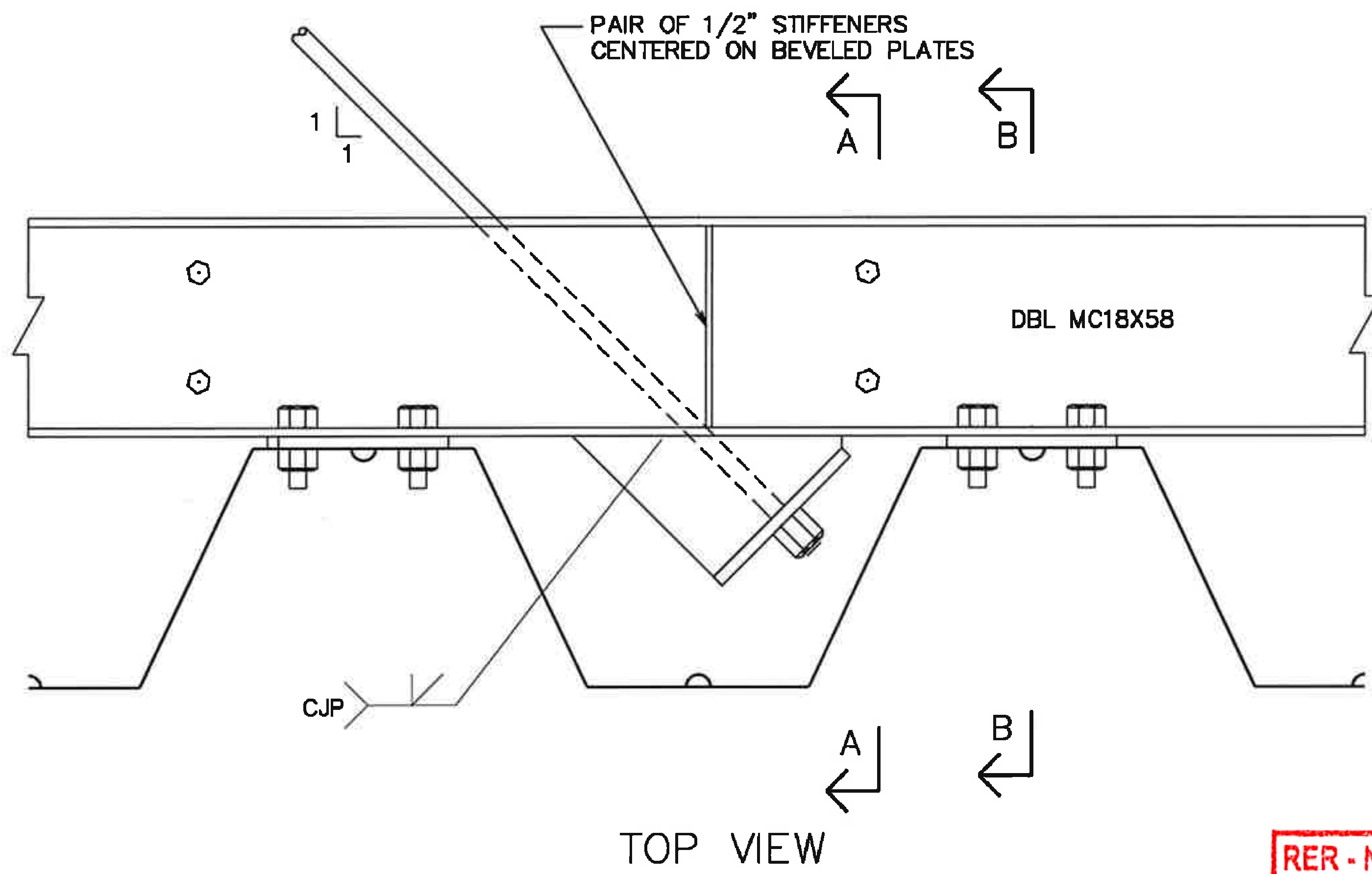
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

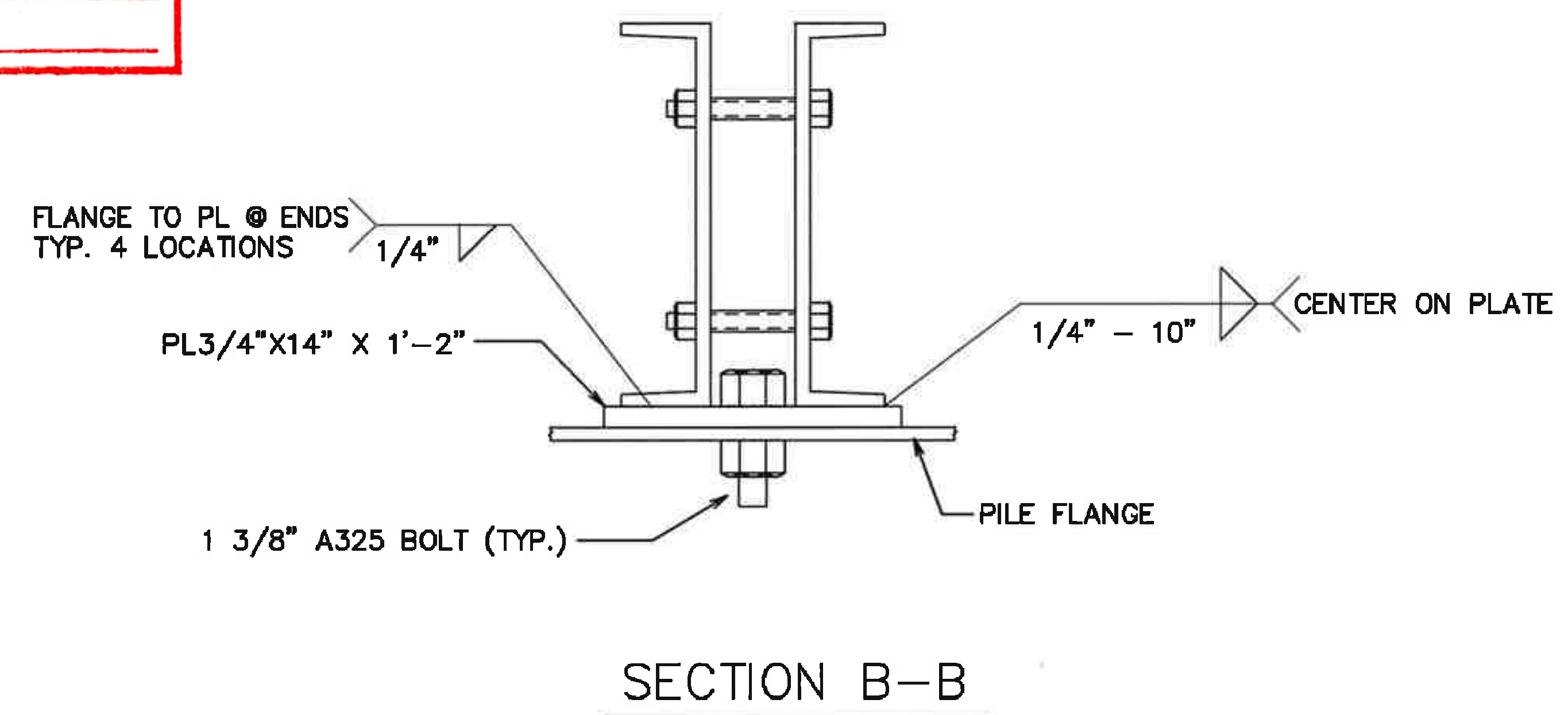
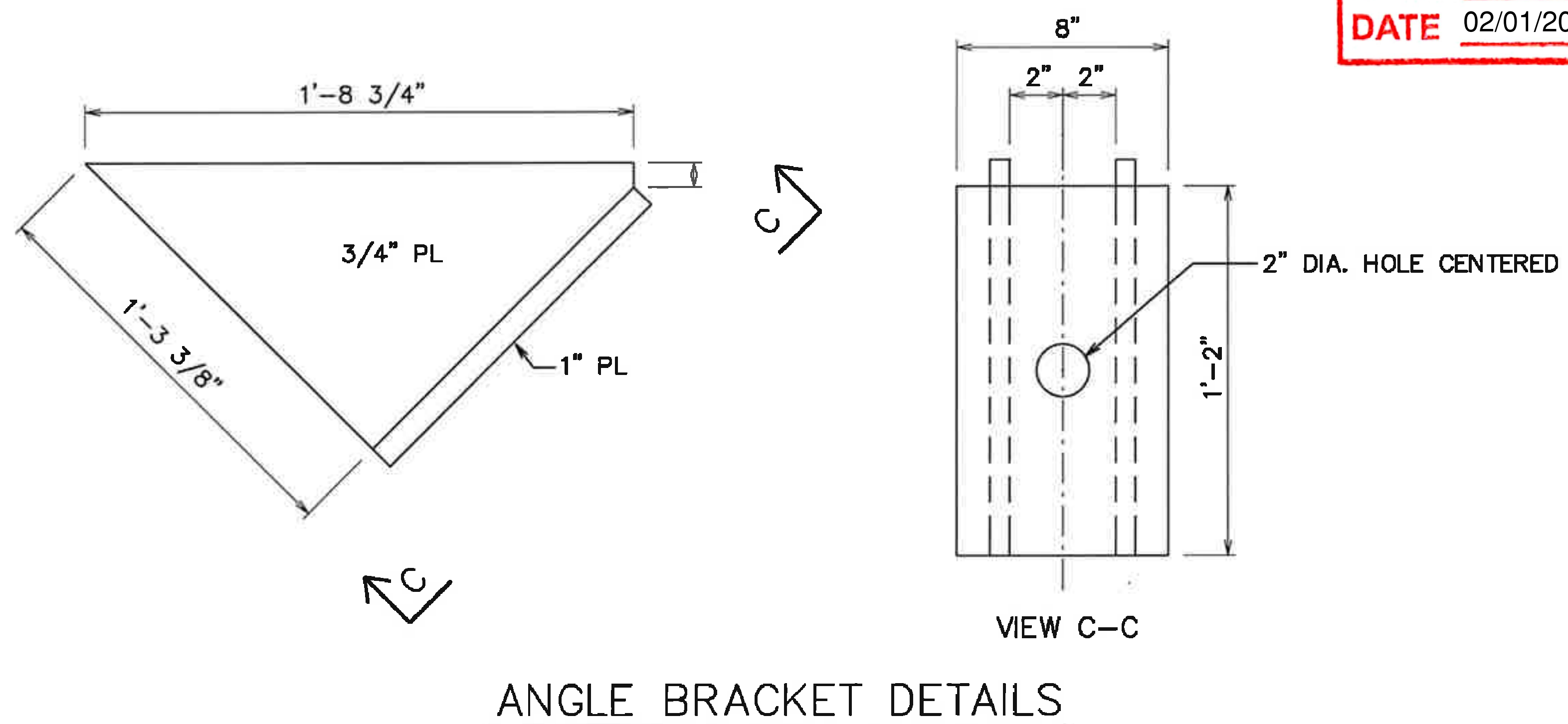
SHEET TITLE:  
**WALER DETAILS  
 (2 OF 3)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 18



**RER - NATURAL RESOURCES DIVISION  
 PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023



100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CONSTRUCTION COST ESTIMATES  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

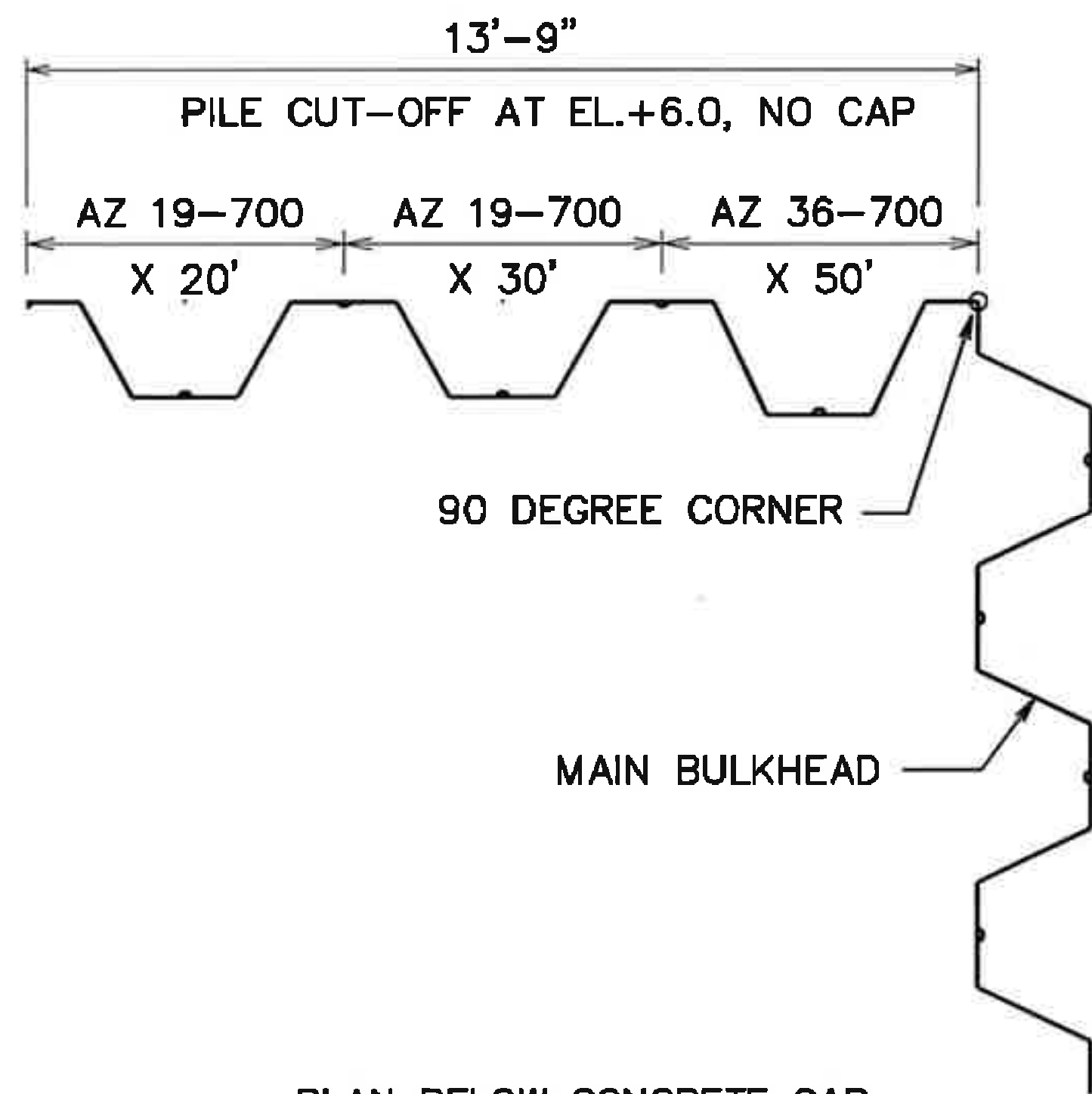
CLIENT:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**WALER DETAILS  
 (3 OF 3)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 19



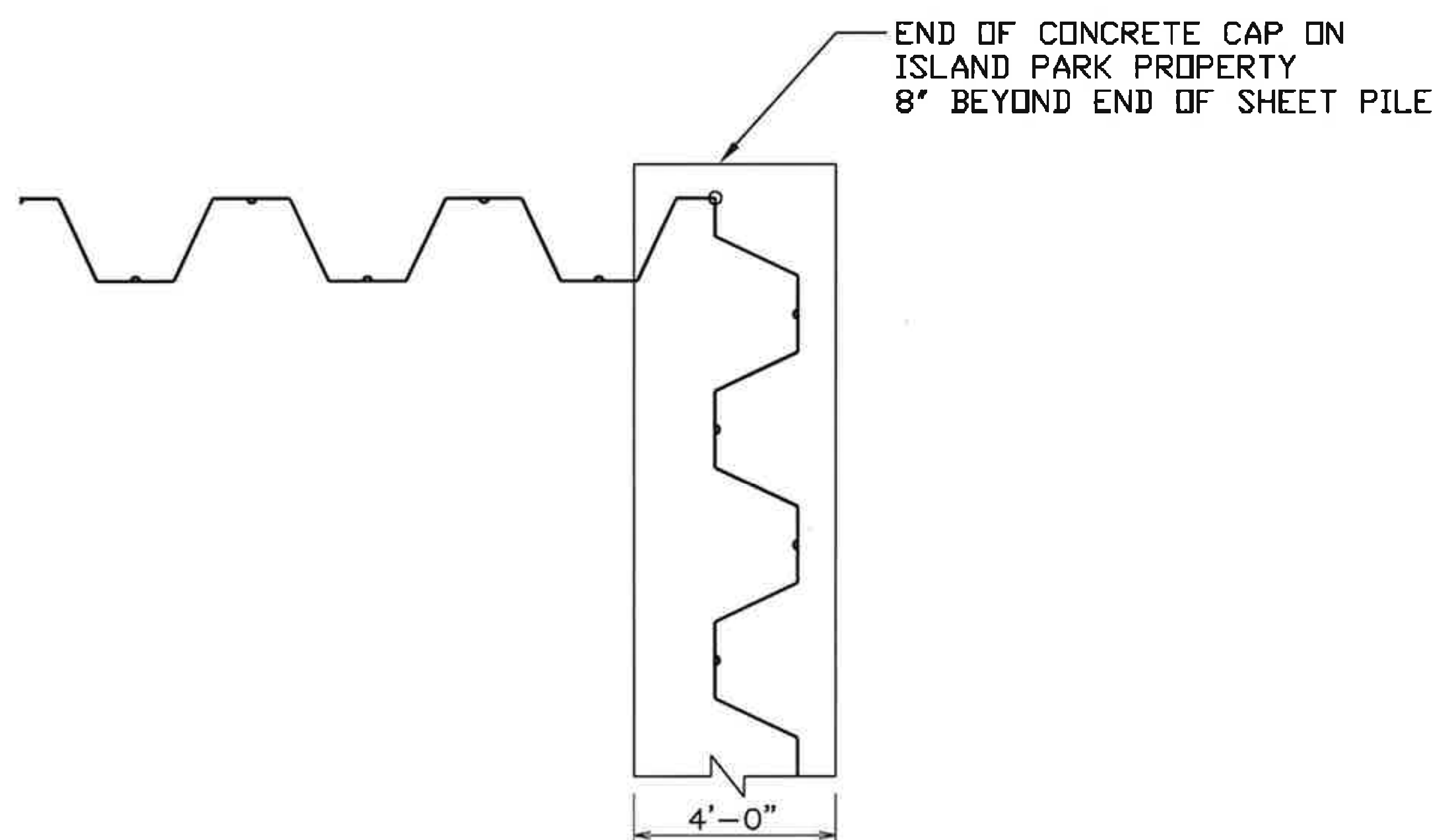
PLAN BELOW CONCRETE CAP

↑ ADJACENT PROPERTY  
CONTRACTOR TO PROVIDE GROUT OR  
CONCRETE PLUG TO RETAIN SOIL  
BETWEEN BULKHEADS. SUBMIT TO CEC  
FOR APPROVAL

**RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**

NAME Ashley Dominguez

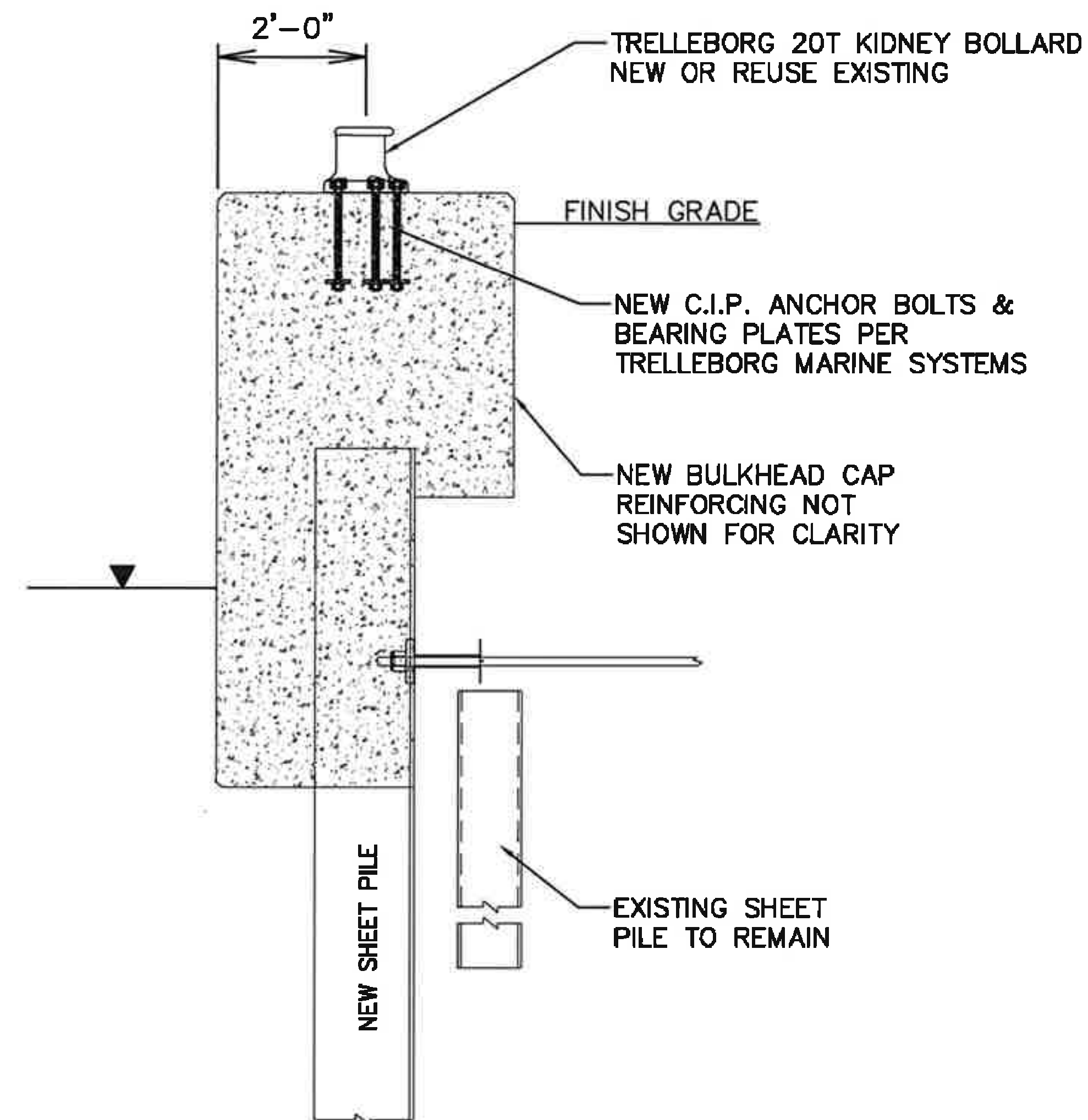
DATE 02/01/2023



LIMITS OF CONCRETE CAP

DETAILS AT RETURNS

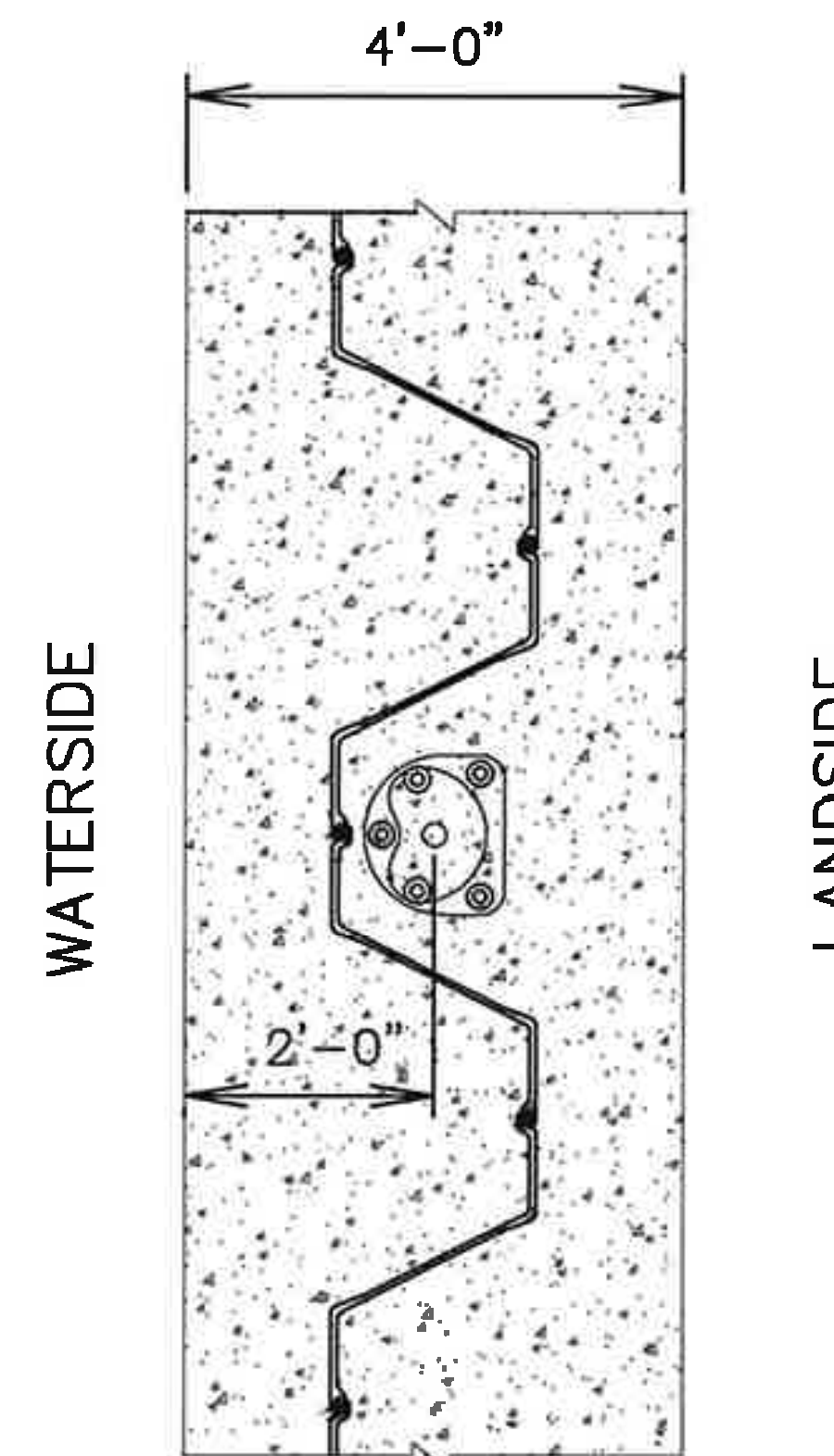
MIRROR @ WEST AND NORTH ENDS OF BULKHEAD



TYPICAL SECTION

BOLLARD PLAN

EXISTING BOLLARDS TO BE REUSED WHERE POSSIBLE  
HARDWARE AND INSTALLATION PER MANUFACTURER



TOP VIEW

BOLLARD LAYOUT

CENTER ON CAP & OUTWARD SHEET PILE BELLY

20T BOLLARD DETAIL

20T BOLLARDS SPACED ~30FT O/C  
NORTH & SOUTH BULKHEAD WALL

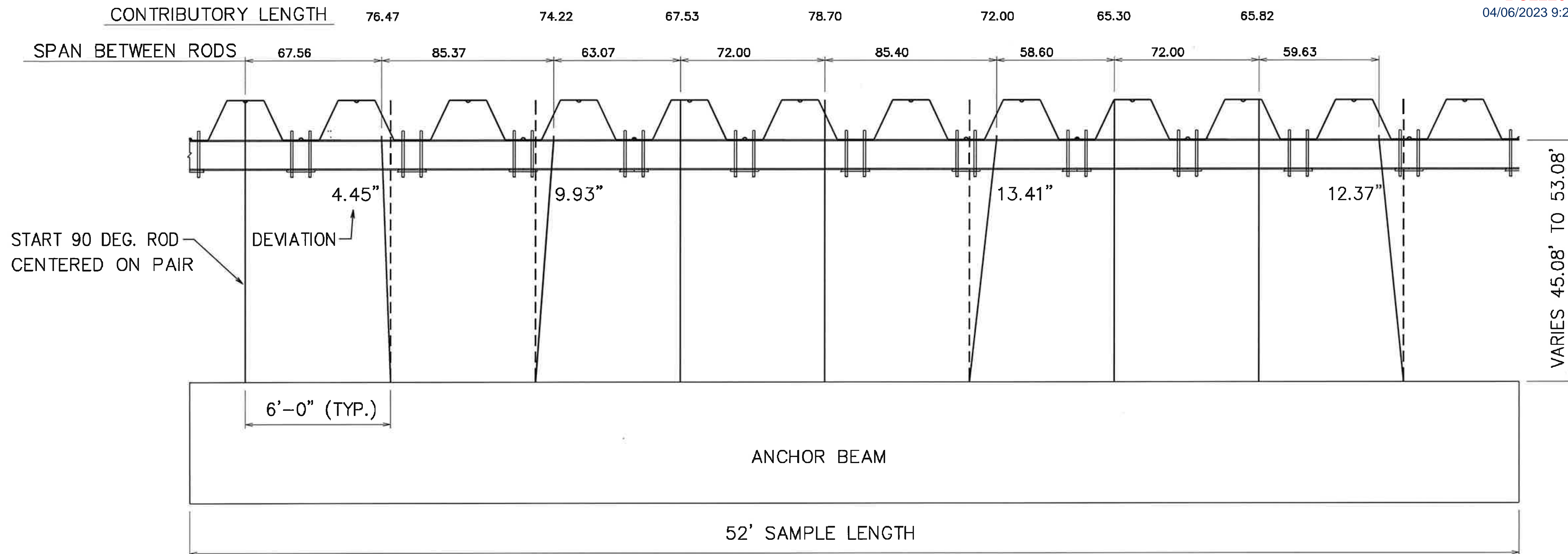
100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING INSPECTIONS
	5391 N. NOB HILL ROAD SUNRISE, FL 33351	(954) 922-6917	CERT. NO. 7616
	CLIENT: <b>MIAMI BEACH PORT, LLC.</b>		
	PROJECT: <b>ONE ISLAND PARK BULKHEAD RENOVATIONS</b>		

SHEET TITLE: <b>RETURN AT ENDS OF BULKHEAD AND BOLLARD DETAILS</b>
---

ORIGINAL: 26AUG22
REVISIONS:
1. _____ 2. _____ 3. _____ 4. _____

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DRAWN: MCB SHEET No. 20



START 90 DEG. ROD CENTERED ON PAIR

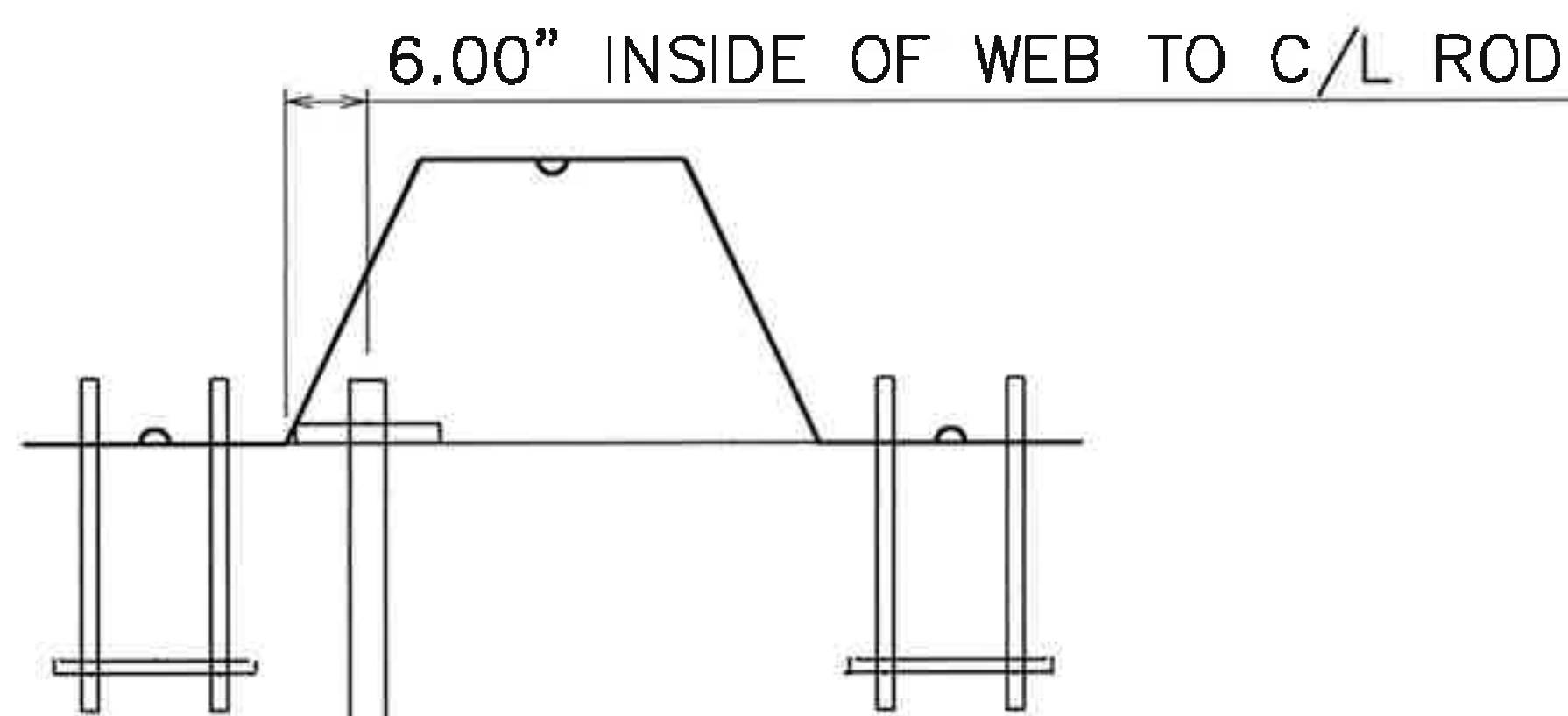
DEVIATION

6'-0" (TYP.)

ANCHOR BEAM

52' SAMPLE LENGTH

PARTIAL PLAN



NEW ROD LOCATION

RER - NATURAL RESOURCES DIVISION  
**PRELIMINARY APPROVAL**  
 NAME Ashley Dominguez  
 DATE 02/01/2023

DEVIATIONS FROM 6'-0" SPAN ARE 9.3% OVER & UNDER.

THE PURPOSE OF THIS DRAWING IS TO SHOW THE RANGE OF TIE ROD DEVIATIONS DUE TO 6.0' FIXED SPACING AT ANCHOR BEAM.

100% PLANS

**CE ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CONSTRUCTION COST ESTIMATES  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

CLIENT:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**TYPICAL TIE ROD DEVIATIONS OPPOSITE ANCHOR BEAM**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 21

# ONE ISLAND PARK BULKHEAD RENOVATIONS

MIAMI BEACH PORT, LLC.

Certification by Michael C. Bone, P.E. covers the following Sheets 1 through 21:

<u>SHEET TITLE</u>	<u>SHEET NO.</u>
COVER SHEET AND CONTENTS	1
GENERAL NOTES	2
EXISTING SITE CONDITIONS (1 OF 2)	3
EXISTING SITE CONDITIONS (2 OF 2)	4
DEMOLITION PLAN (1 OF 2)	5
DEMOLITION PLAN (2 OF 2)	6
SITE PLAN AND KEYS	7
BULKHEAD PLAN SECTION 1	8
BULKHEAD PLAN SECTION 2	9
BULKHEAD PLAN SECTION 3	10
TYPICAL SECTIONS A & B	11
TYPICAL SECTIONS C & D	11A
TYPICAL SECTION E	12
BULKHEAD CAP DETAILS	13
CAP CORNER REINFORCING	14
ANCHOR BEAM TYPICAL 84'-0" SEGMENT	15
WALER & TIE ROD PLAN AT SE CORNER	16
WALER DETAILS (1 OF 3)	17
WALER DETAILS (2 OF 3)	18
WALER DETAILS (3 OF 3)	19
RETURN AT ENDS OF BULKHEAD & BOLLARD DETAILS	20
TYPICAL TIE ROD DEVIATIONS	21



This document has been digitally signed and sealed by:

**Michael C Bone** Digitally signed by Michael C Bone  
Date: 2023.01.25 10:58:05 -05'00'

Printed copies of this document are not considered signed and sealed. The signature must be verified on the electronic documents.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS  
 CONSTRUCTION COST ESTIMATES  
 DESIGN  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FLORIDA 33351  
 (954) 922-6917  
 CERT. NO.7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**COVER SHEET  
AND CONTENTS**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. 15DEC22  
 3.  
 4.

MICHAEL C. BONE, P.E. FL19383  
  
 DRAWN: KCB  
 SHEET NO. 1

# ONE ISLAND PARK BULKHEAD RENOVATIONS

MIAMI BEACH PORT, LLC.

**GENERAL NOTES:**

1. Project Datum is NAVD88.
2. Bulkhead design loads:  
 Case 1 – 0.250 ksf uniform surcharge with mooring loads of 34 kips horizontal and 6 kips vertical spaced at 30'. Water outside at El.-1.0, water inside at El.+2.0.  
 Case 2 – Storm event, water outside at El. 0.0, water inside at El.+6.0. No surcharge or mooring loads.
3. Concrete design is by ACI318-14, steel design is by AISC 16th Edition, LRFD. Construction shall be in accordance with the FDOT Standard Specifications for Road and Bridge Construction, 2020.
4. Concrete shall have a minimum 28-day strength (f'c) of 5,000 psi, maximum water/cement ratio 0.40 and meet FDOT requirements for an extremely aggressive environment. Grout strength for auger cast piles is 5,000 psi. Provide 1" chamfer on all exposed corners. Minimum cover is 3" on all surfaces.
5. Reinforcing steel is ASTM A615, Grade 60.
6. Steel sheet piling shall meet the requirements of ASTM A572, Grade 60. Coat waterside face with 16 mils of coal tar epoxy to 5' below the scour elevation(-37.0). Coating material and application to meet FDOT specifications.
7. Double channel walers shall be ASTM A992 or A572, Grade 50, hot-dip galvanized or receive 15 mils of coal tar epoxy. Coat damaged coating in field with coal tar epoxy.
8. All plates are ASTM A572, Grade 50, hot-dip galvanized per ASTM A123. Bolts are ASTM A325 Type 1 hot dip galvanized. Exclude threads from shear plane. Pipe spacers are hot-dip galvanized.
9. Tie rods are ASTM A615, Grade 75 or 80, all-thread or approved equal. Bars and hardware may be hot-dip galvanized or receive 16 mils of coal tar epoxy.
10. All-thread bar in auger cast piles shall have a minimum ultimate strength of 150 ksi.
11. All welding is by certified welders using E70XX electrodes handled and stored per the manufacturer's instructions.
12. Unfactored Design Loads for auger cast piles are 270 kips compression and 240 kips tension. Conduct one compression and one tension pile load test to at least twice the design load. Test piles shall be sacrificial plumb piles cut-off 2 ft. below finished grade. Coordinate test pile location with Owner and EOR. The Geotechnical Engineer has the option of conducting one tension test only to 540 kips minimum and certifying the compression pile based on the skin resistance from the tension test. Submit test pile Report to CEC for review.

13. Piling contractor shall demonstrate successful experience installing auger cast piles to a 1:4 batter and a depth of 50 ft. or greater.
14. Contractor to reuse and reinstall existing Trelleborg kidney bollards in accordance with the bollard installation plan. Contractor to provide new hot-dip galvanized hardware for all bollard installation in accordance with manufacturer's installation recommendations. Bollards to be installed and filled with regular weight 3,000 psi concrete minimum. Where required, Contractor to provide additional new bollards to match existing bollards. Bollards to achieve Owners mooring requirements for 30 Ft. spacing. No bollards shall be installed on the easternmost 45'-7" bulkhead segment.
15. Place clean granular fill between new sheet piles and existing for full depth. Monitor outboard deflection of new wall during and after fill placement.
16. Contractor is responsible for maintaining stability of existing wall throughout construction. Monitor outboard movement of existing wall at all times. If required, install ties between the new anchor beam and the existing bulkhead. Install new pile supported anchor beam prior to driving sheet piles. Proposed temporary shoring plan is provided in this drawing set. Submit final design and details for stabilizing to CEC for review.

APPROXIMATE QUANTITIES		
NEW CONCRETE CAP	1306.6	LF
NEW STEEL SHEET PILES	1306.6	LF
ANCHOR BEAM	863.7	LF
NEW FENDERS	*	EA
NEW TIE-RODS	170	EA
NEW BOLLARD SYSTEMS	43	EA
TOTAL VOLUME OF #57 STONE FILL	2,500	CY
	(2,175)	(SF)
#57 STONE FILL WITHIN 18"	1,850	CY
	(1,600)	(SF)
#57 STONE FILL BEYOND 18"	650	CY
	(575)	(SF)

\* VESSELS HAVE BERTHING FENDERS

100% PLANS

	CONSTRUCTION	CONSTRUCTABILITY REVIEWS	CLAIMS AVOIDANCE & ANALYSIS
	ENGINEERING	CONSTRUCTION COST ESTIMATES	CONTRACTOR'S SPECIALTY ENGINEERING
CONSULTANTS	DESIGN	CPM SCHEDULES	INSPECTIONS
	5391 N. NOB HILL ROAD SUNRISE, FLORIDA 33351		
	(954) 922-6917	CERT. NO.7616	

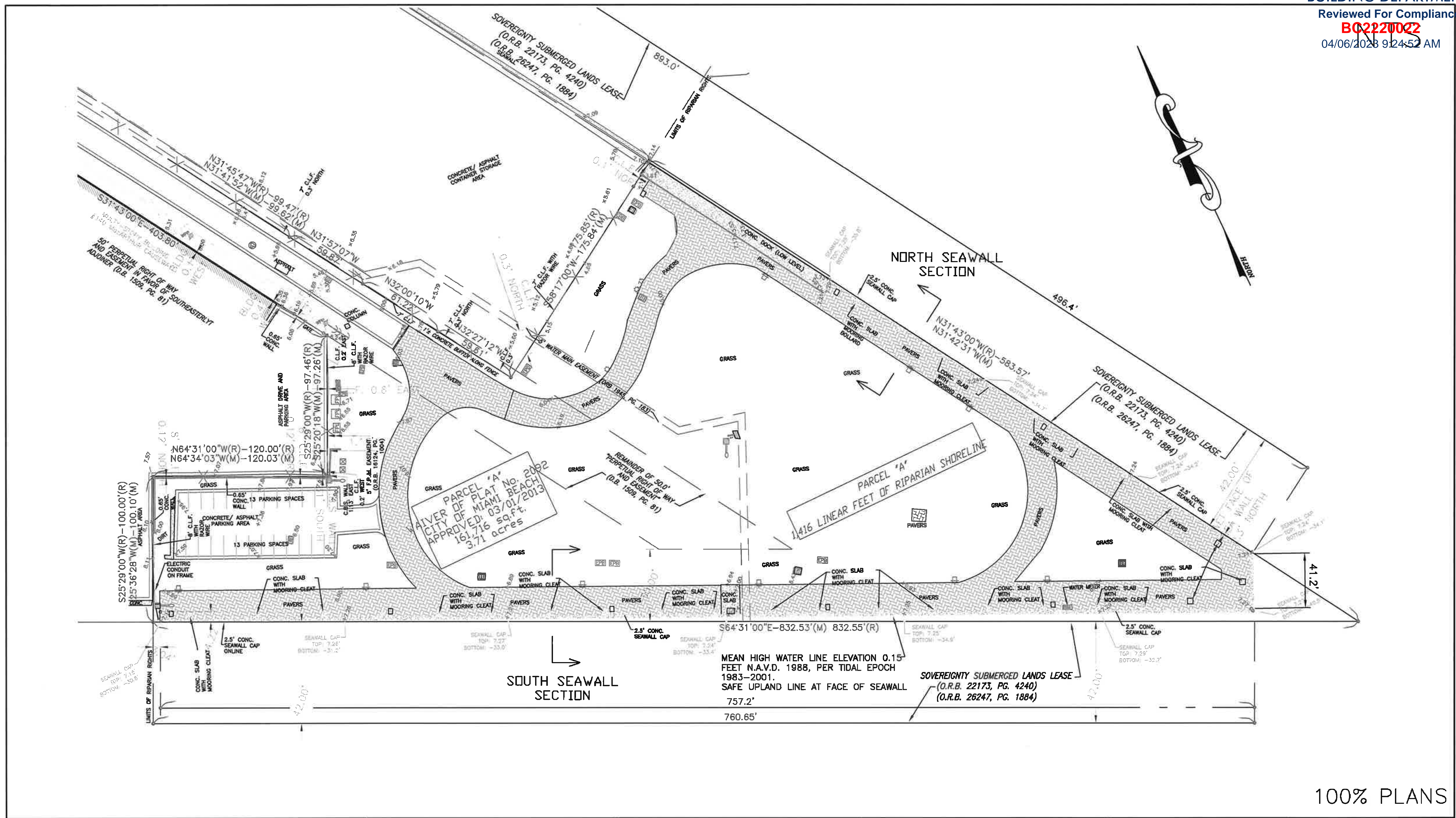
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**GENERAL NOTES**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. 15DEC22  
 3. 25JAN23  
 4. \_\_\_\_\_

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 DRAWN: KCB SHEET NO. 2



100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING DESIGN  
 CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

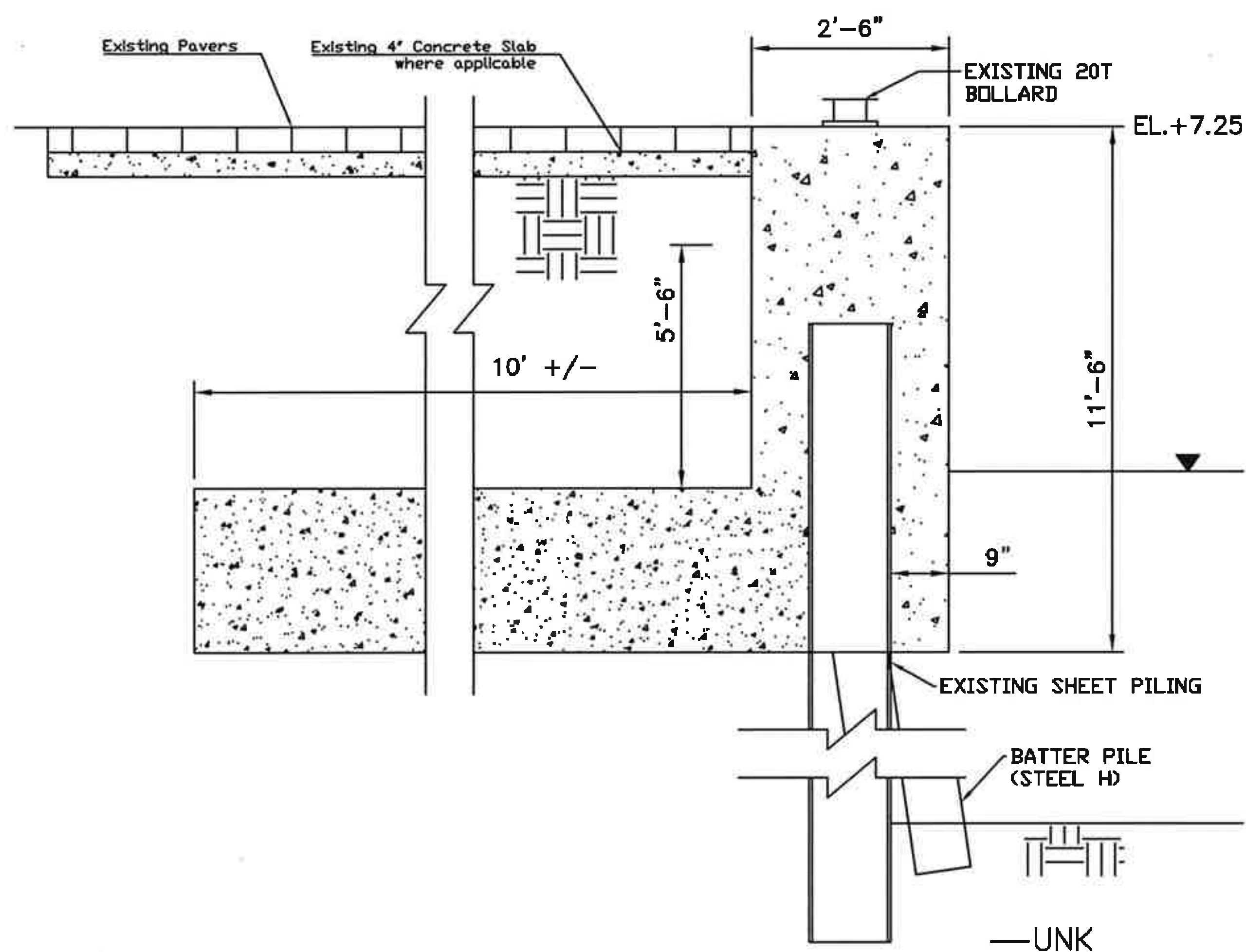
PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**EXISTING SITE CONDITION (1 OF 2)**

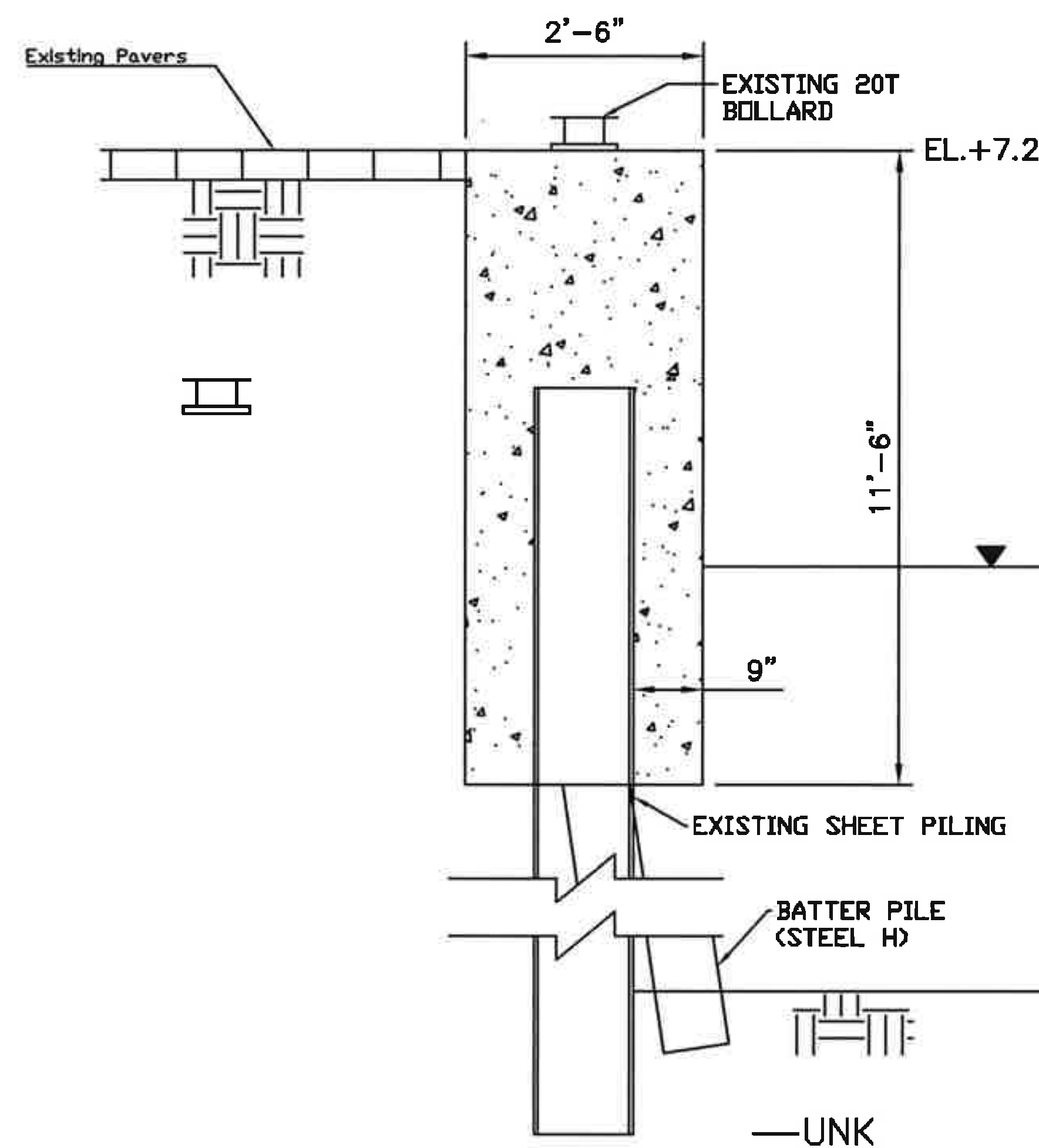
ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 3

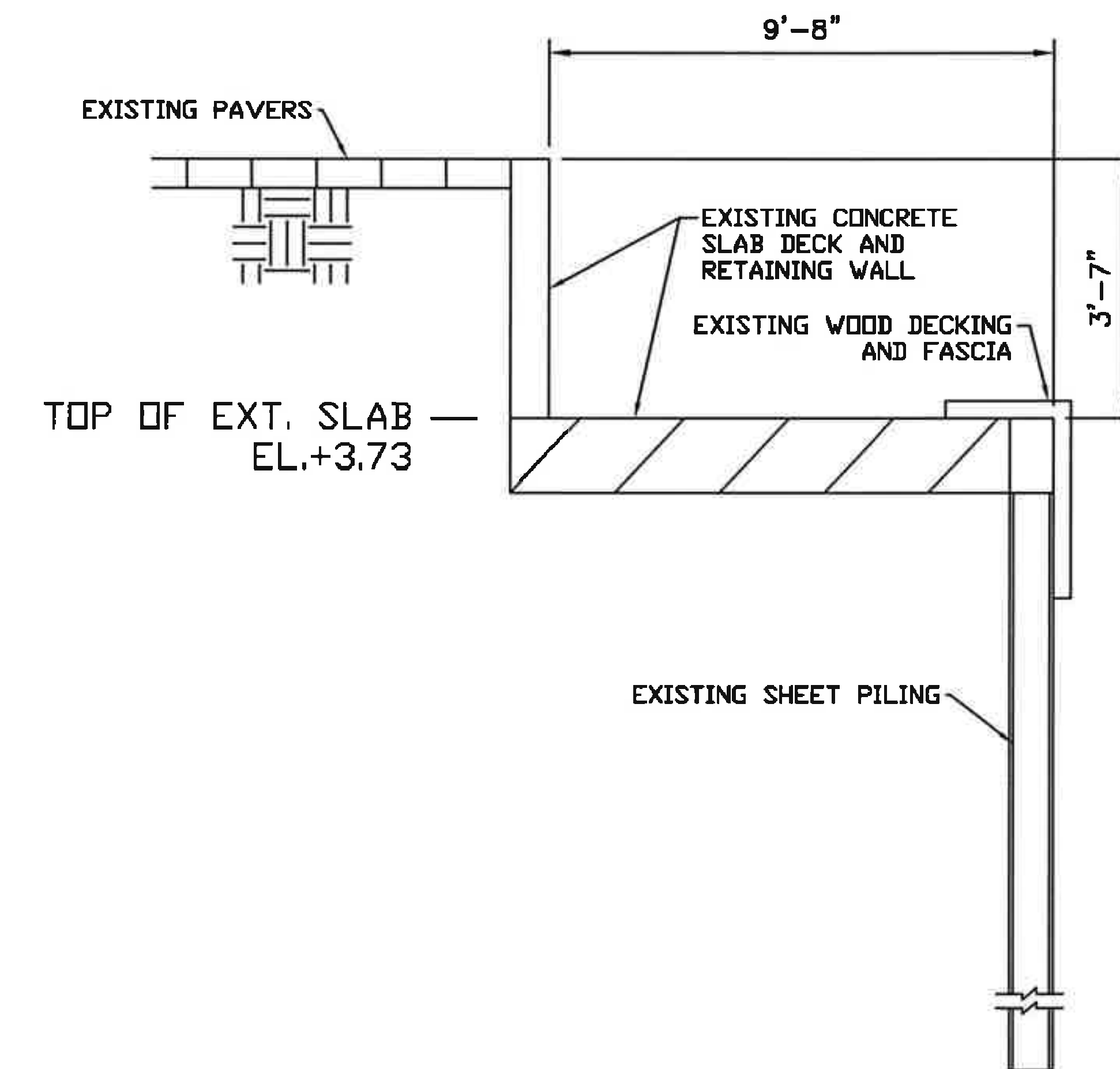
SEE DEMOLITION PLANS FOR  
 ITEMS TO BE REMOVED.



SOUTH EXISTING SEAWALL  
 SECTION (TYP)  
 FACE OF CAP FROM  
 SURVEY MAY 2022



NORTH EXISTING SEAWALL  
 SECTION (TYP)  
 FACE OF CAP FROM  
 SURVEY MAY 2022



EXISTING LOW LEVEL DOCK  
 AT NORTH PROPERTY LINE

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS CONSTRUCTION COST ESTIMATES DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING OPM SCHEDULES INSPECTIONS
	5391 N. NOB HILL ROAD SUNRISE, FL 33351		
	(954) 922-6917		
	CERT. NO. 7616		

OWNER:  
**MIAMI BEACH PORT, LLC.**

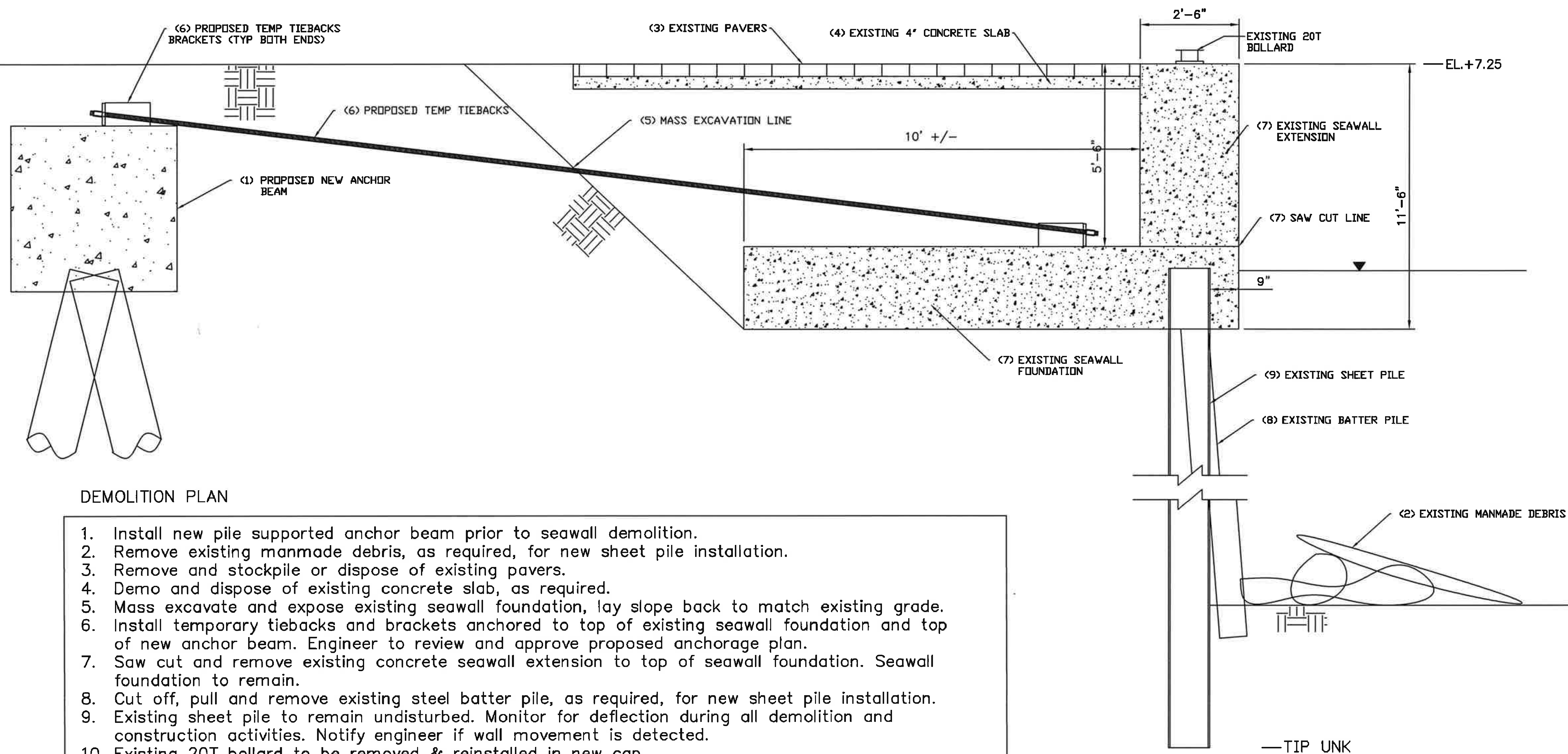
PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**EXISTING SITE  
 CONDITION  
 (2 OF 2)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. 15DEC22  
 3. \_\_\_\_\_  
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SOUTHERN SEAWALL SECTION (TYP)  
PARALLEL WITH GOVERNMENT CUT



DEMOLITION PLAN

1. Install new pile supported anchor beam prior to seawall demolition.
2. Remove existing manmade debris, as required, for new sheet pile installation.
3. Remove and stockpile or dispose of existing pavers.
4. Demo and dispose of existing concrete slab, as required.
5. Mass excavate and expose existing seawall foundation, lay slope back to match existing grade.
6. Install temporary tiebacks and brackets anchored to top of existing seawall foundation and top of new anchor beam. Engineer to review and approve proposed anchorage plan.
7. Saw cut and remove existing concrete seawall extension to top of seawall foundation. Seawall foundation to remain.
8. Cut off, pull and remove existing steel batter pile, as required, for new sheet pile installation.
9. Existing sheet pile to remain undisturbed. Monitor for deflection during all demolition and construction activities. Notify engineer if wall movement is detected.
10. Existing 20T bollard to be removed & reinstalled in new cap.

90% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

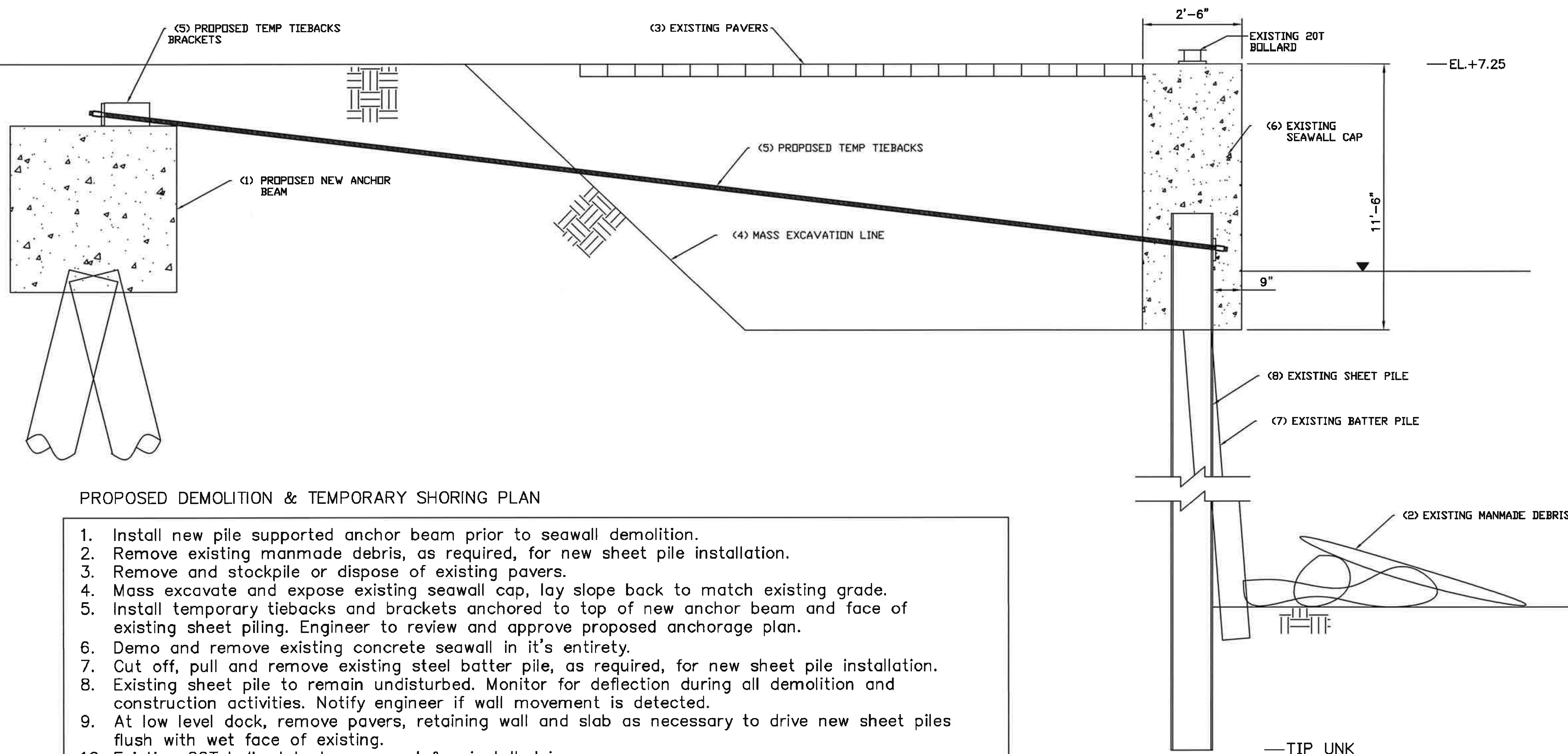
PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**DEMOLITION PLAN  
(1 OF 2)**

ORIGINAL: 01AUG22  
 REVISIONS:  
 1. 15DEC22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 5

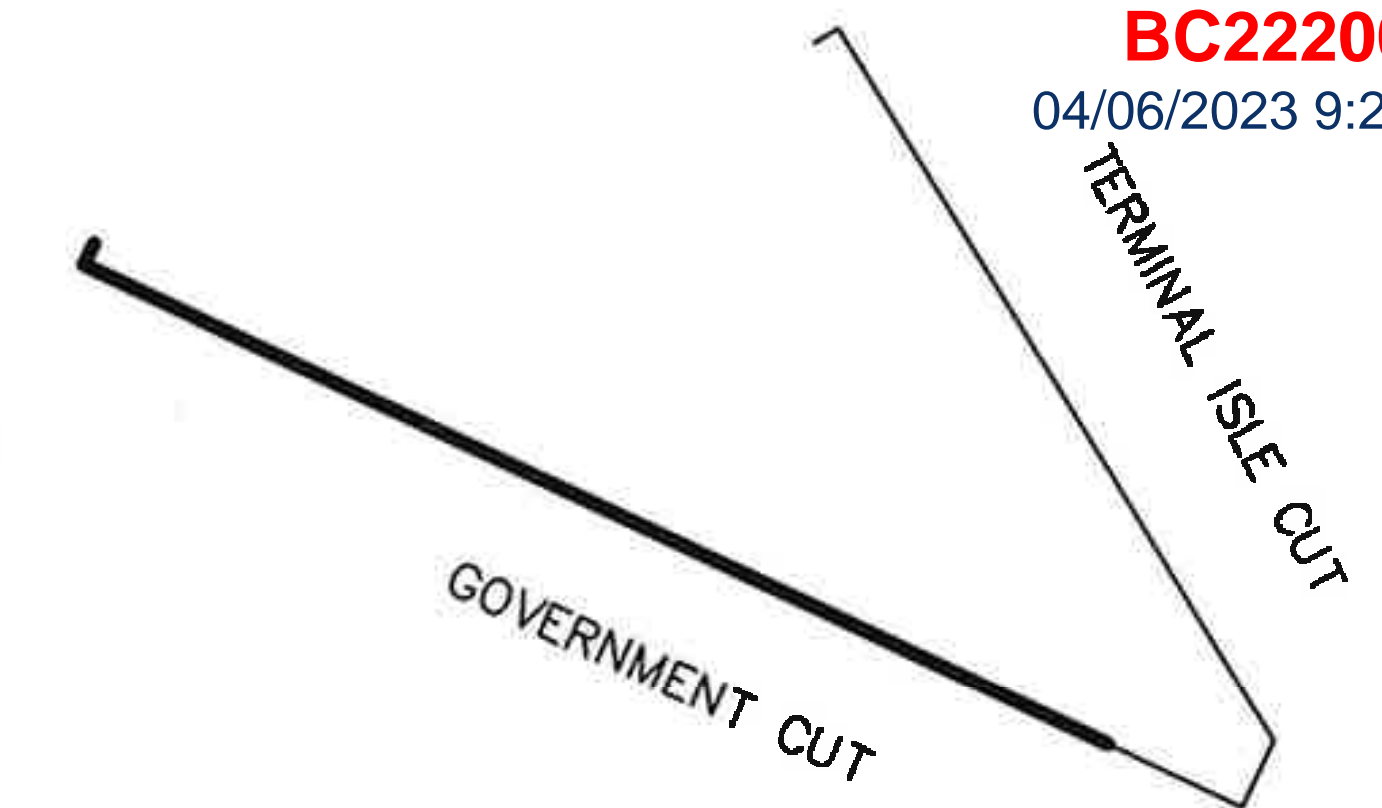
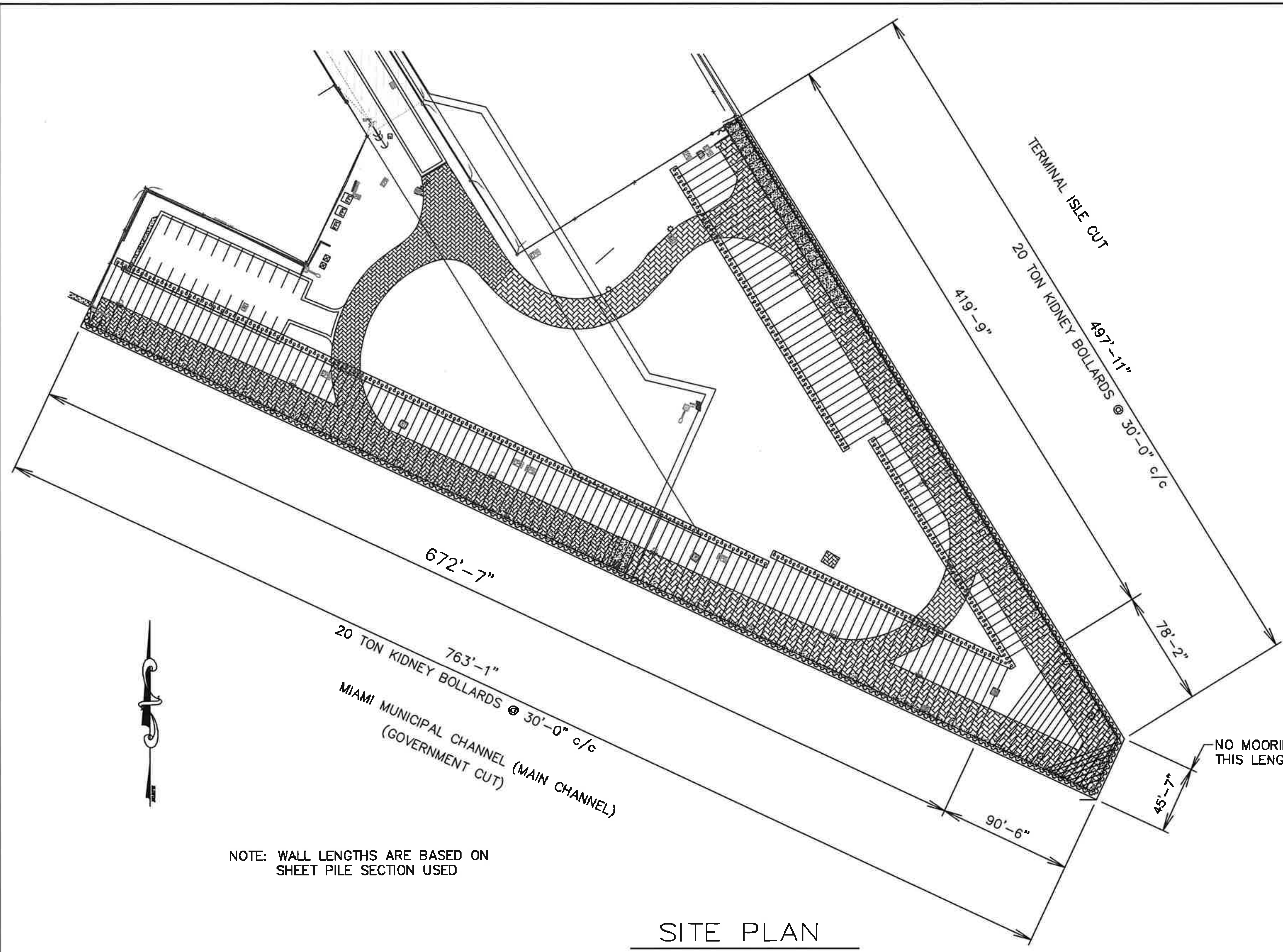
NORTHERN SEAWALL SECTION (TYP)  
PARALLEL WITH TERMINAL ISLE CUT



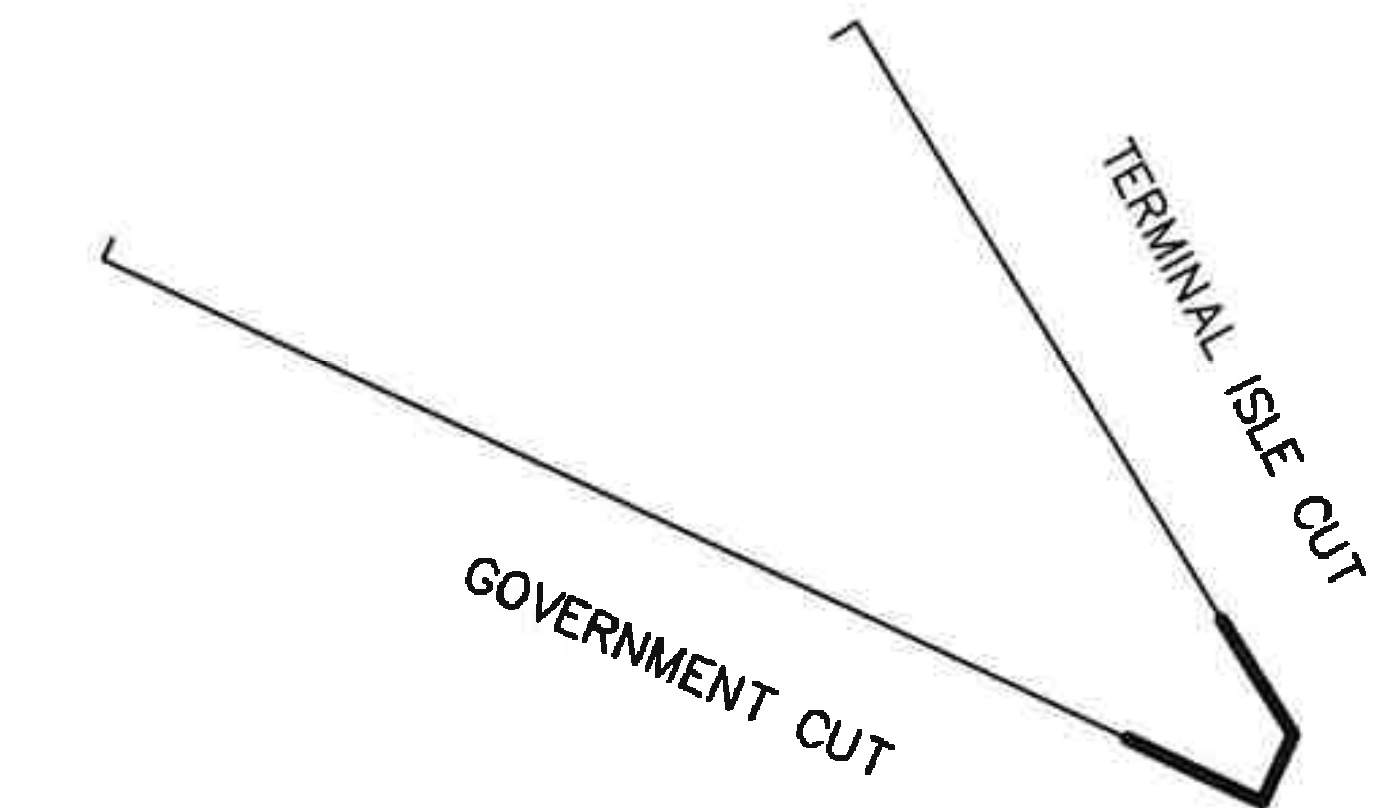
PROPOSED DEMOLITION & TEMPORARY SHORING PLAN

1. Install new pile supported anchor beam prior to seawall demolition.
2. Remove existing manmade debris, as required, for new sheet pile installation.
3. Remove and stockpile or dispose of existing pavers.
4. Mass excavate and expose existing seawall cap, lay slope back to match existing grade.
5. Install temporary tiebacks and brackets anchored to top of new anchor beam and face of existing sheet piling. Engineer to review and approve proposed anchorage plan.
6. Demo and remove existing concrete seawall in it's entirety.
7. Cut off, pull and remove existing steel batter pile, as required, for new sheet pile installation.
8. Existing sheet pile to remain undisturbed. Monitor for deflection during all demolition and construction activities. Notify engineer if wall movement is detected.
9. At low level dock, remove pavers, retaining wall and slab as necessary to drive new sheet piles flush with wet face of existing.
10. Existing 20T bollard to be removed & reinstalled in new cap.

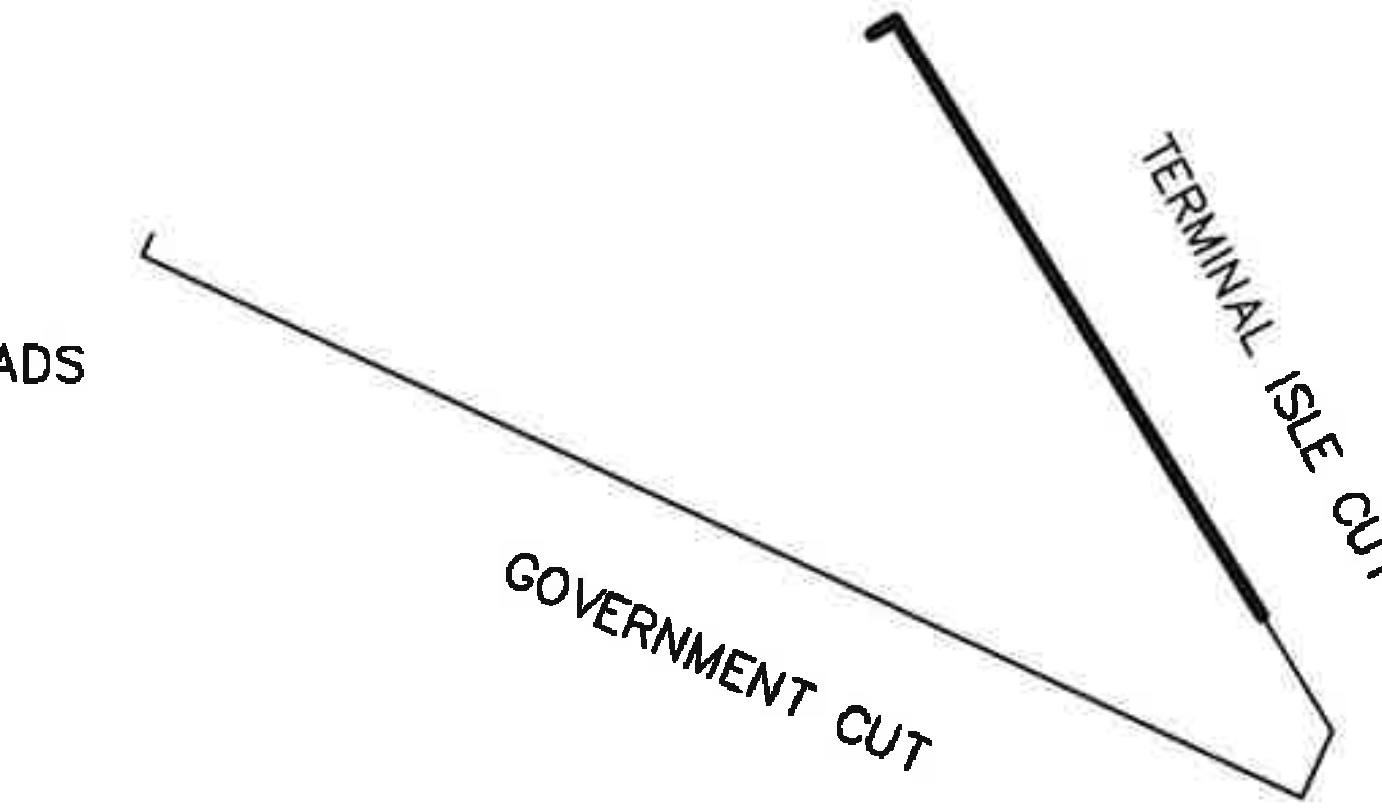
100% PLANS



SECTION 1 LOCATION KEY



SECTION 2 LOCATION KEY



SECTION 3 LOCATION KEY

NOTE: WALL LENGTHS ARE BASED ON SHEET PILE SECTION USED

SITE PLAN

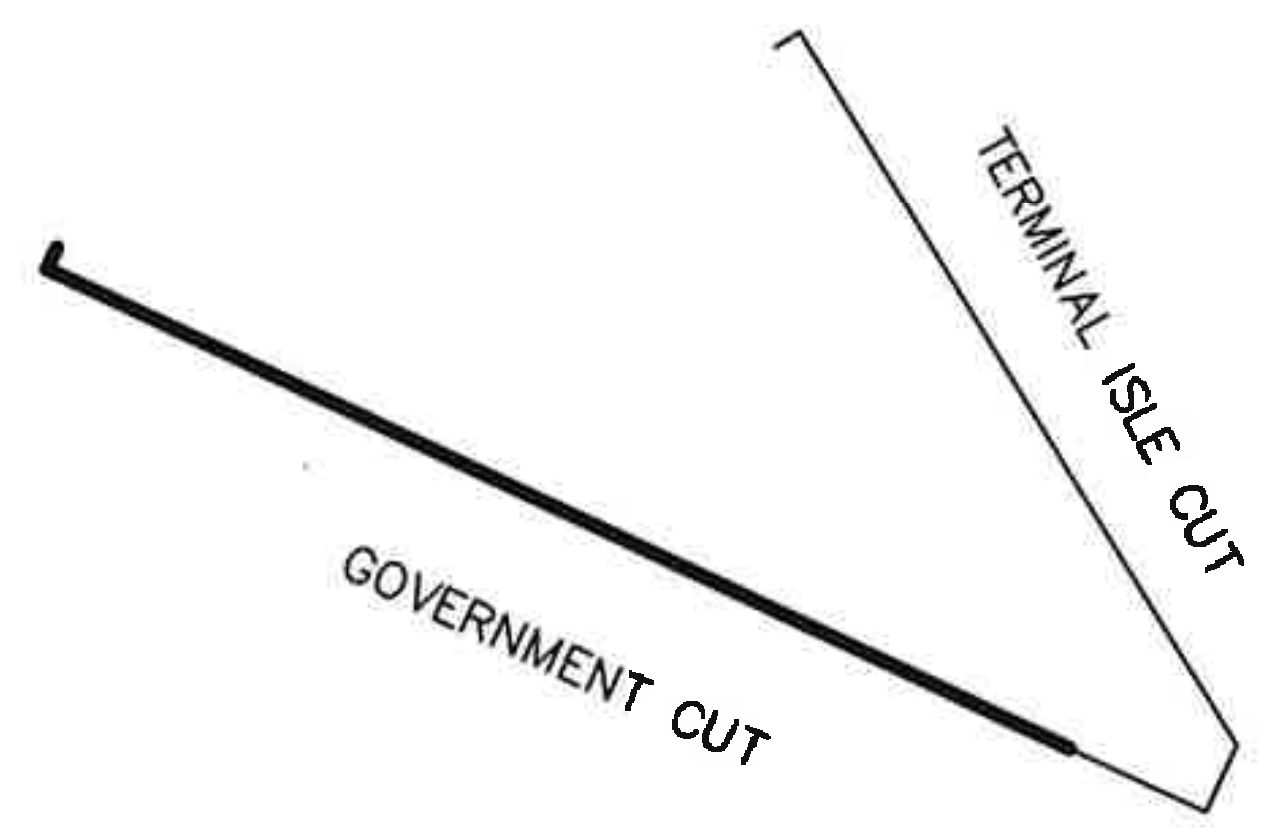
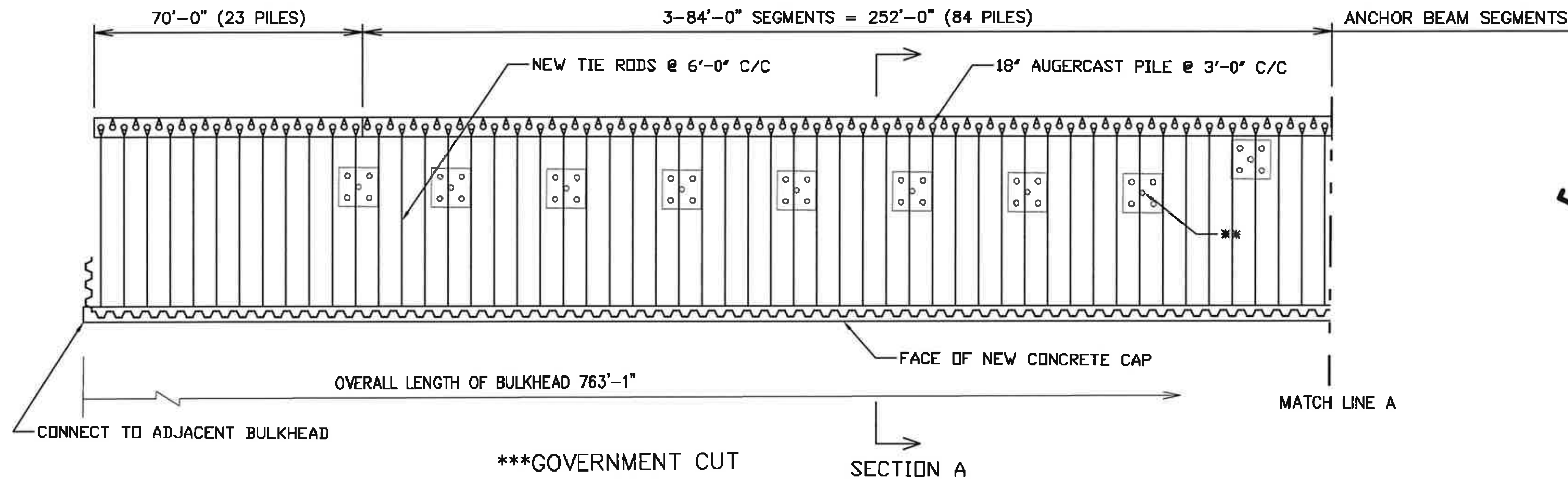
100% PLANS

	CONSTRUCTION DESIGN ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS CONSTRUCTION COST ESTIMATES 5391 N. NOB HILL ROAD SUNRISE, FL 33351 (954) 922-6917	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS CERT. NO. 7616
	OWNER: <b>MIAMI BEACH PORT, LLC.</b>		
	PROJECT: <b>ONE ISLAND PARK BULKHEAD RENOVATIONS</b>		

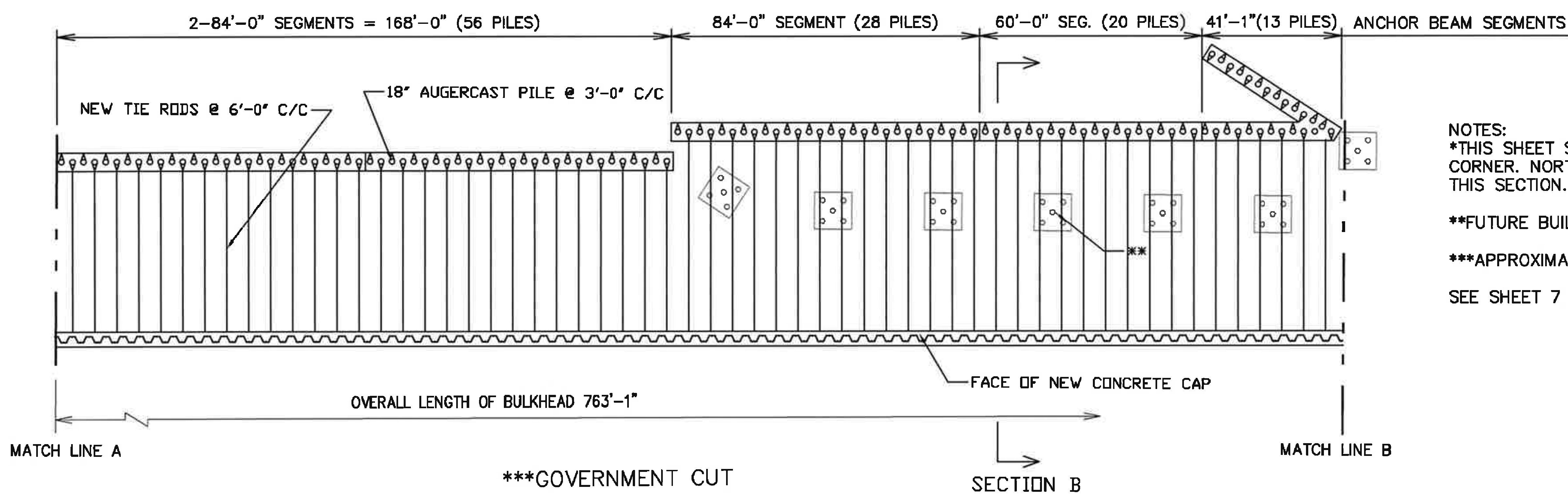
SHEET TITLE: <b>SITE PLAN AND KEYS</b>
---

ORIGINAL: 26AUG22 REVISIONS: 1. 03OCT22 2. _____ 3. _____ 4. _____
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--



LOCATION KEY



NOTES:  
\*THIS SHEET SHOWS SOUTHERN HALF OF ANCHOR BEAM CORNER. NORTHERN HALF TO BE INSTALLED MONOLITHIC WITH THIS SECTION.  
\*\*FUTURE BUILDING FOUNDATIONS (NIC).  
\*\*\*APPROXIMATE BOTTOM ELEVATION DESIGN SCOUR IS -37.0.  
SEE SHEET 7 FOR TYPICAL SECTION.

**BULKHEAD PLAN**

EXPANSION JOINTS REQUIRED IN ANCHOR BEAM AND CAP AT ENDS OF ANCHOR BEAM SEGMENTS.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
DESIGN CPM SCHEDULES INSPECTIONS  
5391 N. NOB HILL ROAD  
SUNRISE, FL 33351  
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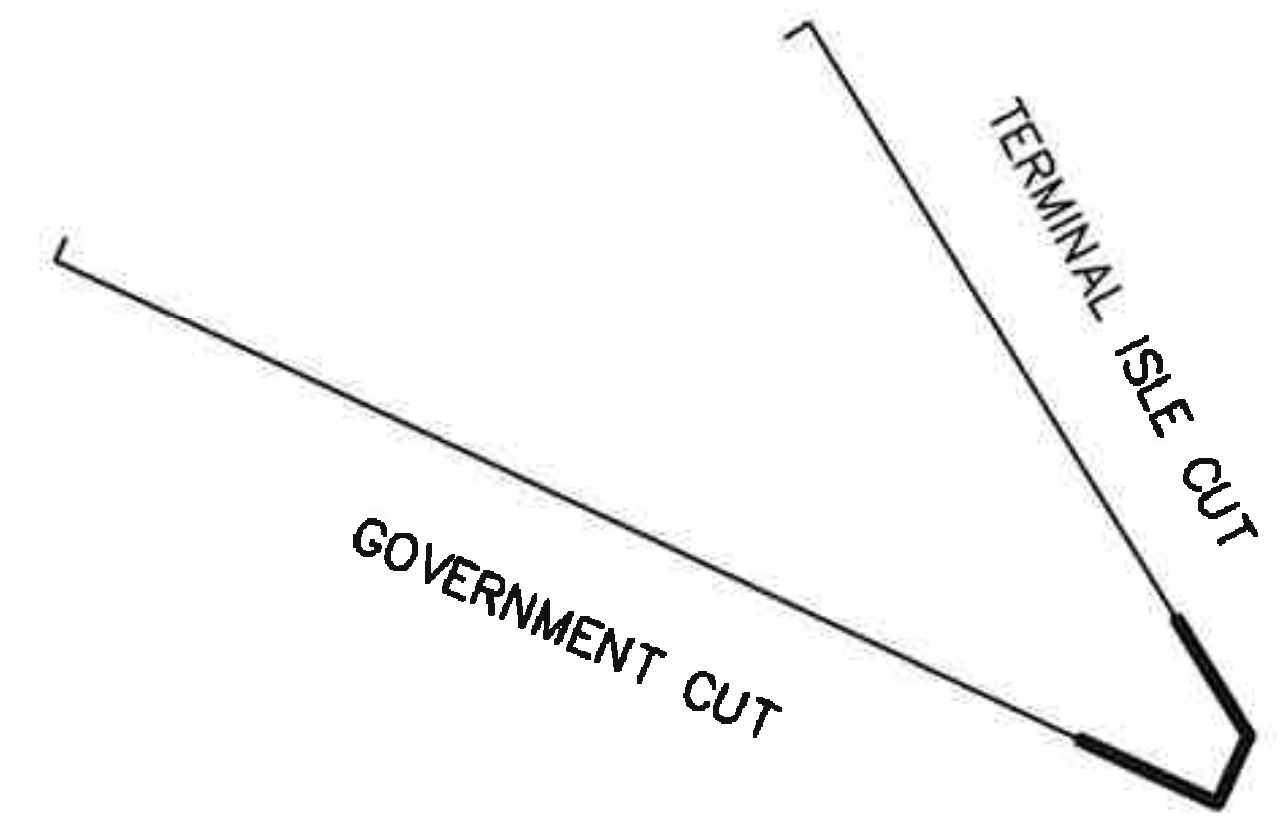
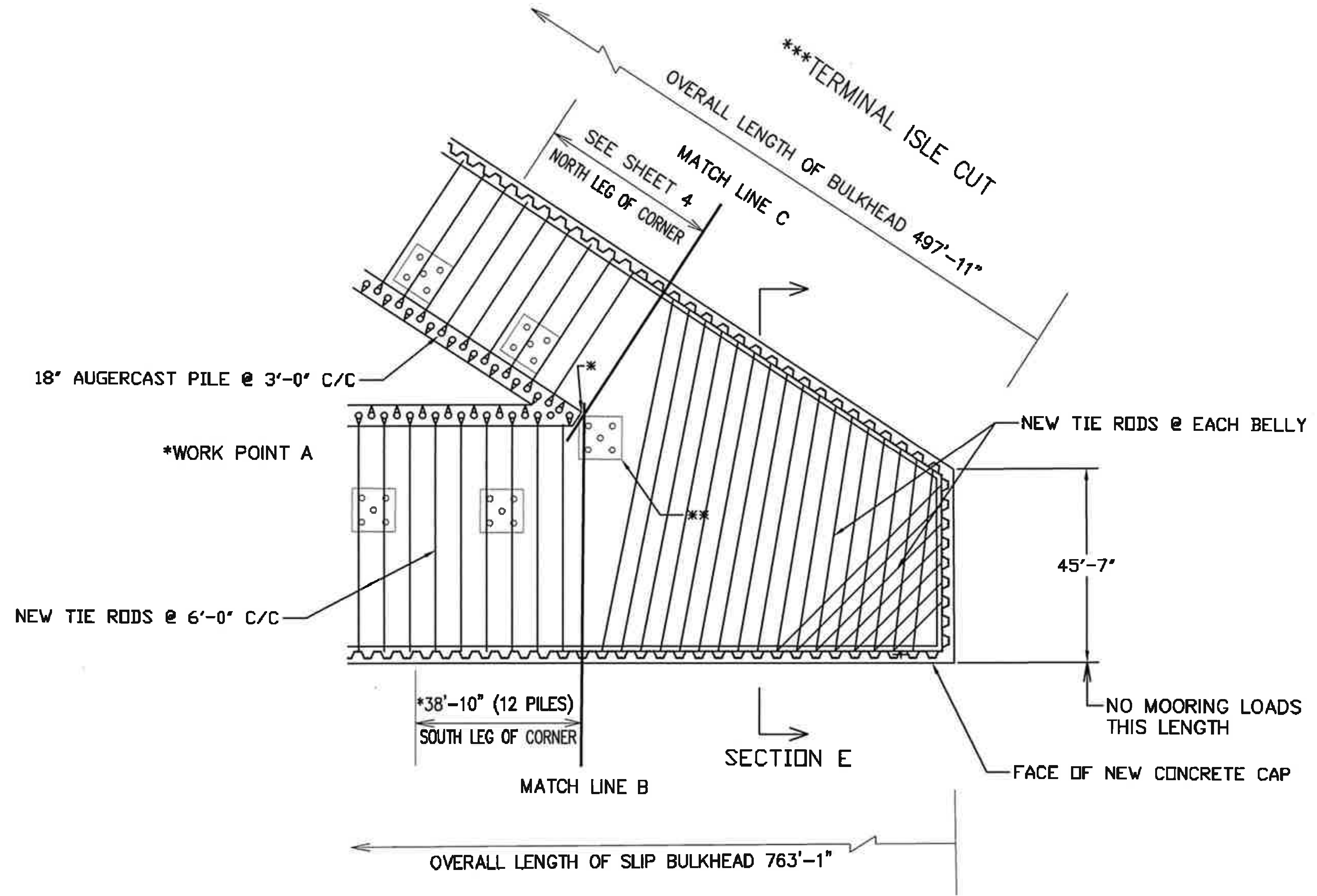
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

SHEET TITLE:  
**BULKHEAD PLAN  
SECTION 1**

ORIGINAL: 26AUG22  
REVISIONS:  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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DRAWN: MCB SHEET No. 8



LOCATION KEY

NOTES:  
 \*THIS SHEET SHOWS NORTHERN HALF OF ANCHOR BEAM CORNER. SOUTHERN HALF TO BE INSTALLED MONOLITHIC WITH THIS SECTION.  
 \*\*FUTURE BUILDING FOUNDATIONS (NIC).  
 \*\*\*APPROXIMATE BOTTOM ELEVATION DESIGN SCOUR IS -37.0.  
 SEE SHEET 8 FOR TYPICAL SECTION.

\*\*\*GOVERNMENT CUT

BULKHEAD PLAN

EXPANSION JOINTS REQUIRED IN ANCHOR BEAM AND CAP AT ENDS OF ANCHOR BEAM SEGMENTS.

100% PLANS

	CONSTRUCTION DESIGN CONSTRUCTABILITY REVIEWS CONSTRUCTION COST ESTIMATES CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS
	5391 N. NOB HILL ROAD SUNRISE, FL 33351 (954) 922-6917 CERT. NO. 7616

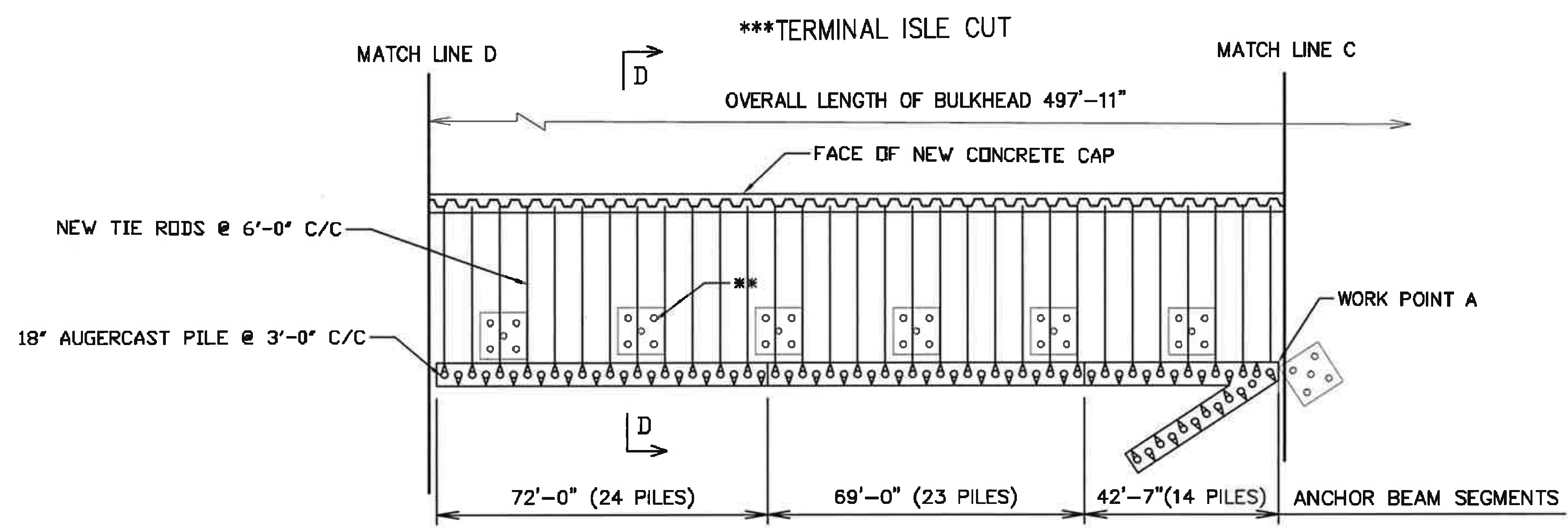
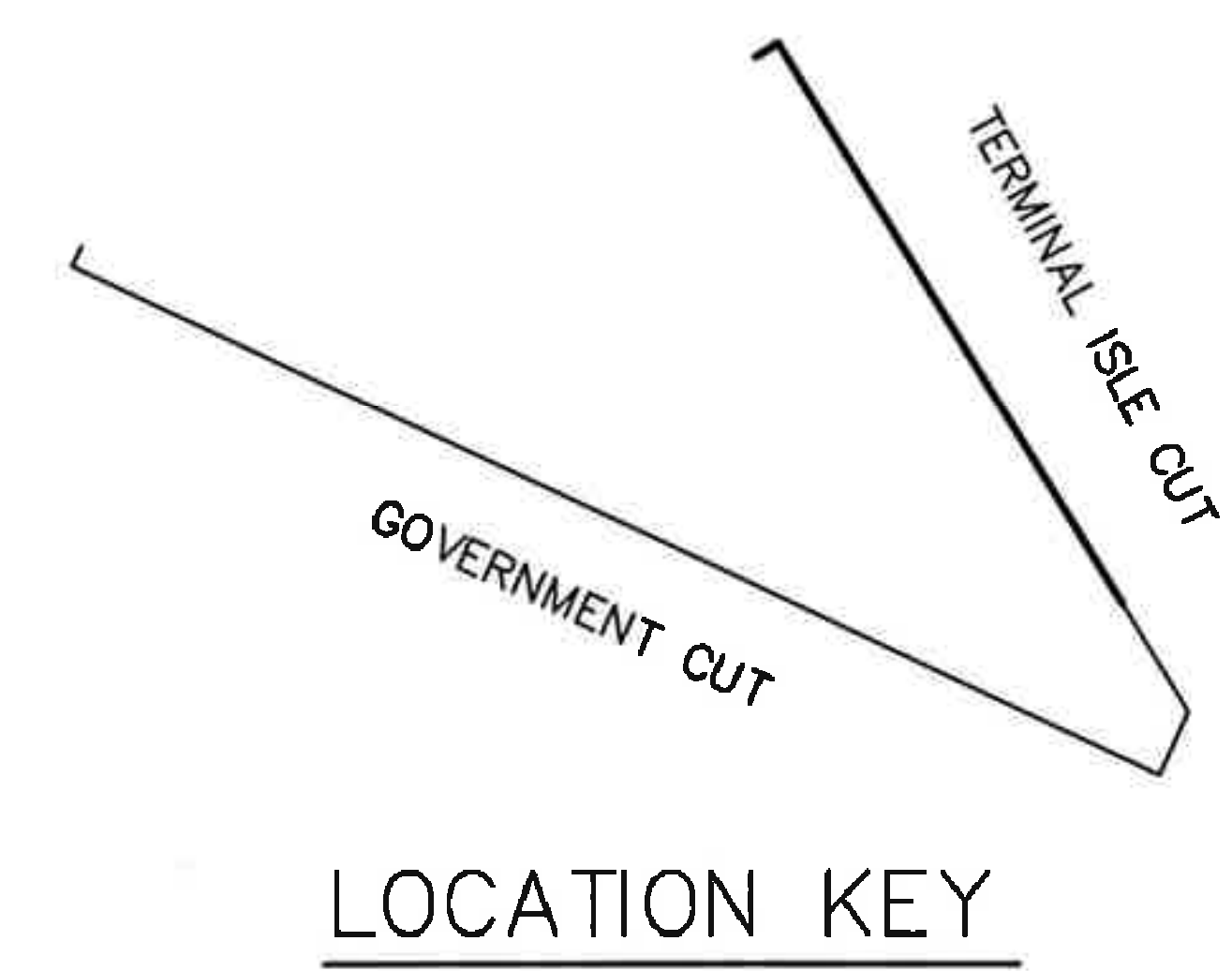
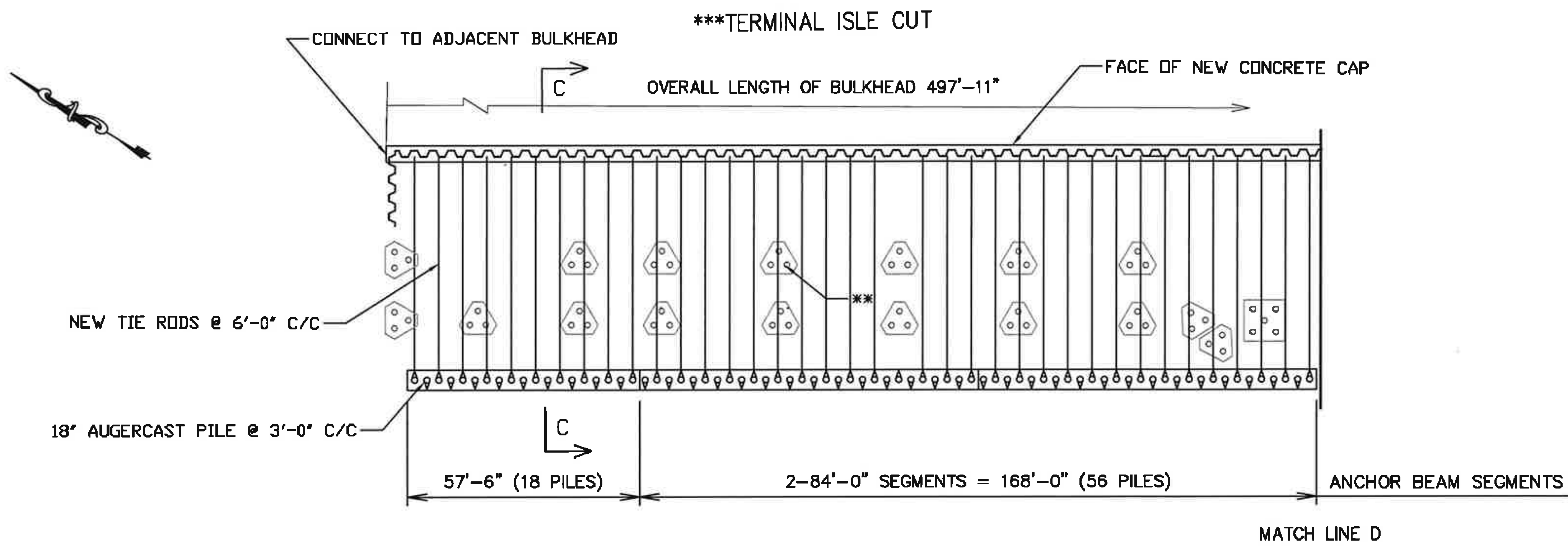
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**BULKHEAD PLAN  
 SECTION 2**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 9



**BULKHEAD PLAN**

EXPANSION JOINTS REQUIRED IN ANCHOR BEAM AND CAP AT ENDS OF ANCHOR BEAM SEGMENTS.

- NOTES:  
 \*THIS SHEET SHOWS NORTHERN HALF OF ANCHOR BEAM CORNER. SOUTHERN HALF TO BE INSTALLED MONOLITHIC WITH THIS SECTION.  
 \*\*FUTURE BUILDING FOUNDATIONS (NIC).  
 \*\*\*APPROXIMATE BOTTOM ELEVATION DESIGN SCOUR IS -37.0.  
 SEE SHEET 7 FOR TYPICAL SECTION.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

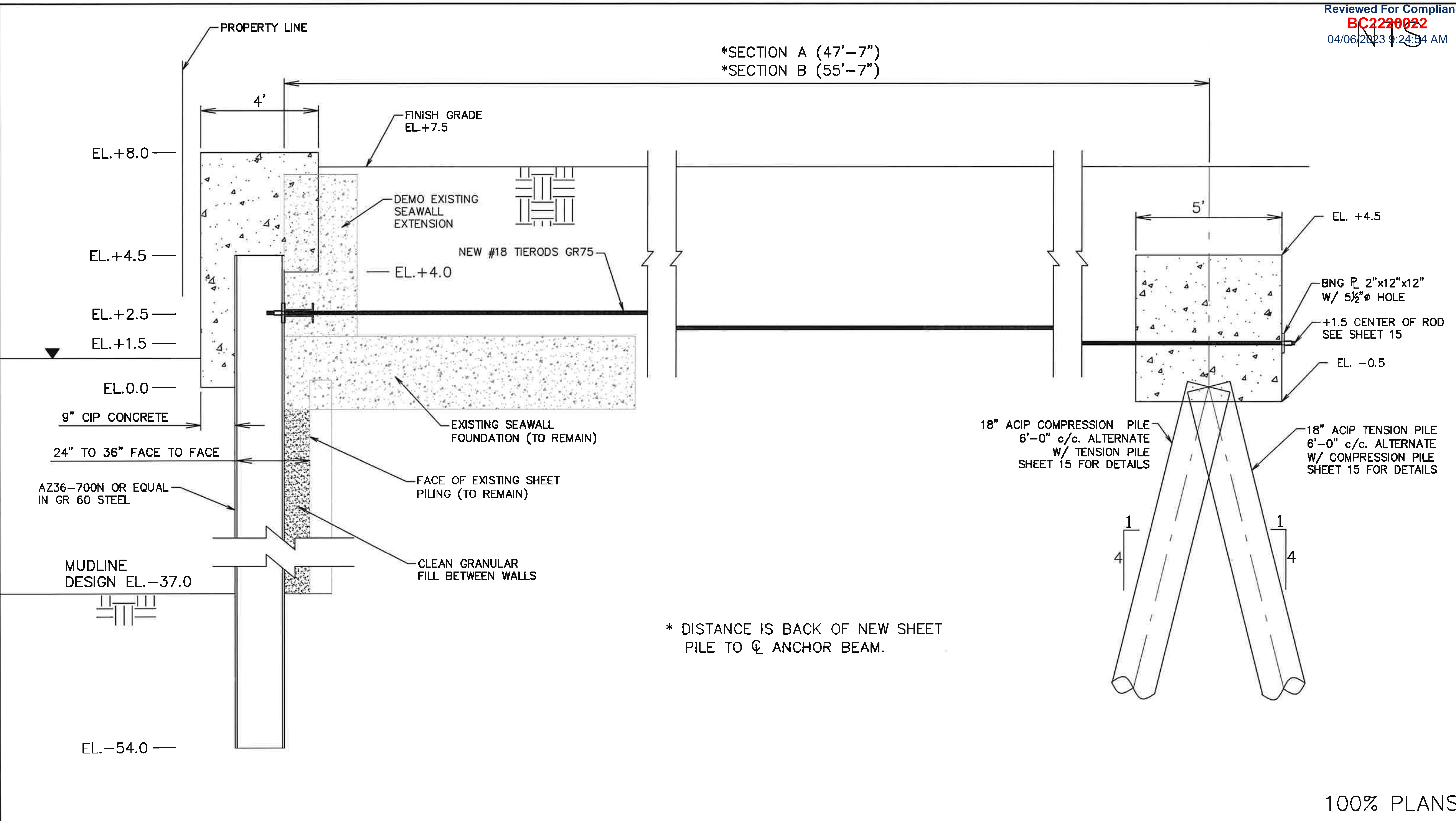
SHEET TITLE:  
**BULKHEAD PLAN  
 SECTION 3**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 10

\*SECTION A (47'-7")

\*SECTION B (55'-7")



100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

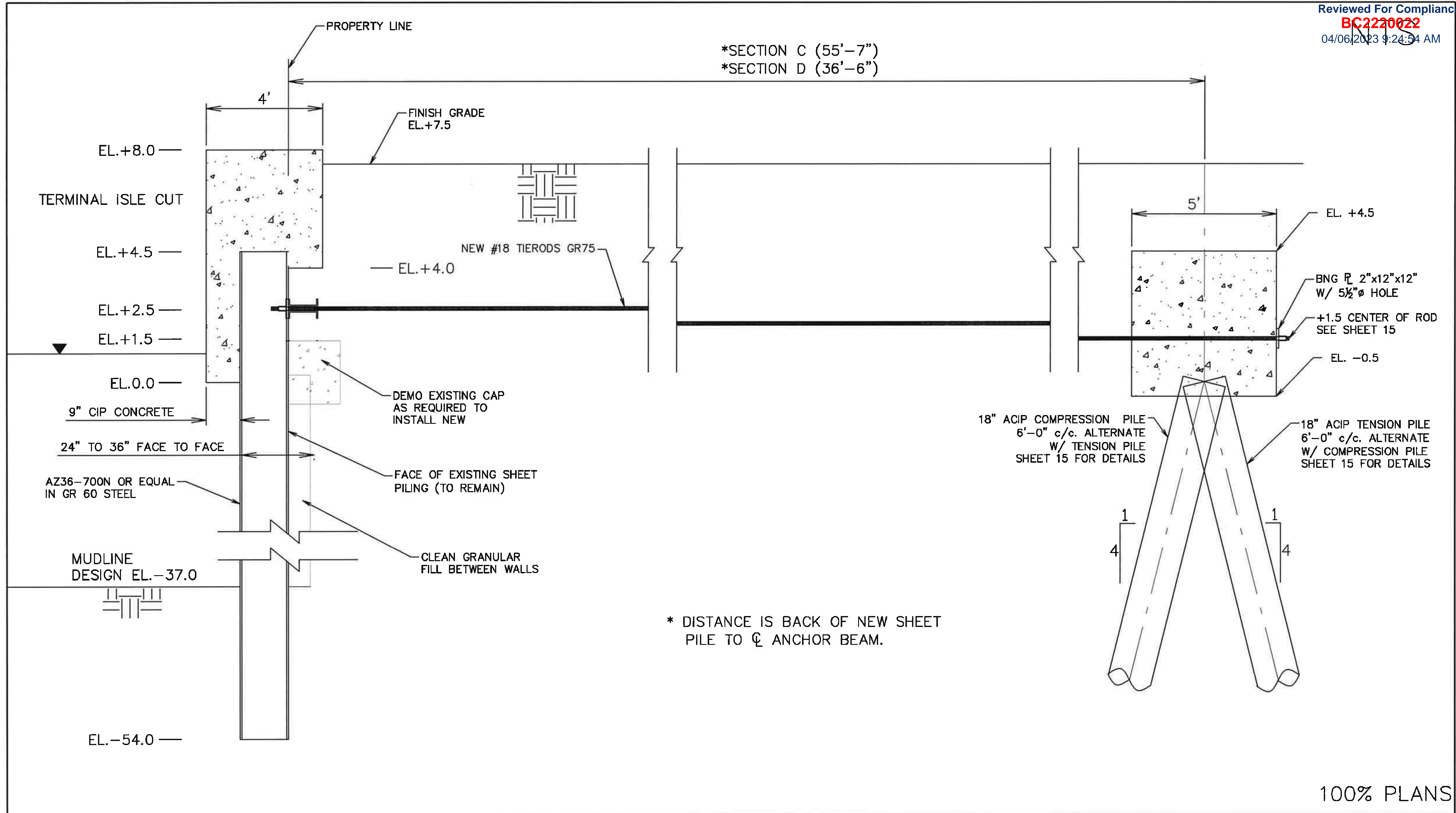
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**TYPICAL SECTIONS A AND B**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 11



100% PLANS

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 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

OWNER:  
**MIAMI BEACH PORT, LLC.**

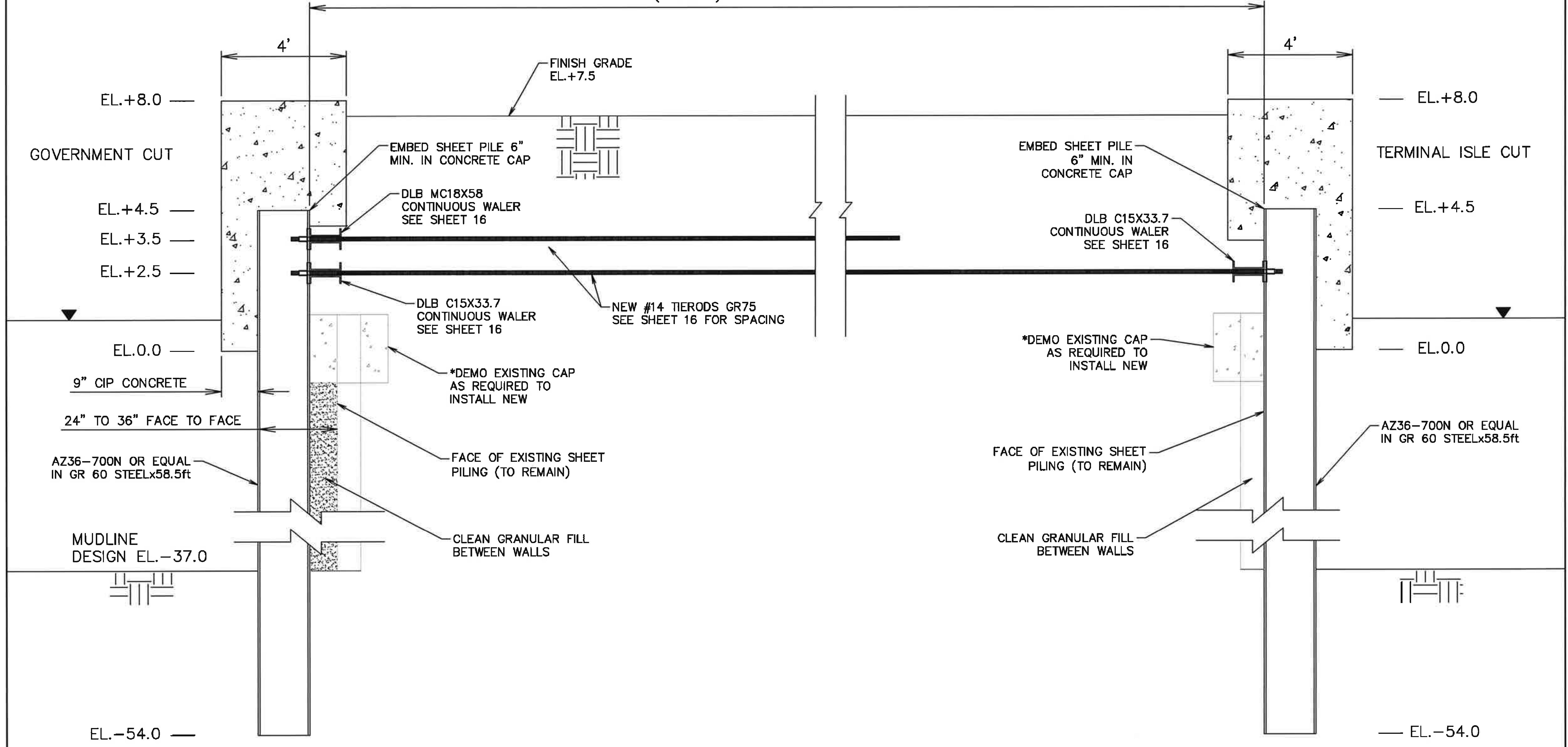
PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**TYPICAL SECTIONS  
 C AND D**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 11A

SECTION E (VARIES) BACK OF NEW SHEET PILE TO PROPERTY LINE



100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

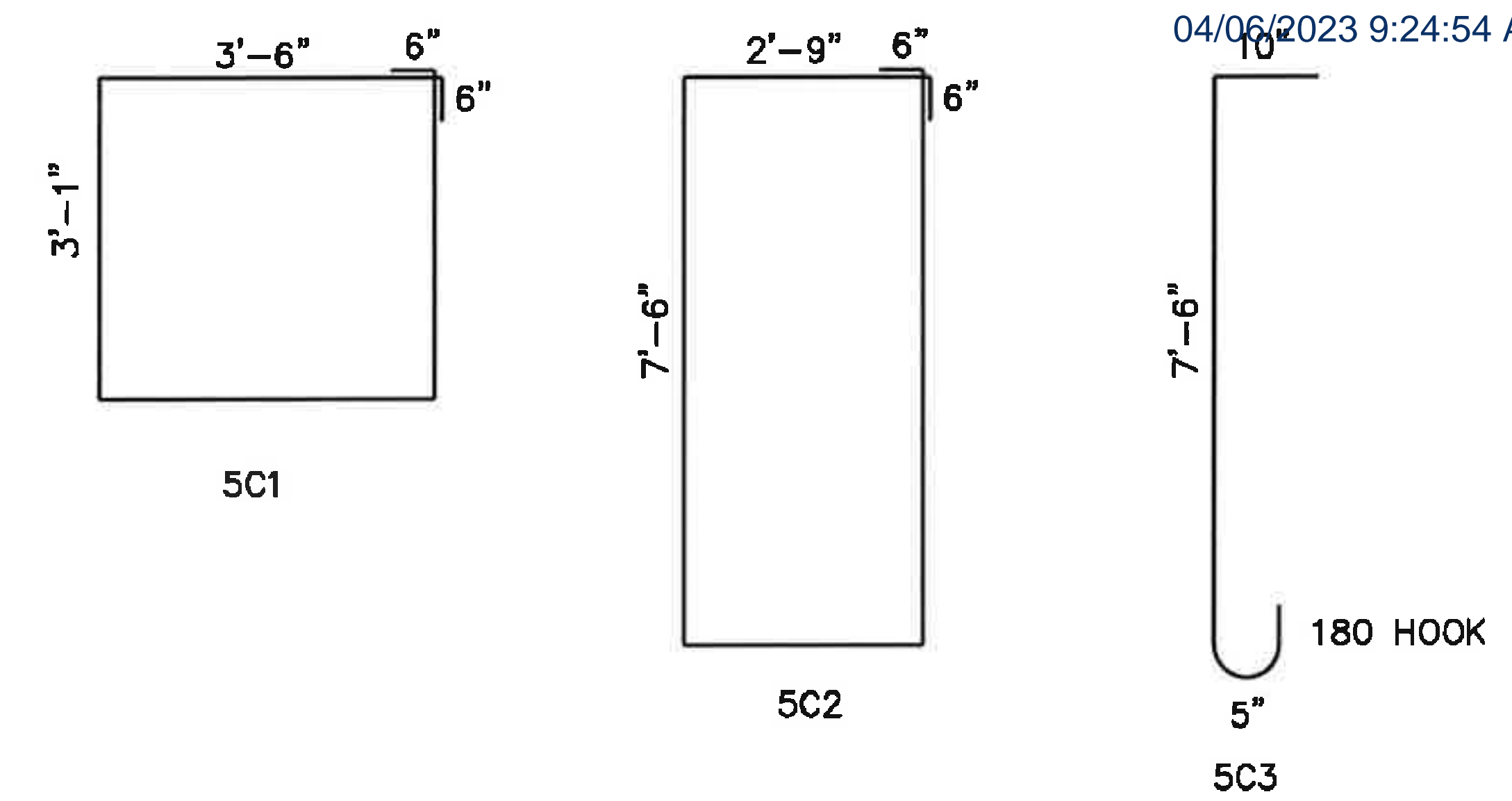
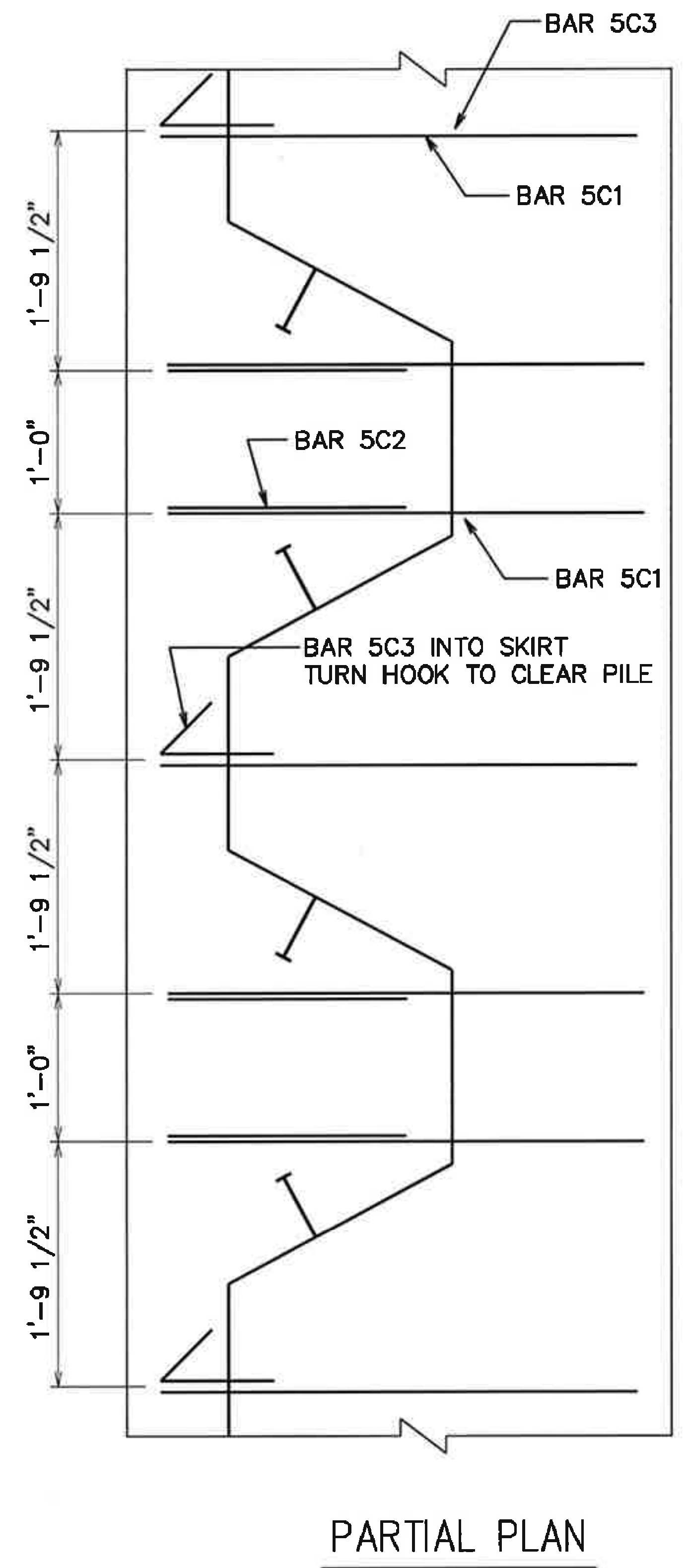
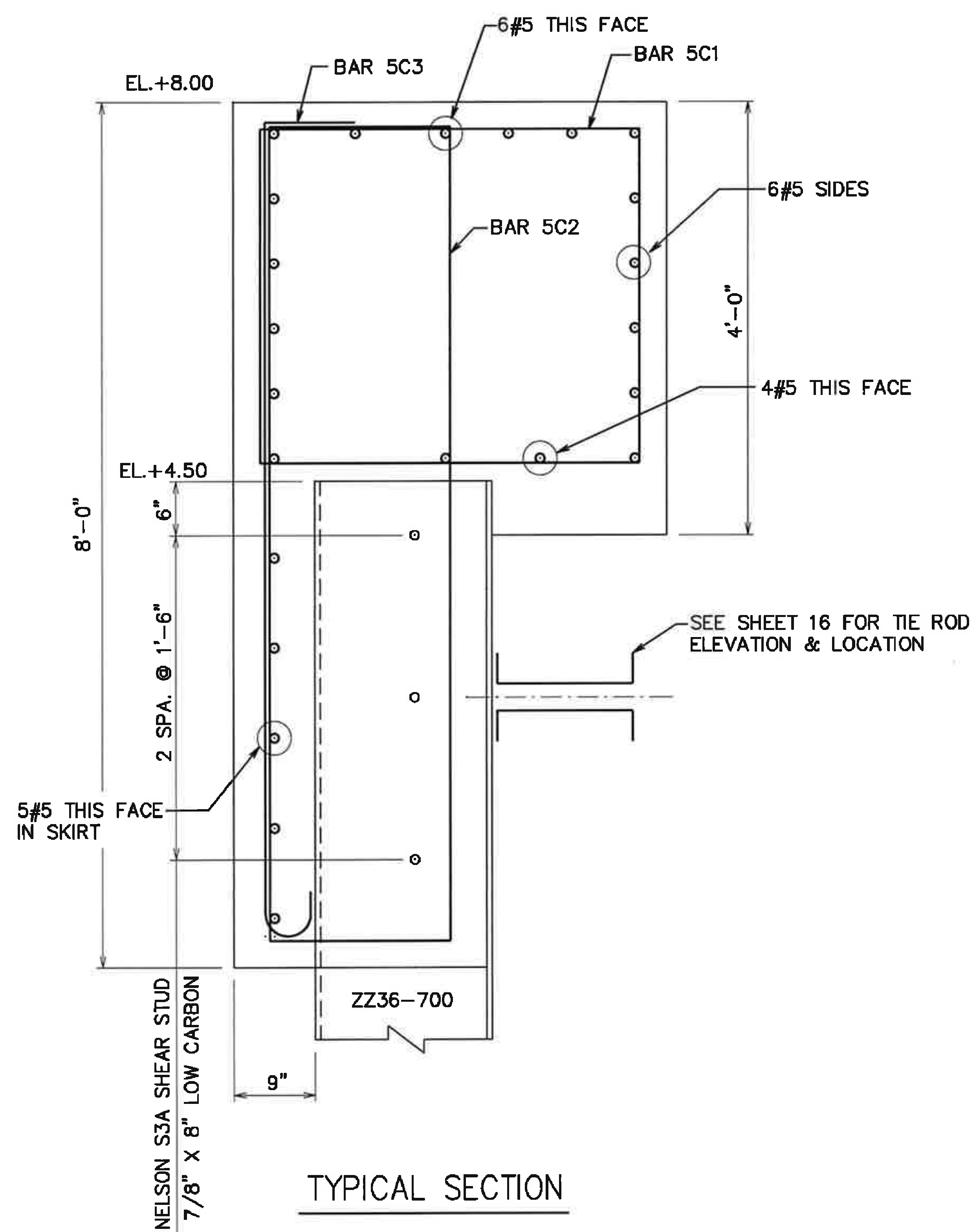
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
BULKHEAD RENOVATIONS**

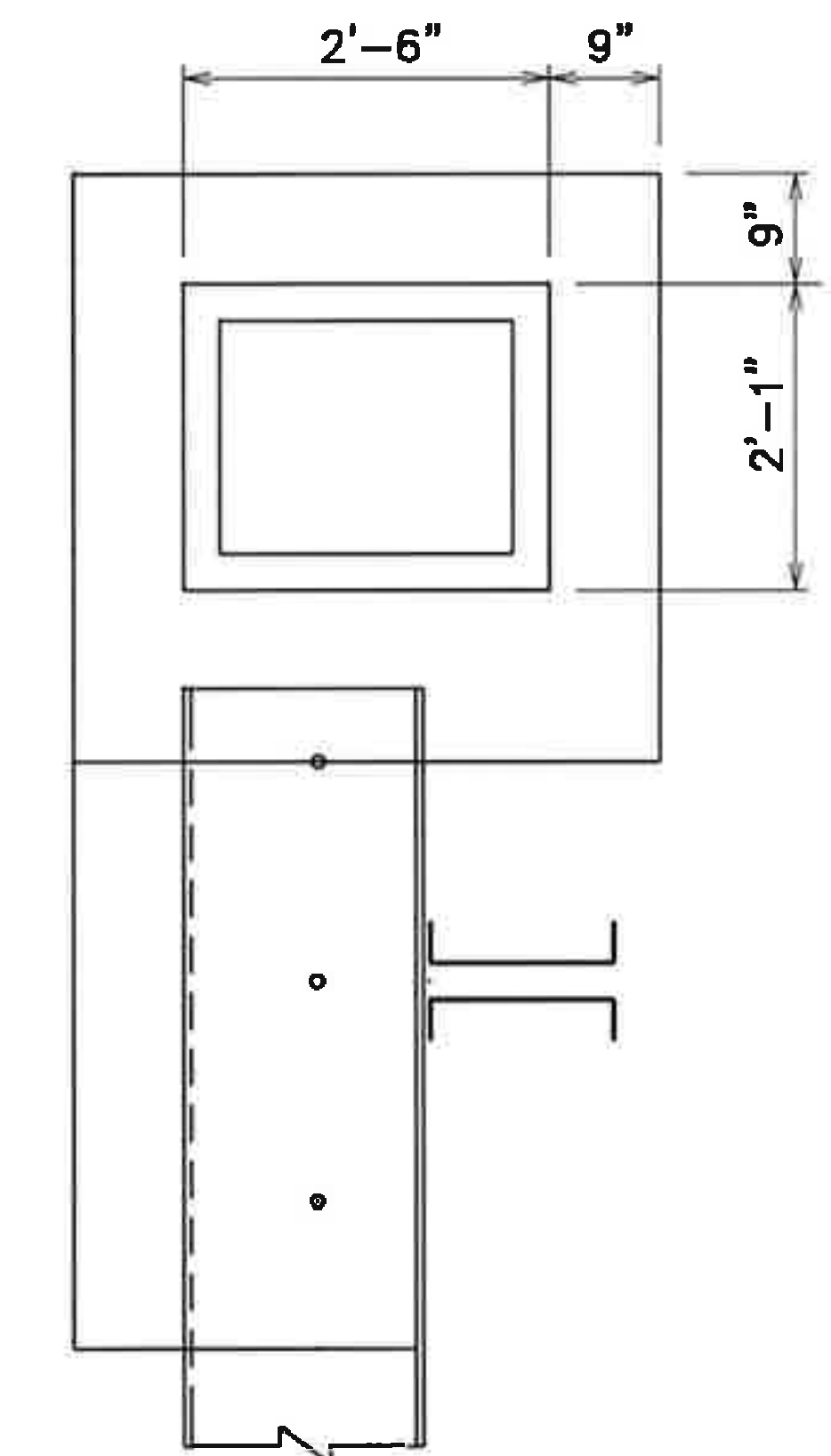
SHEET TITLE:  
**TYPICAL SECTION E**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. 03OCT22  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 12



BAR BENDING DETAILS



PROVIDE 1" PREMOULDED EXP. MAT'L @ EXPANSION JT'S.  
 STOP REBAR 3" FROM END OF CAP.  
 MAXIMUM DISTANCE BETWEEN EXP. JT'S = 84

100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

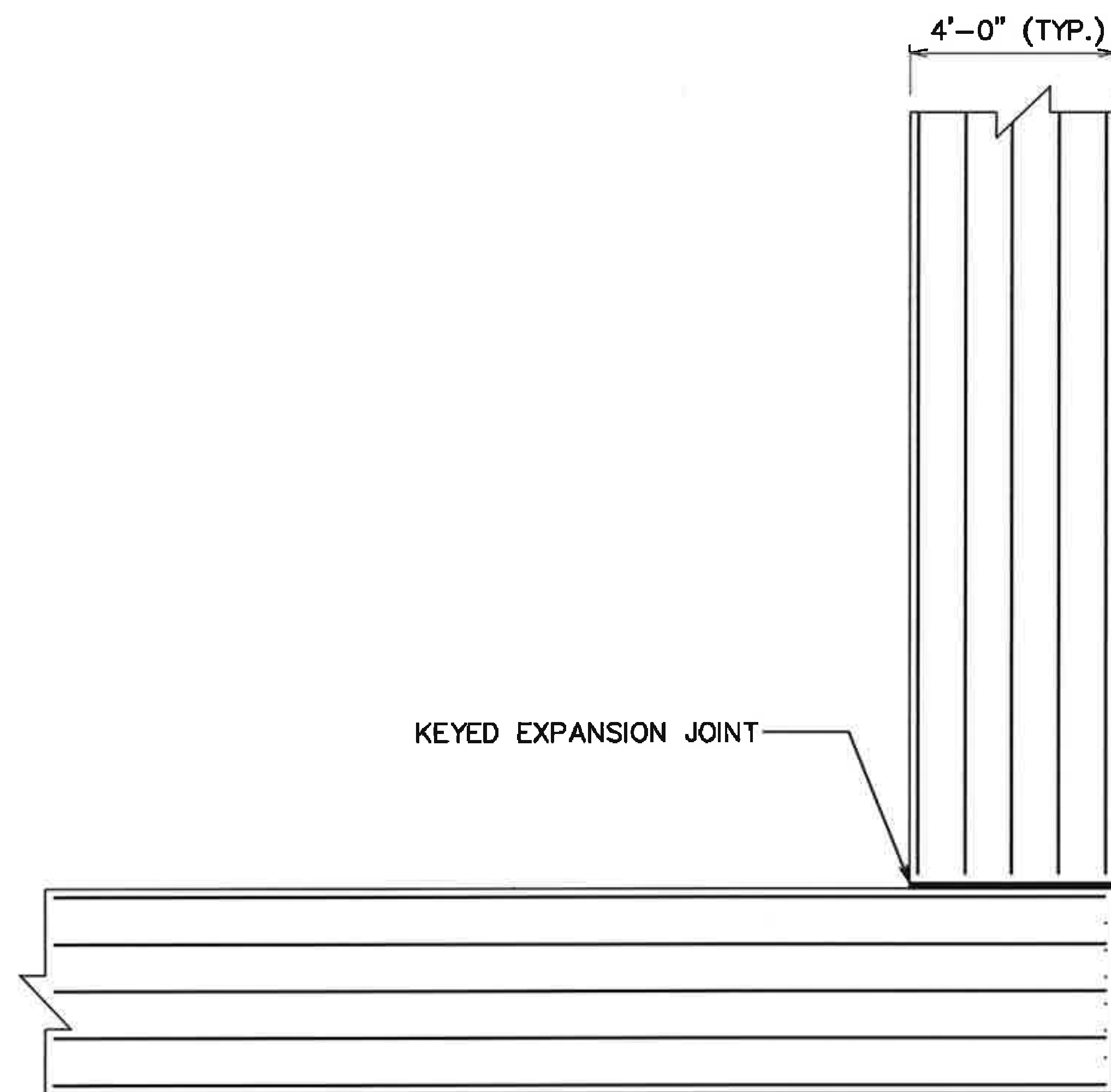
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**BULKHEAD CAP DETAILS**

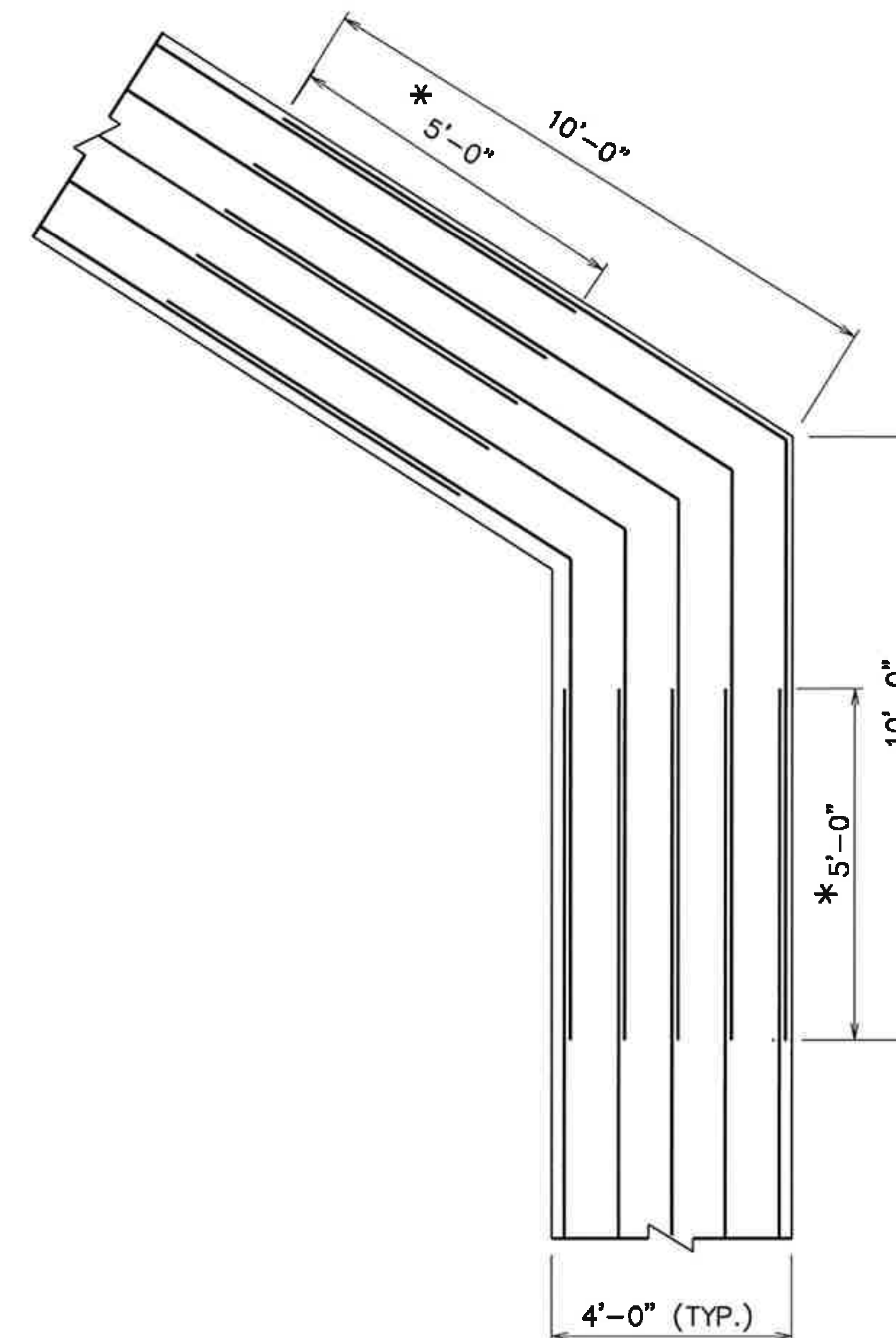
ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

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 DRAWN: MCB SHEET No. 13



LONGITUDINAL REBAR AT 90 DEGREE CORNER

SEE SHEET 13 FOR ADDITIONAL DETAILS



LONGITUDINAL REBAR AT 57.5 DEGREE CORNER

SEE SHEET 13 FOR ADDITIONAL DETAILS

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING INSPECTIONS
	5391 N. NOB HILL ROAD SUNRISE, FL 33351	(954) 922-6917	CERT. NO. 7616
	OWNER: <b>MIAMI BEACH PORT, LLC.</b>		
	PROJECT: <b>ONE ISLAND PARK          BULKHEAD RENOVATIONS</b>		

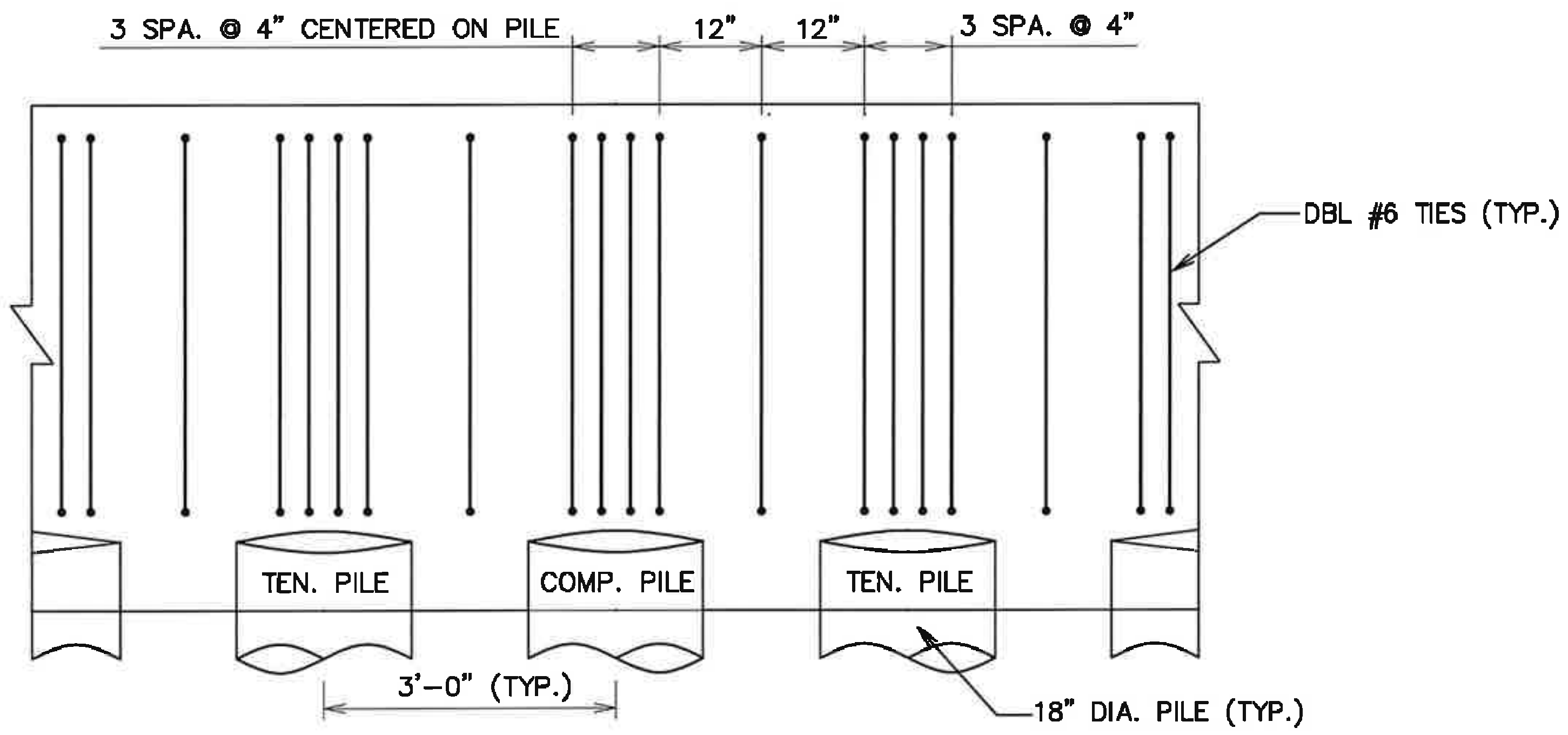
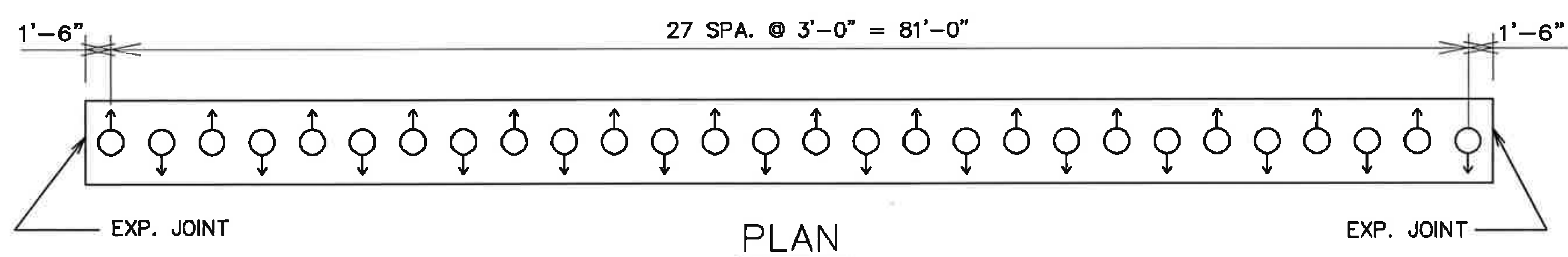
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**CAP CORNER REINFORCING**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

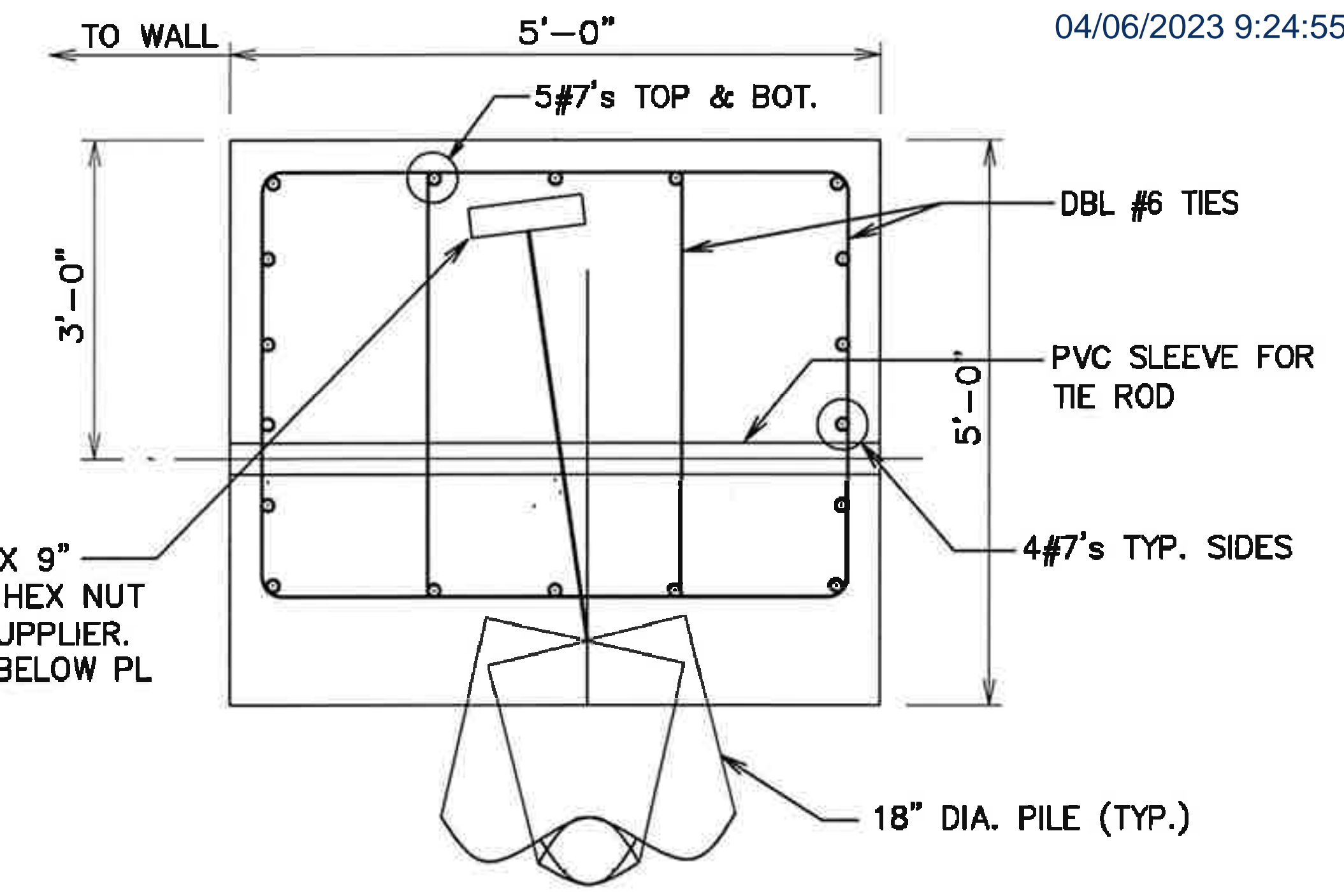
MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 14



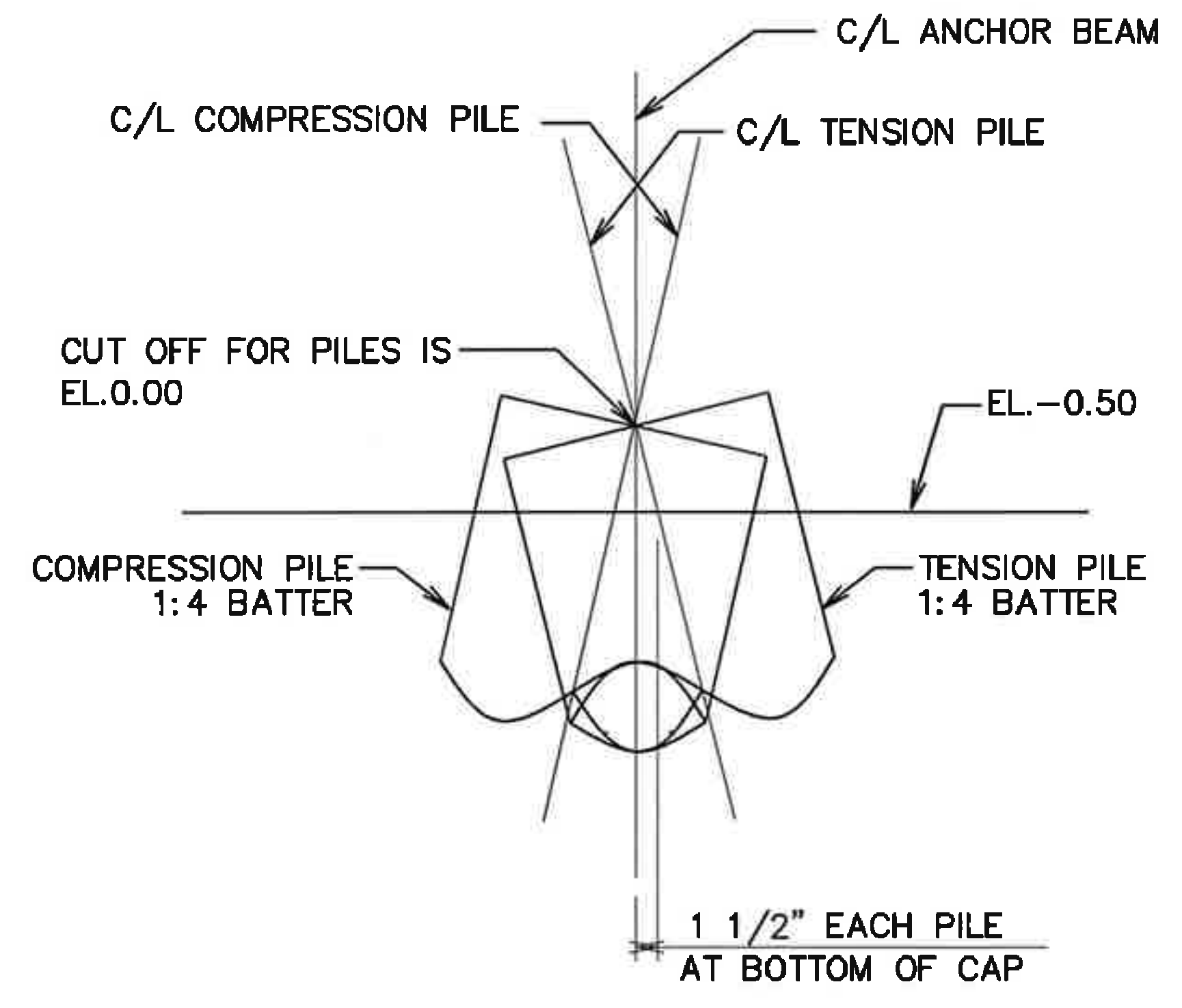
#6 TIE SPACING  
LONGITUDINAL BARS NOT SHOWN  
NOT TO SCALE

AUGER CAST PILE SUMMARY		
	Compression	Tension
Diameter	18"	18"
Design Load	270k	240k
Cut-off	0.00	+4.50 *
Min. Tip	-60	-60
Length	60'	65' *
Primary bars	6#7's	1 - 2 1/4" 150k
Ties	# 3@16"	# 3@16" **
Upper cage	N/A	6#7 x 30'

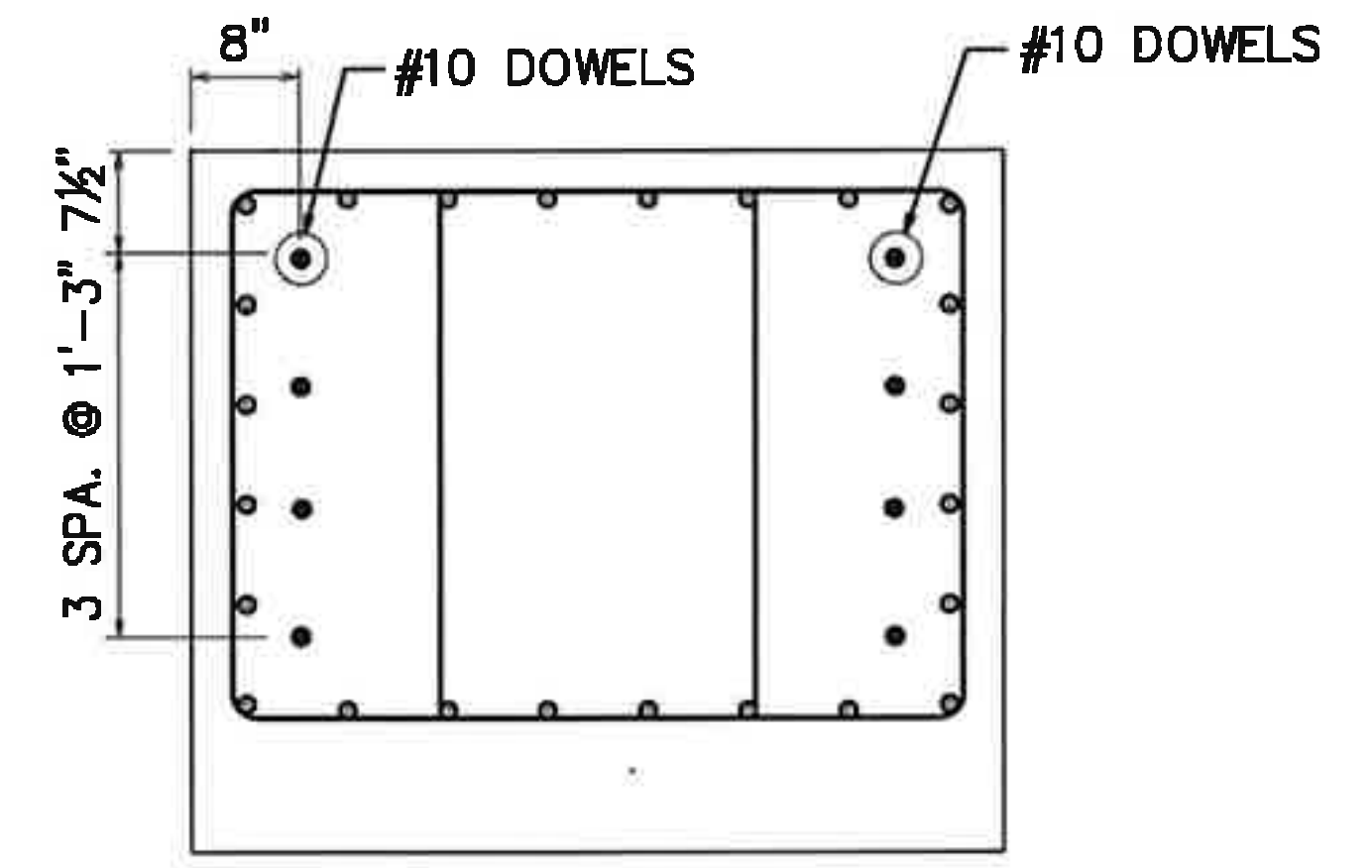
\* Allows for bar extension  
\*\* Upper cage



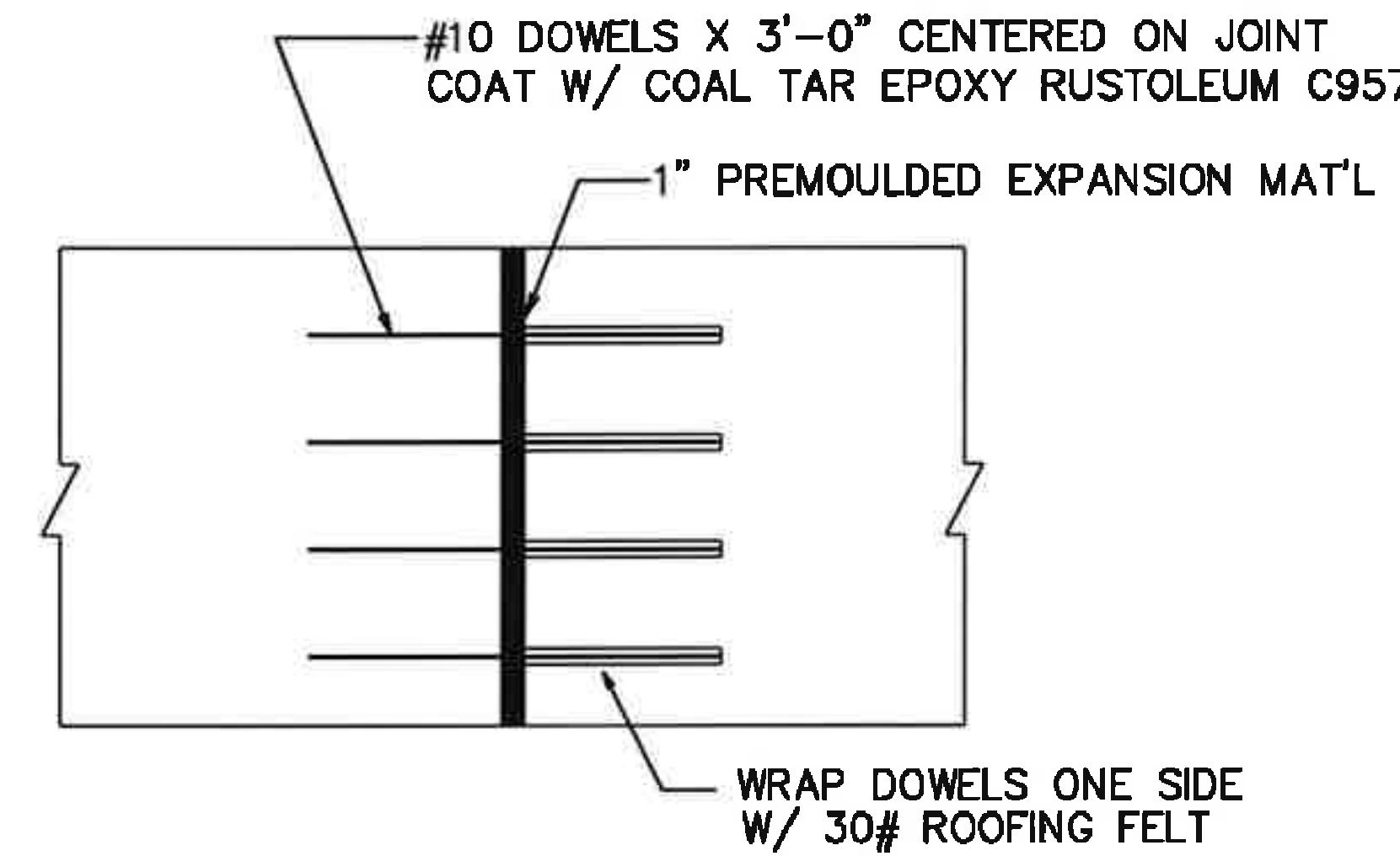
TYPICAL SECTION



PILE OFFSETS



DOWELS @ EXPANSION JOINT



ELEVATION AT EXPANSION JOINT  
STOP REBARS 3" FROM END OF BEAM

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
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 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

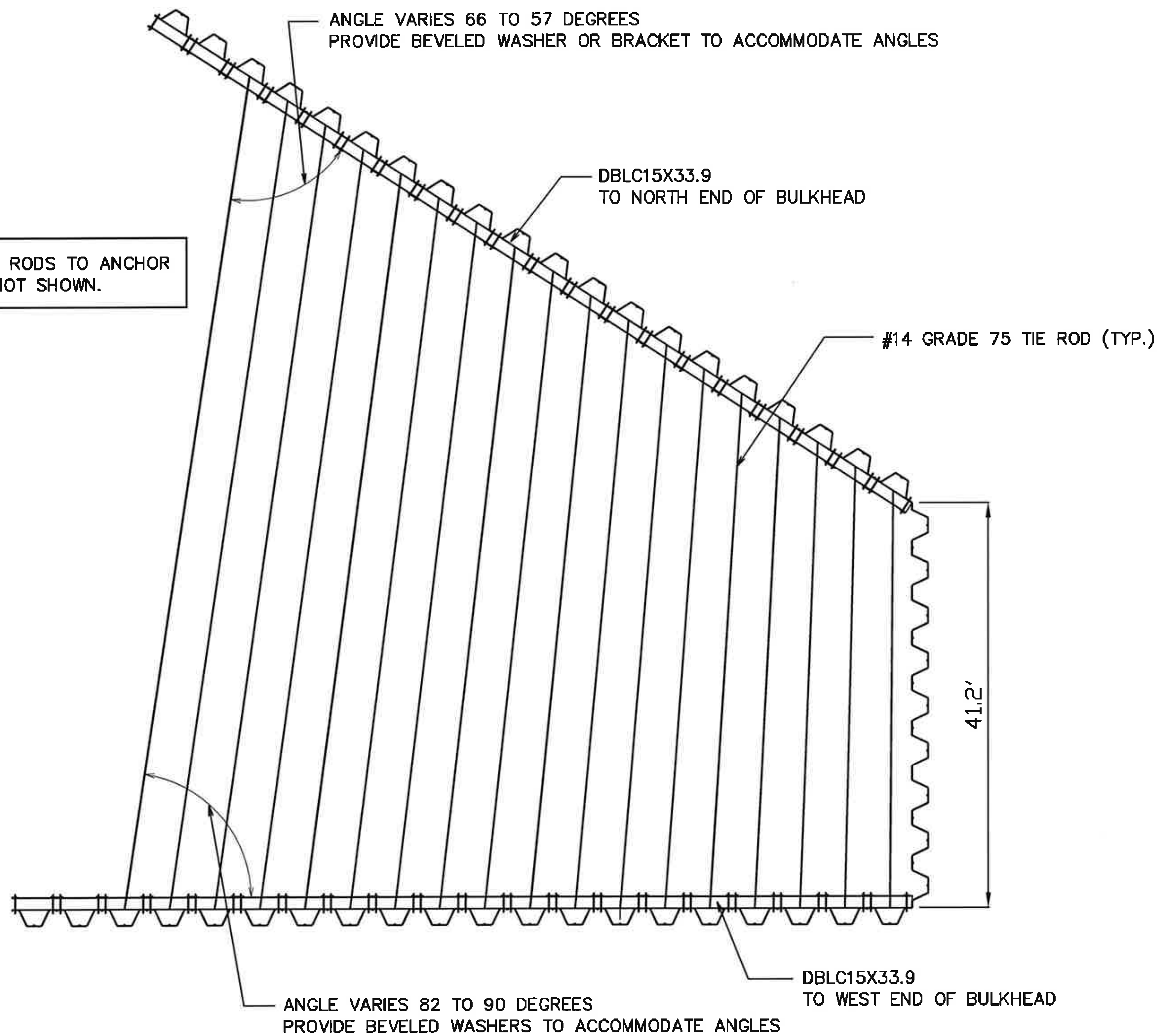
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**ANCHOR WALL TYPICAL 84'-0" SEGMENTS**

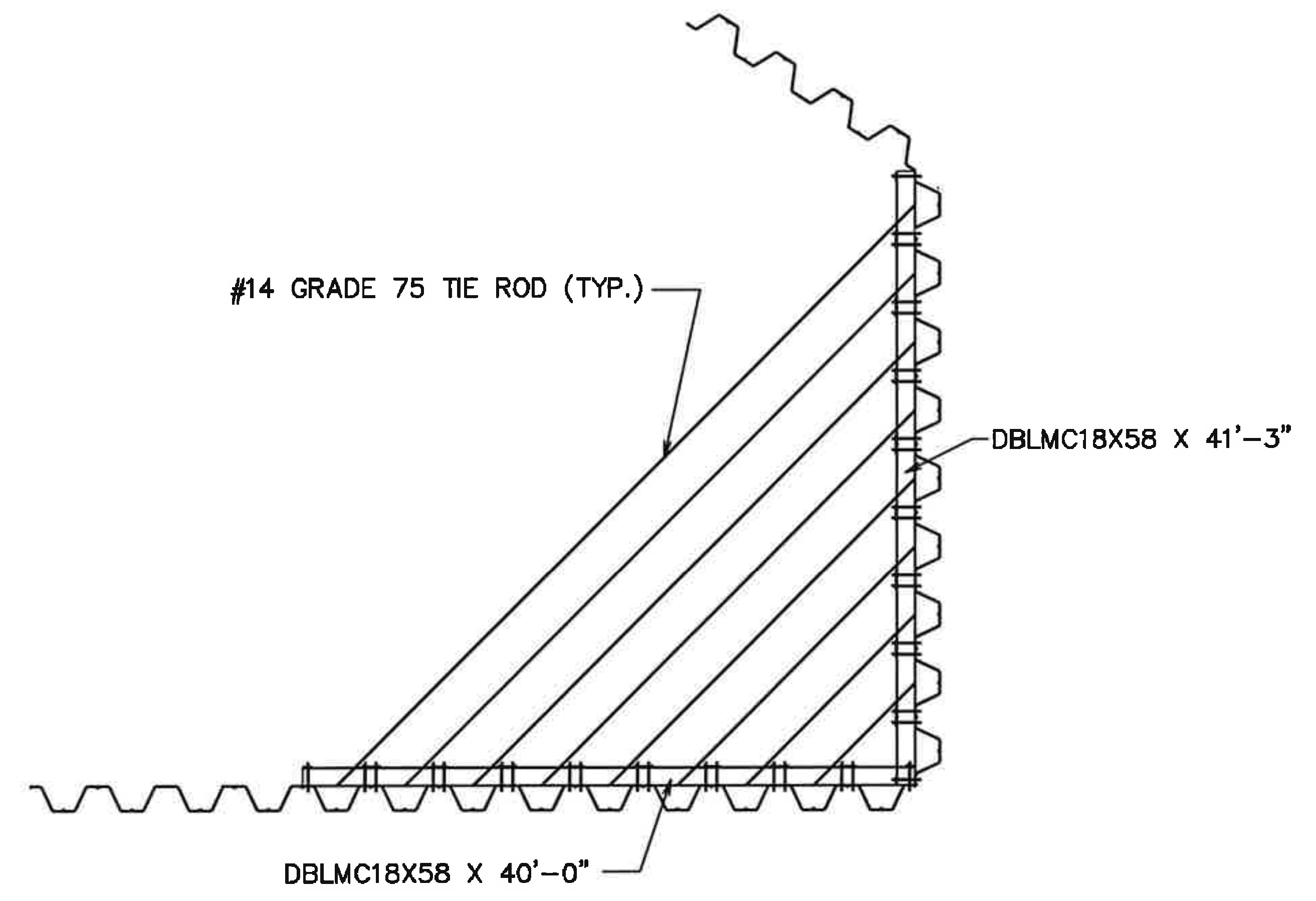
ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 15



#18 TIE RODS TO ANCHOR BEAM NOT SHOWN.

WALERS AND TIE RODS AT EL.+2.50

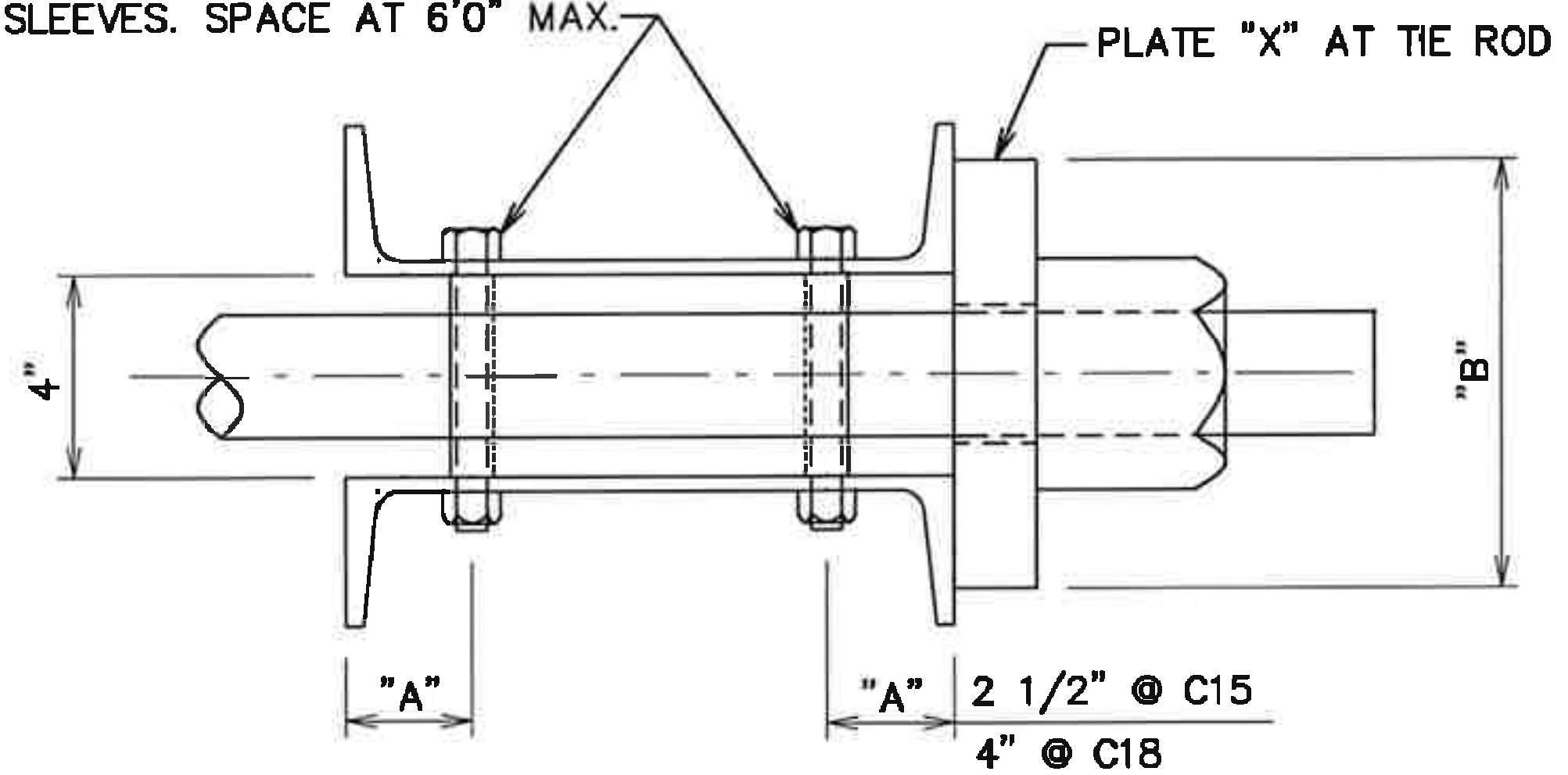


WALERS AND TIE RODS AT EL.+3.50

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS DESIGN	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING OPM SCHEDULES INSPECTIONS	CLIENT: <b>MIAMI BEACH PORT, LLC.</b>
	5391 N. NOB HILL ROAD SUNRISE, FL 33351	(954) 922-6917	CERT. NO. 7616	PROJECT: <b>ONE ISLAND PARK                  BULKHEAD RENOVATIONS</b>
	SHEET TITLE: <b>WALER AND TIE ROD PLAN                  AT SOUTHEAST CORNER</b>			ORIGINAL: 26AUG22
	REVISIONS: 1. 03OCT22 2. _____ 3. _____ 4. _____			MICHAEL C. BONE, P.E. FL19383 THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004. DRAWN: MCB SHEET NO. 16

5/8" A307 SPACER BOLTS IN 3/4" STD PIPE SLEEVES. SPACE AT 6'0" MAX.

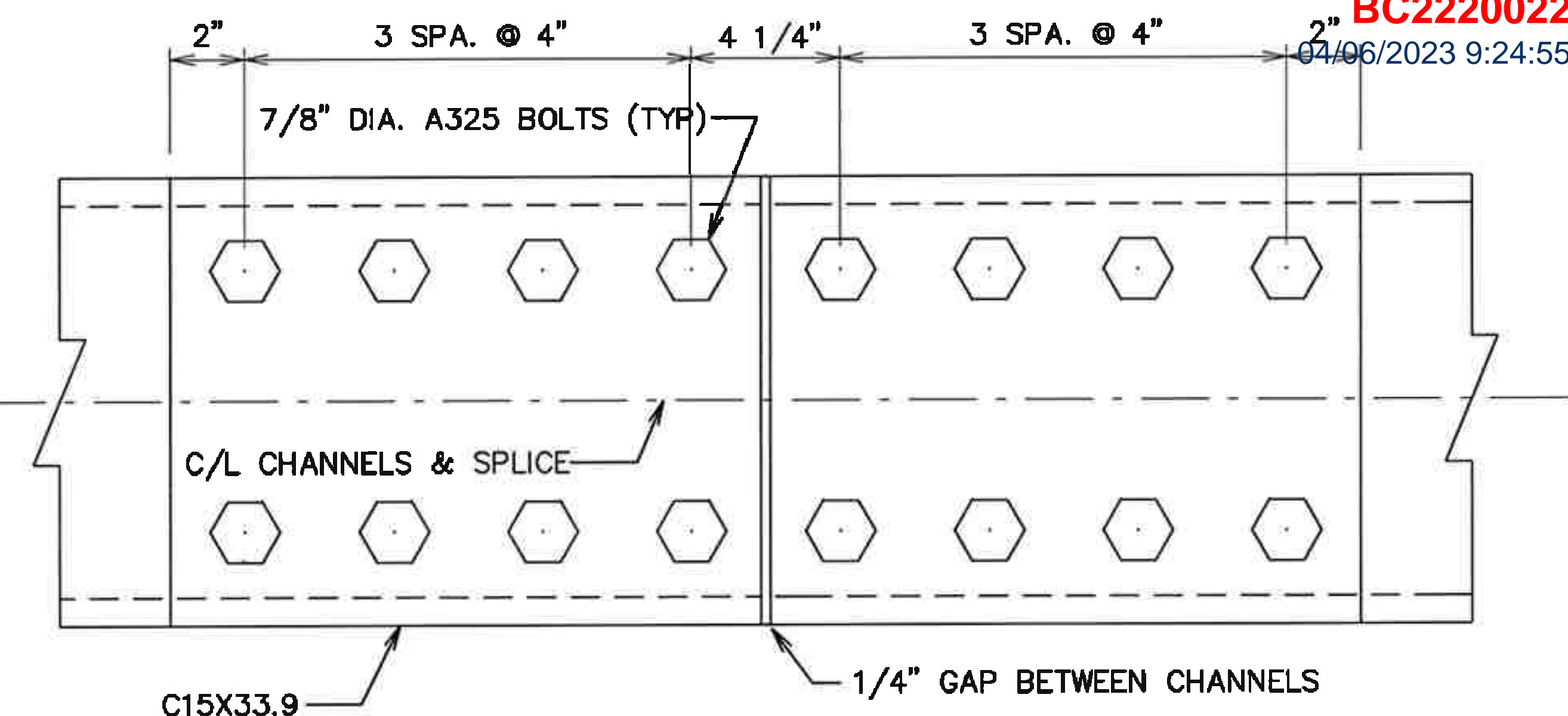
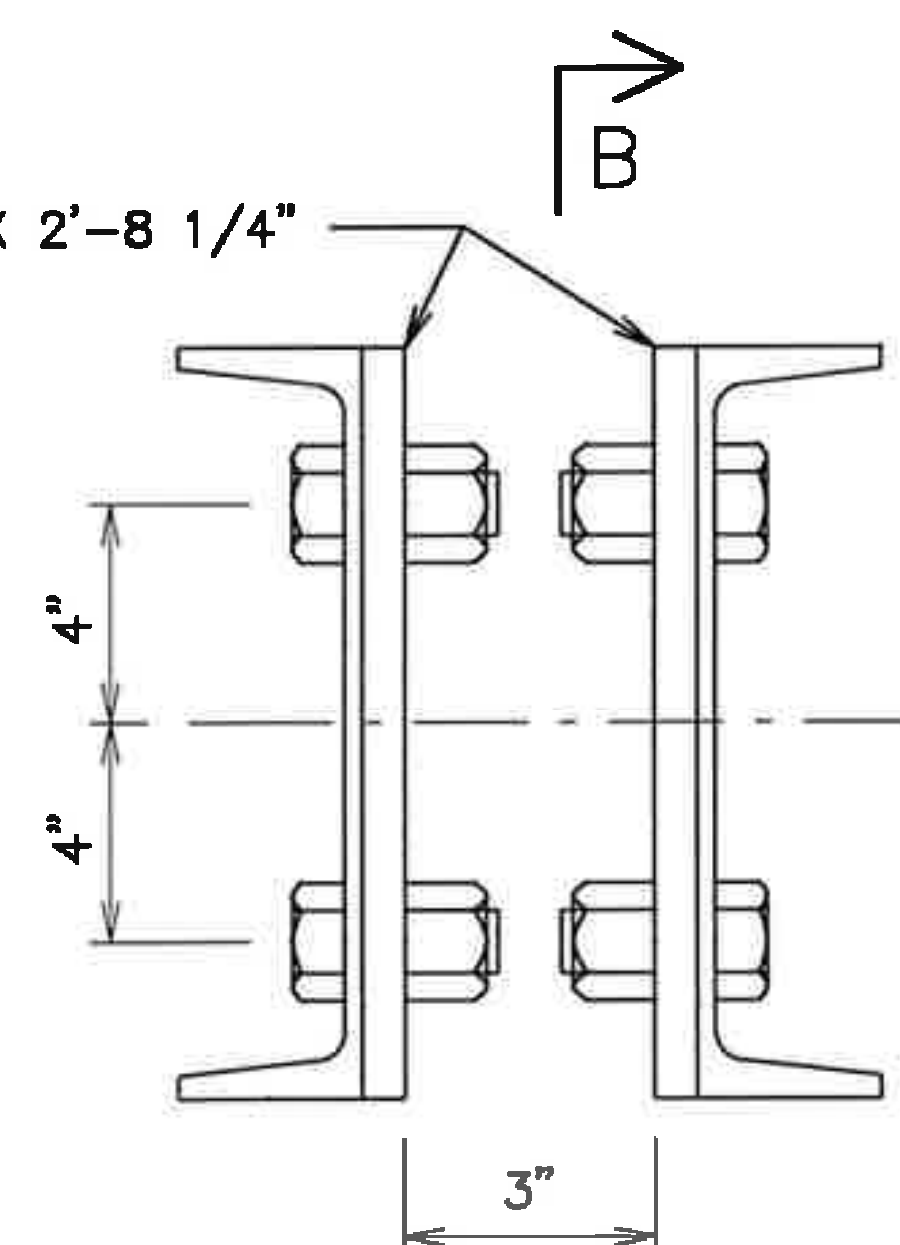


DETAIL AT TIE ROD & SPACERS

	PLATE "X"	DIM "B"	HOLE
2 1/4" TIE ROD	1 3/8"x9" X 1'-0"	9"	2 1/2"
1 3/4" TIE ROD	1 1/8"x9" X 1'-0"	9"	2"

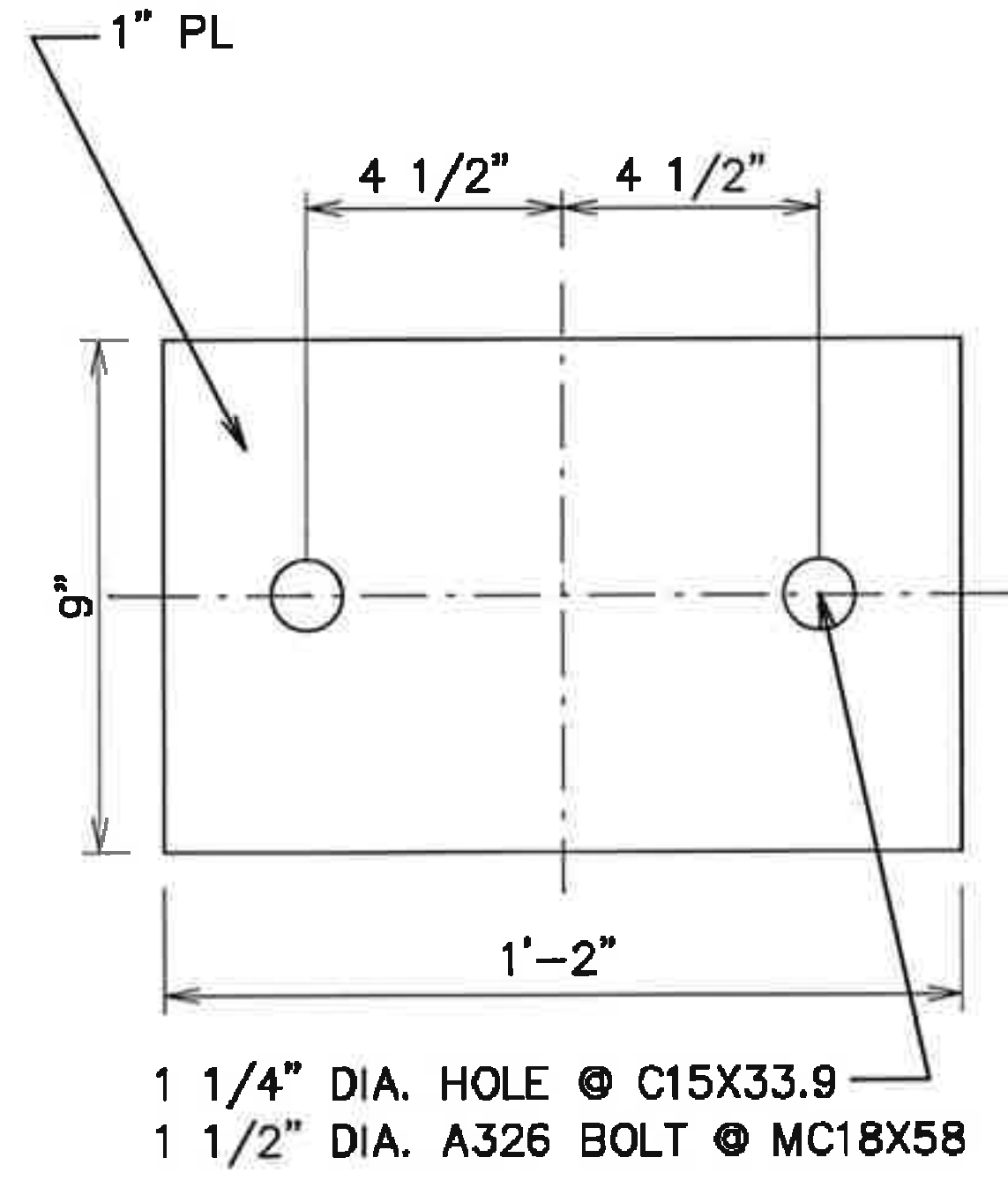
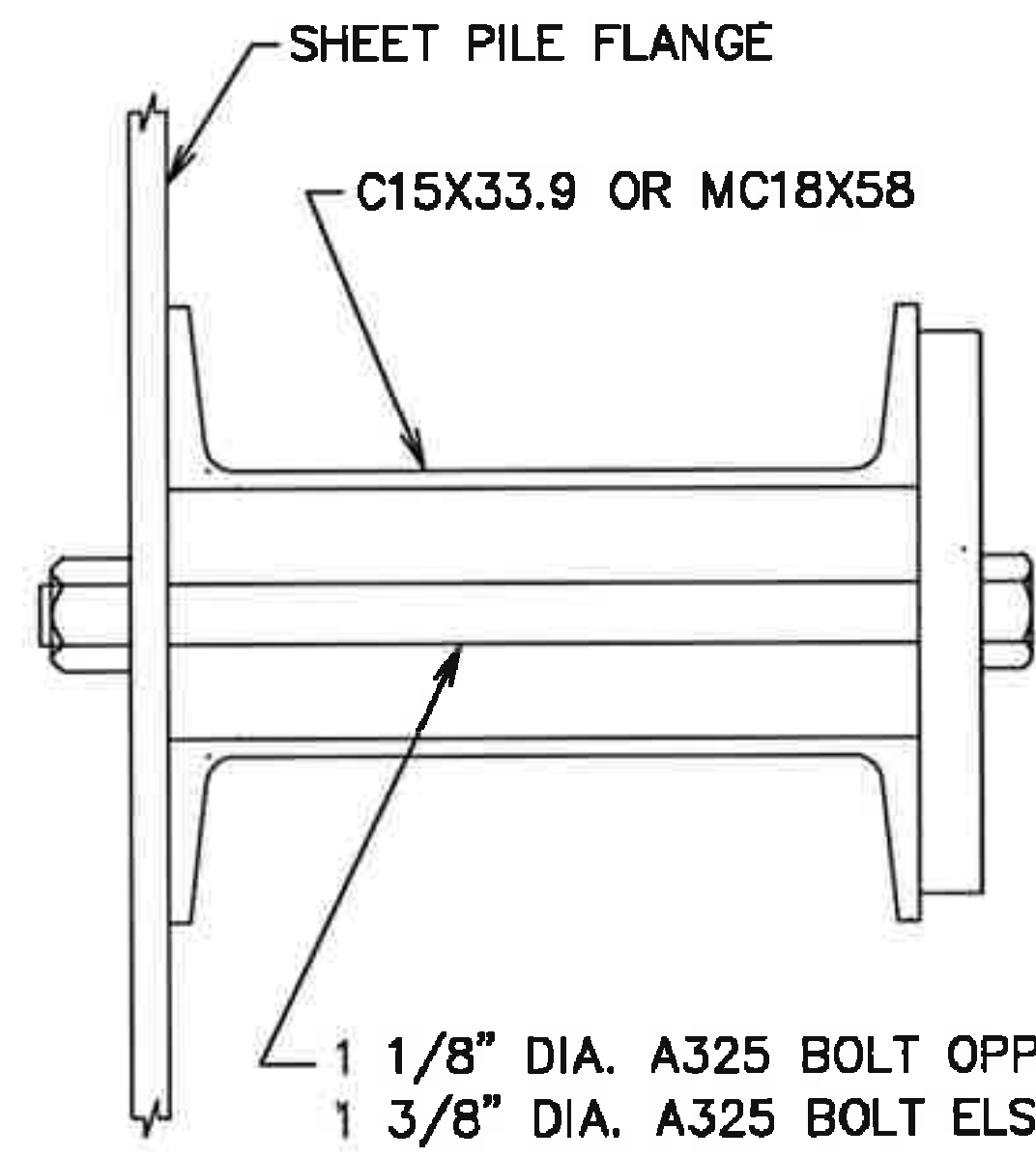
ALONG GOVERNMENT CUT

PL1/2"x15" X 2'-8 1/4"



VIEW B-B

SPLICE AT C15X33.9 TO C15X33.9  
N.T.S.



DETAIL AT WALER BOLTS

100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

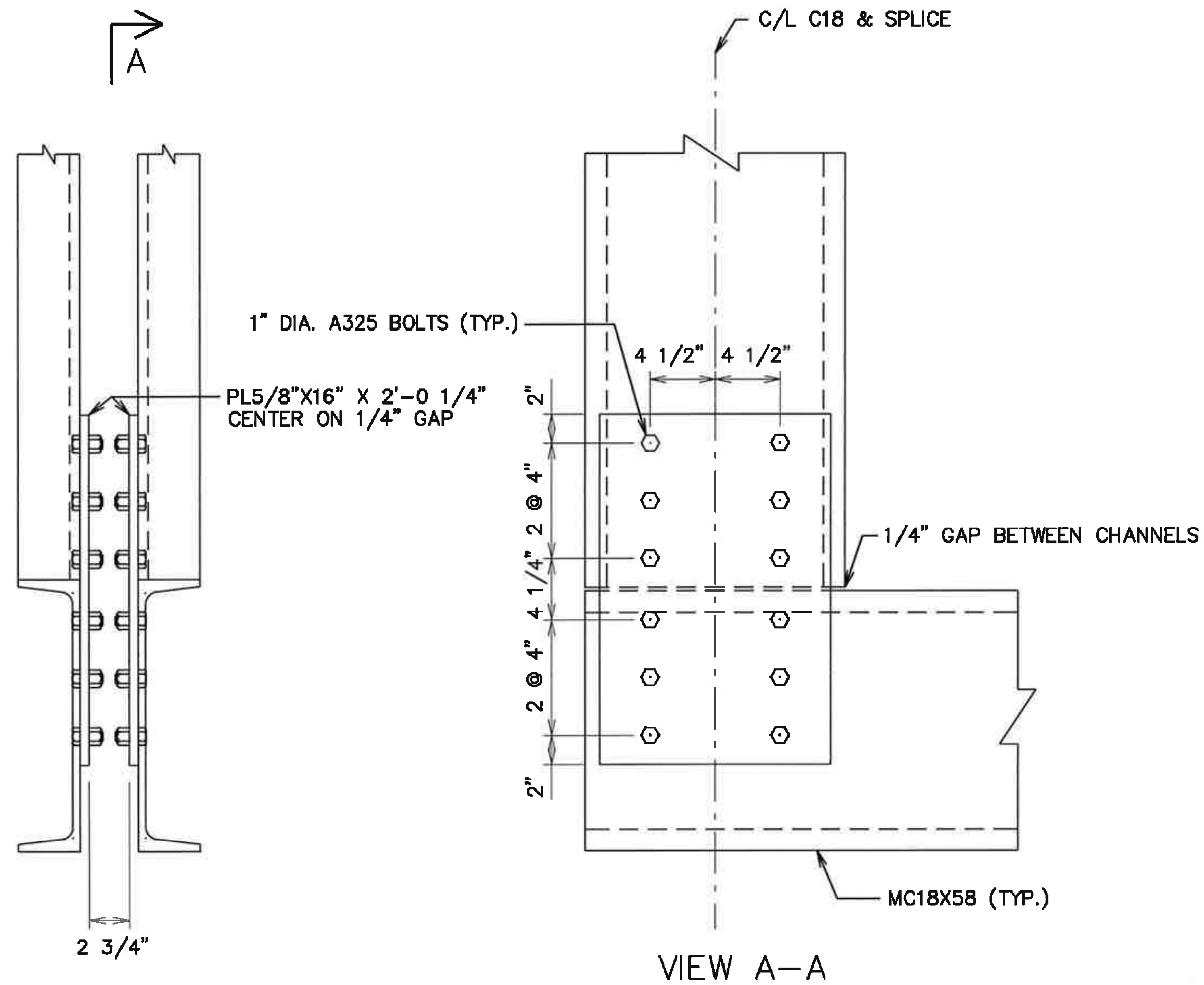
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**WALER DETAILS (1 OF 3)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 17



SPLICE AT MC18X58 TO MC18X58

N.T.S.

90 DEGREE SPLICE IS LOCATED AT SOUTH END OF 45'-7" WALL.

100% PLANS

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 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

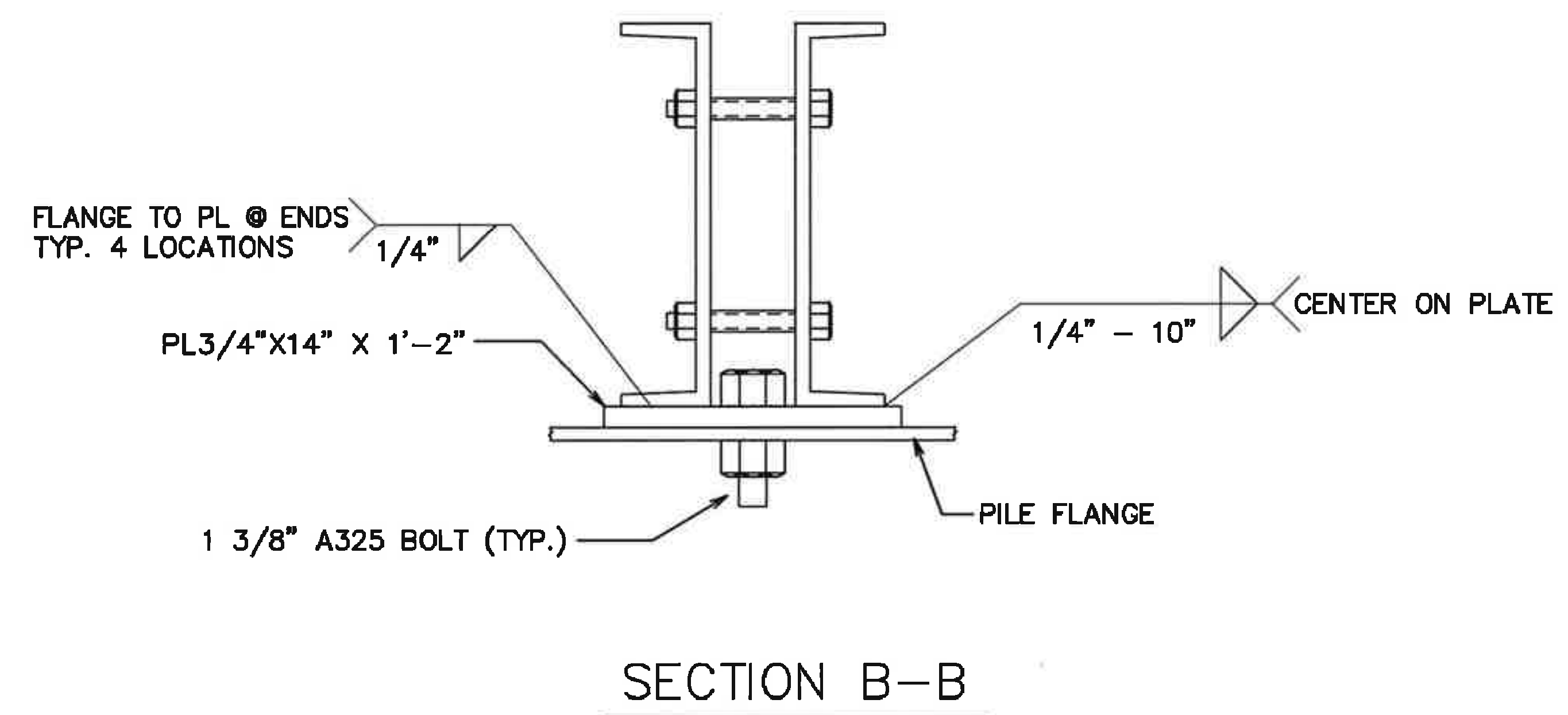
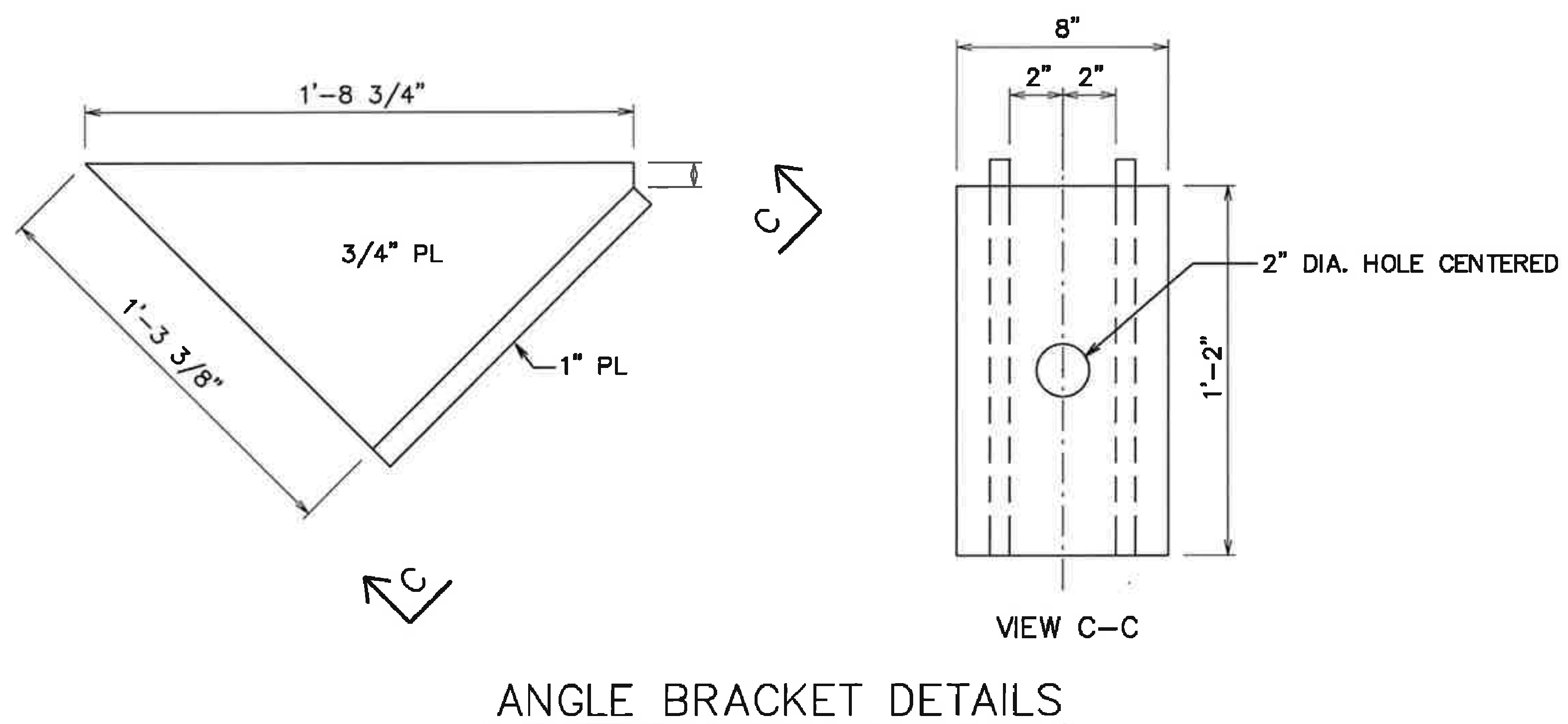
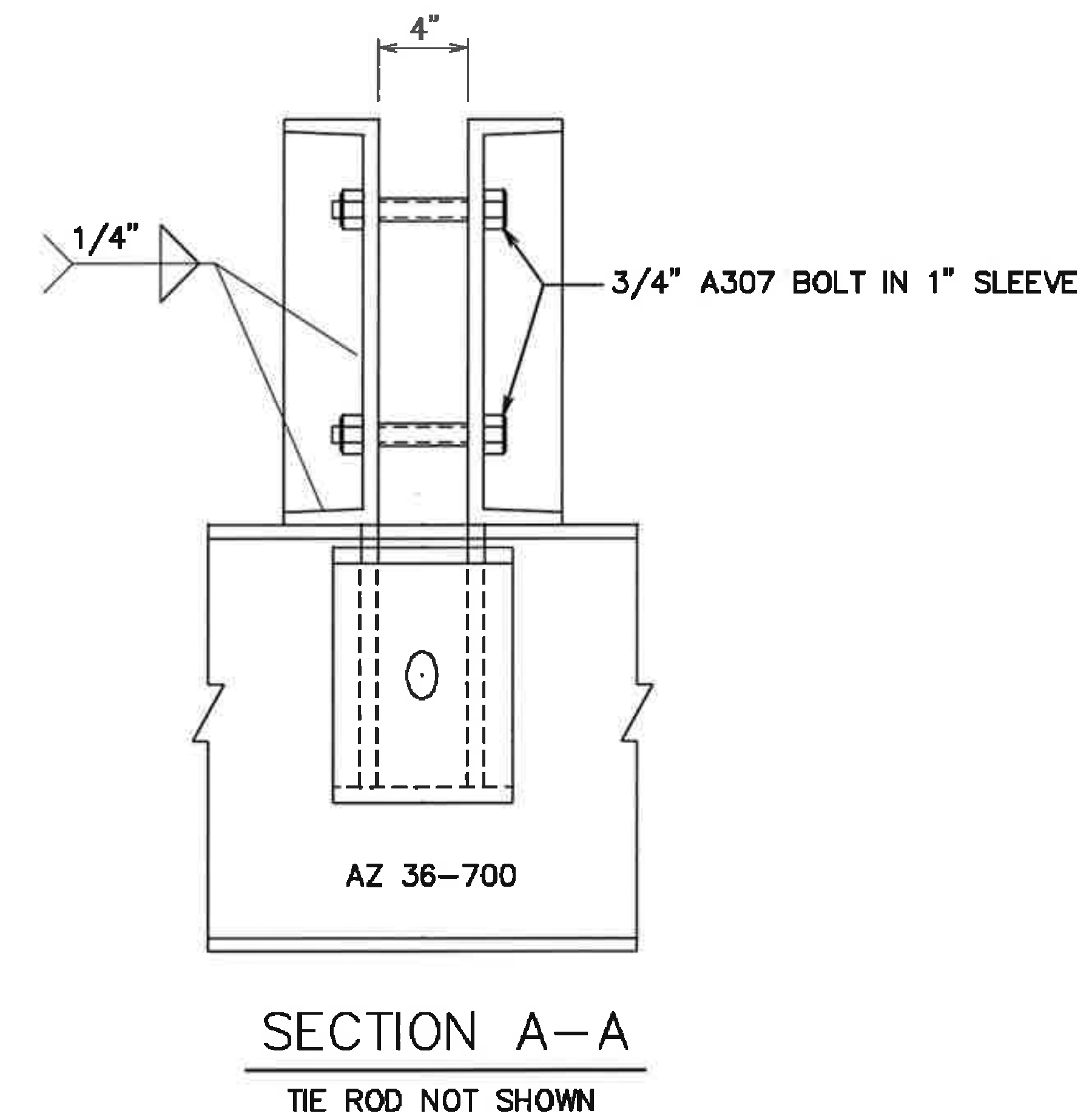
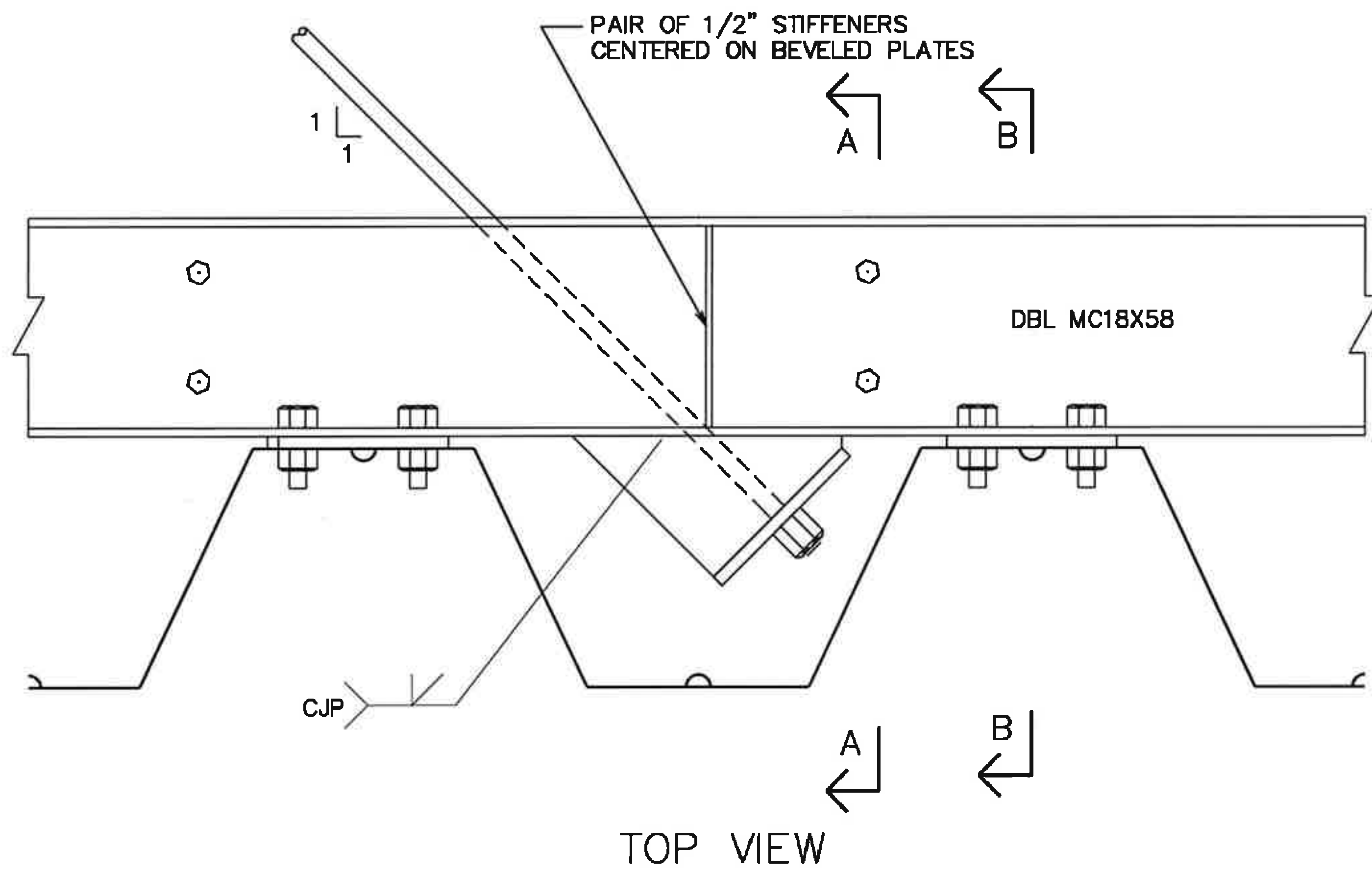
OWNER:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**WALER DETAILS  
 (2 OF 3)**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 18



100% PLANS

**ENGINEERING CONSULTANTS**  
 CONSTRUCTION DESIGN  
 CONSTRUCTABILITY REVIEWS  
 CONSTRUCTION COST ESTIMATES  
 CLAIMS AVOIDANCE & ANALYSIS  
 CONTRACTOR'S SPECIALTY ENGINEERING  
 CPM SCHEDULES  
 INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917  
 CERT. NO. 7616

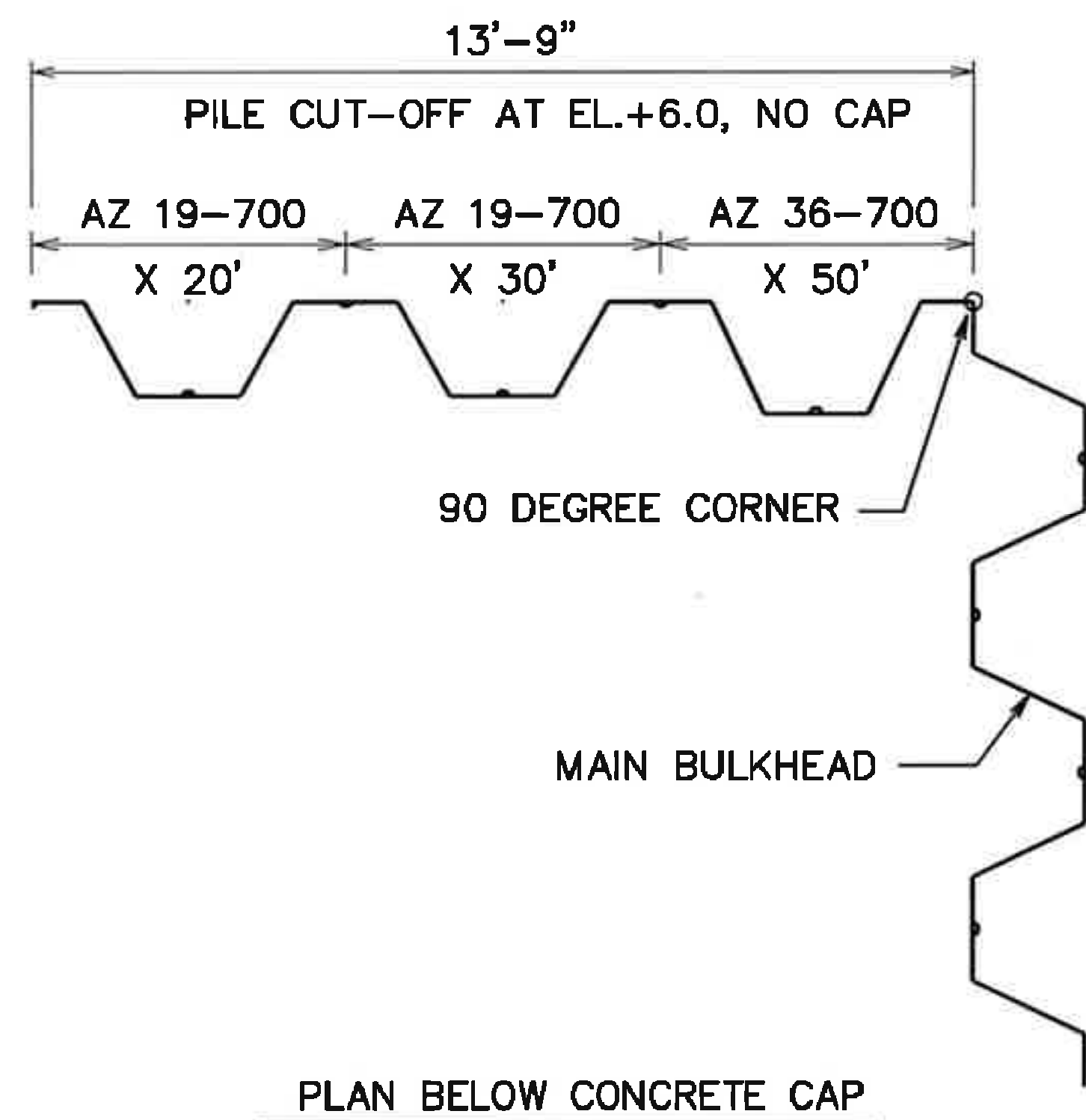
CLIENT:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK  
 BULKHEAD RENOVATIONS**

SHEET TITLE:  
**WALER DETAILS  
 (3 OF 3)**

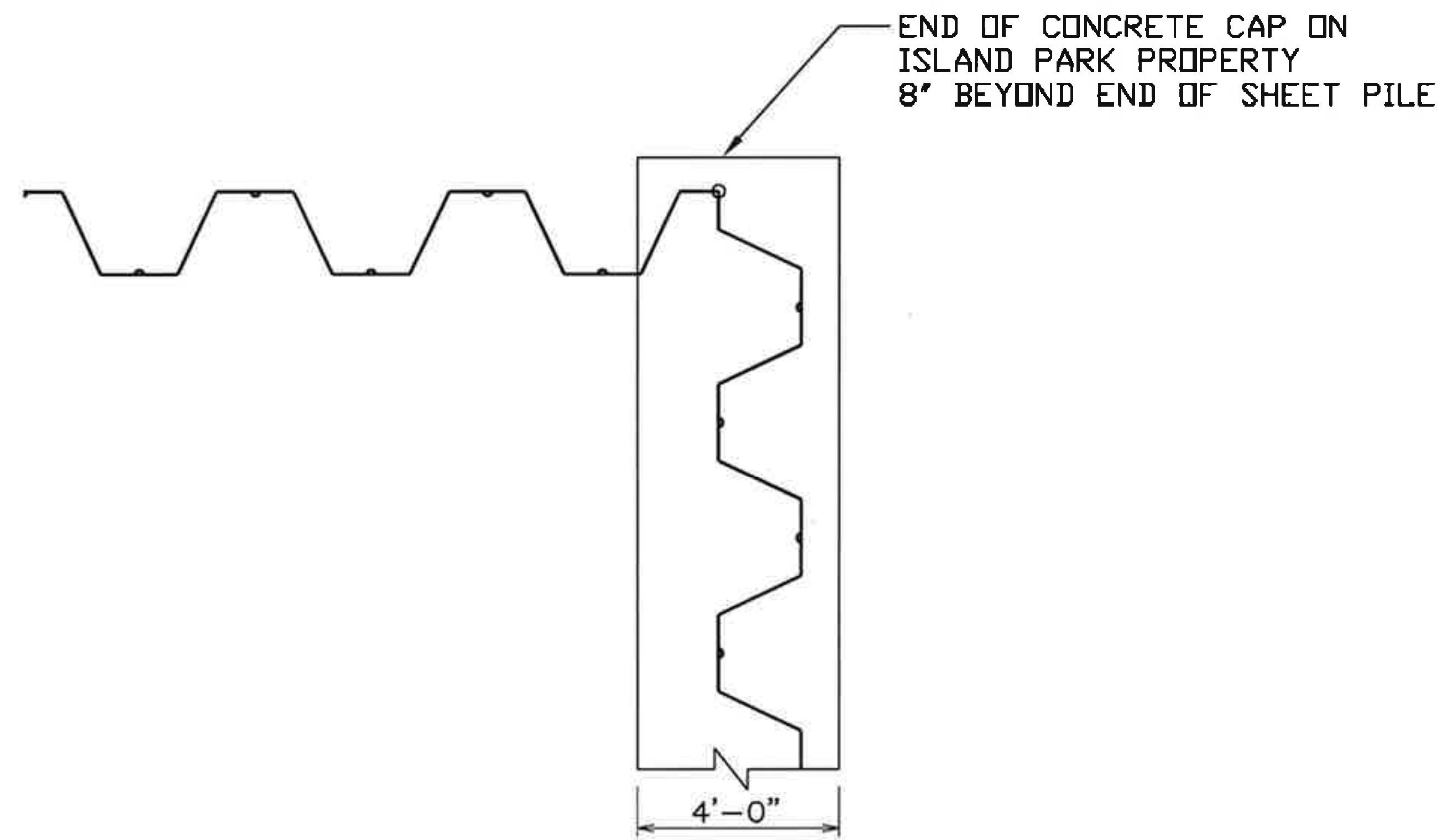
ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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 DRAWN: MCB SHEET No. 19



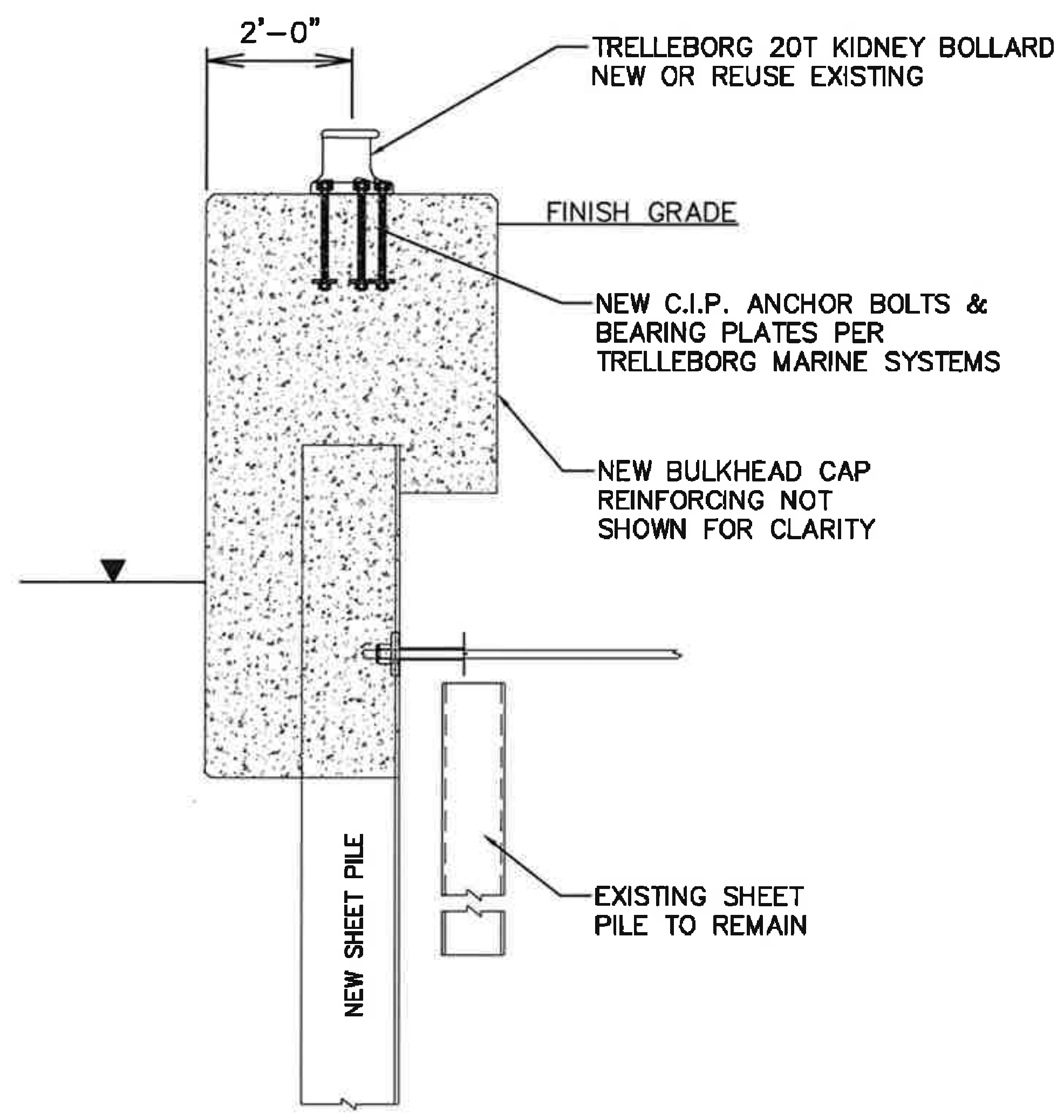
PLAN BELOW CONCRETE CAP

↑ ADJACENT PROPERTY CONTRACTOR TO PROVIDE GROUT OR CONCRETE PLUG TO RETAIN SOIL BETWEEN BULKHEADS. SUBMIT TO CEC FOR APPROVAL



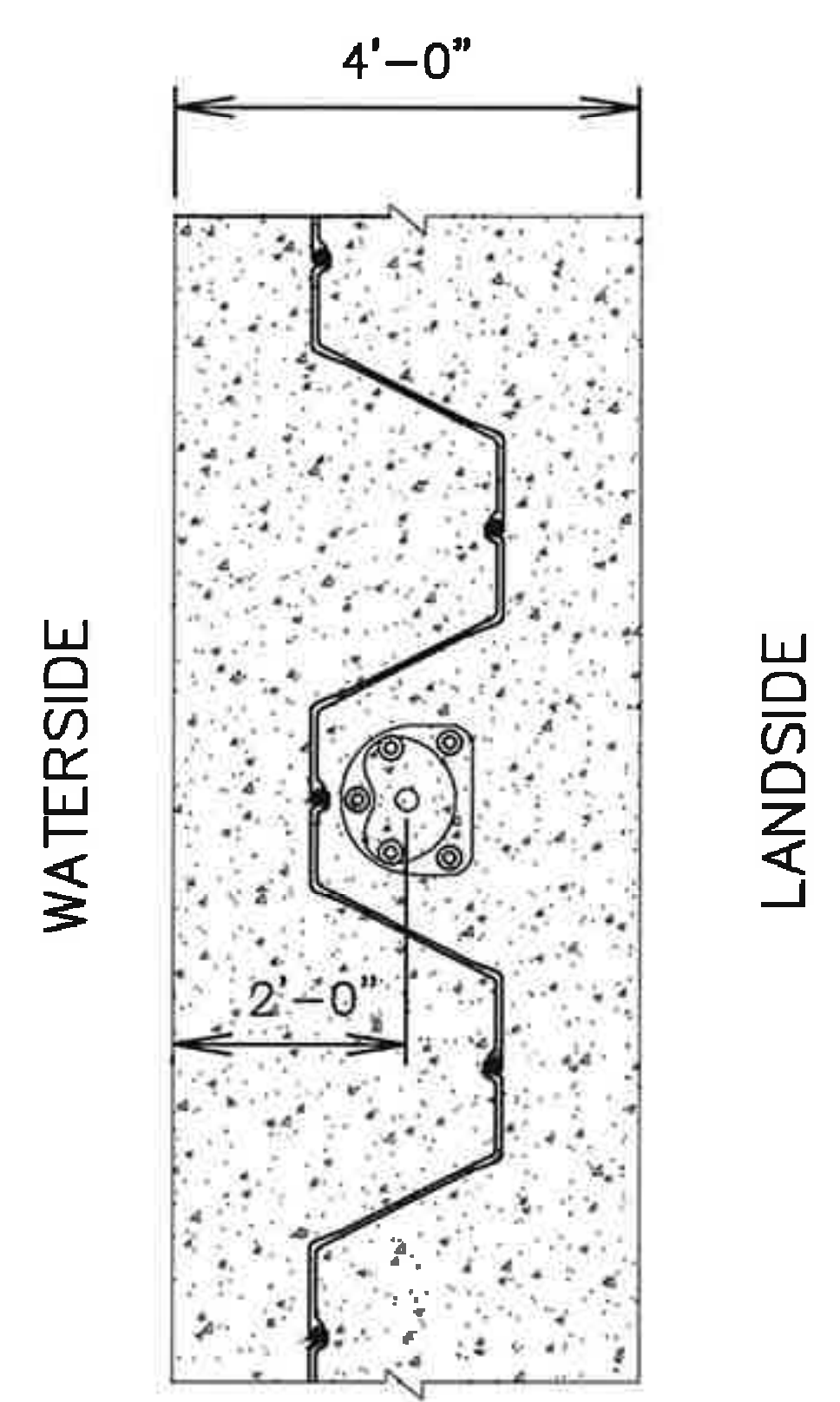
LIMITS OF CONCRETE CAP

DETAILS AT RETURNS  
MIRROR @ WEST AND NORTH ENDS OF BULKHEAD



TYPICAL SECTION  
BOLLARD PLAN

EXISTING BOLLARDS TO BE REUSED WHERE POSSIBLE  
HARDWARE AND INSTALLATION PER MANUFACTURER



TOP VIEW  
BOLLARD LAYOUT

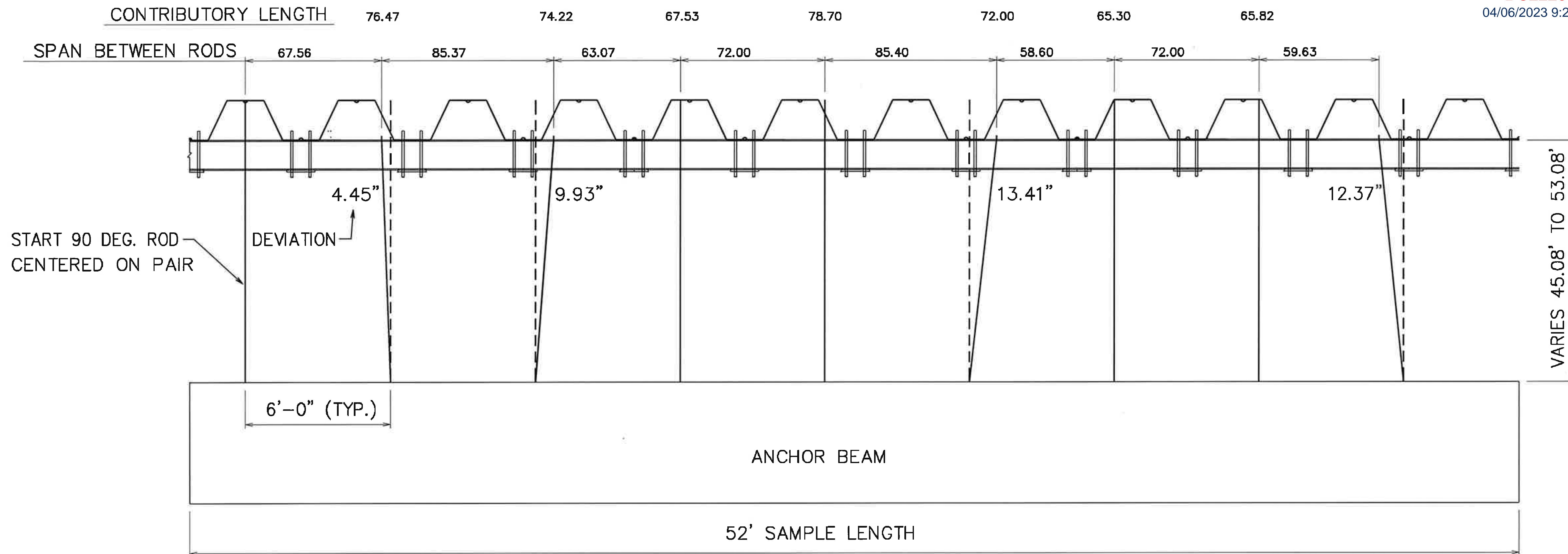
CENTER ON CAP & OUTWARD SHEET PILE BELLY

20T BOLLARD DETAIL

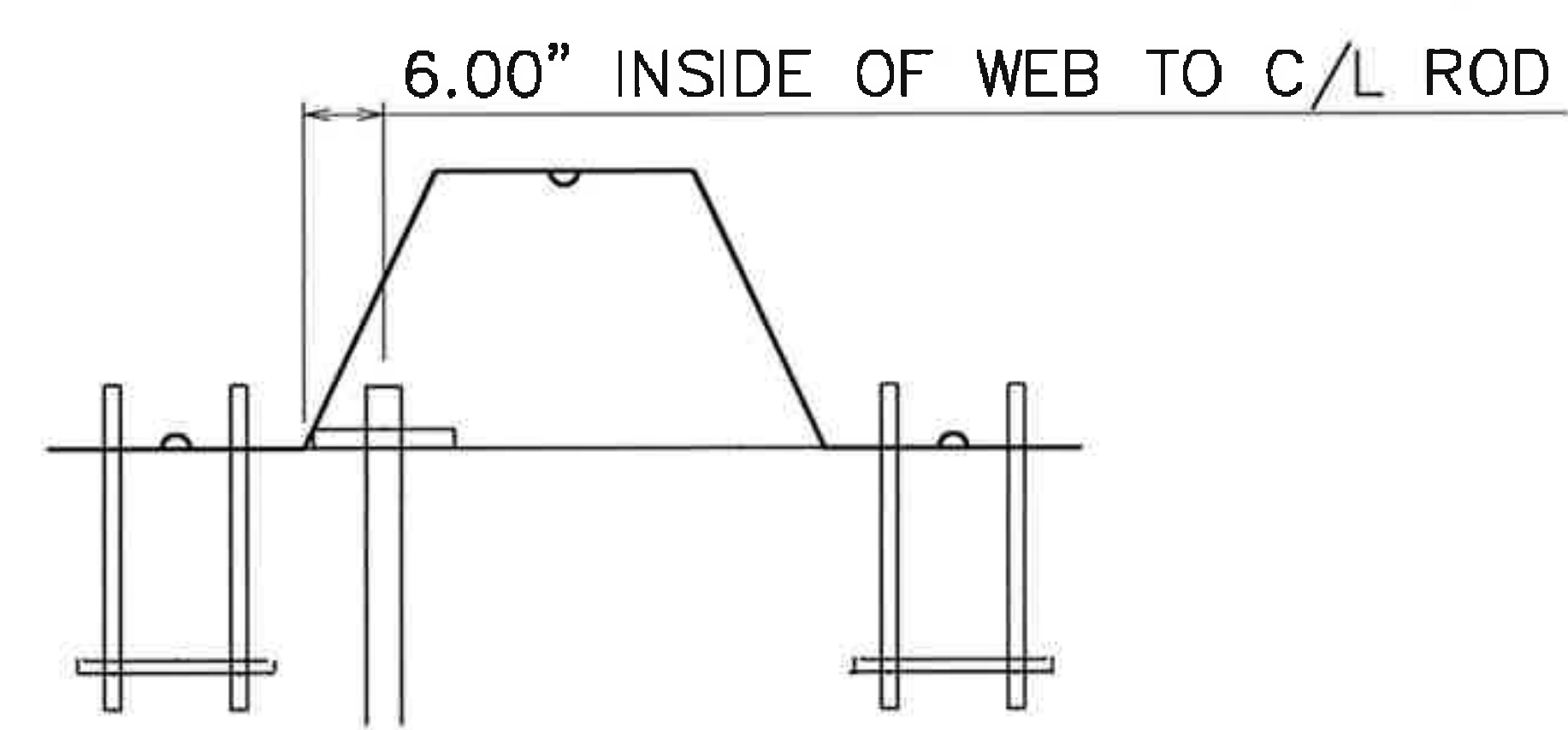
20T BOLLARDS SPACED ~30FT O/C  
NORTH & SOUTH BULKHEAD WALL

100% PLANS

	CONSTRUCTION ENGINEERING CONSULTANTS	CONSTRUCTABILITY REVIEWS DESIGN 5391 N. NOB HILL ROAD SUNRISE, FL 33351 (954) 922-6917	CLAIMS AVOIDANCE & ANALYSIS CONTRACTOR'S SPECIALTY ENGINEERING CPM SCHEDULES INSPECTIONS CERT. NO. 7616
	CLIENT: <b>MIAMI BEACH PORT, LLC.</b>	PROJECT: <b>ONE ISLAND PARK BULKHEAD RENOVATIONS</b>	SHEET TITLE: <b>RETURN AT ENDS OF BULKHEAD AND BOLLARD DETAILS</b>
	ORIGINAL: <u>26AUG22</u> REVISIONS: 1. _____ 2. _____ 3. _____ 4. _____	MICHAEL C. BONE, P.E. FL19383 THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004. DRAWN: MCB SHEET No. 20	



PARTIAL PLAN



NEW ROD LOCATION

DEVIATIONS FROM 6'-0" SPAN ARE 9.3% OVER & UNDER.

THE PURPOSE OF THIS DRAWING IS TO SHOW THE RANGE OF TIE ROD DEVIATIONS DUE TO 6.0' FIXED SPACING AT ANCHOR BEAM.

100% PLANS

**CONSTRUCTION ENGINEERING CONSULTANTS**  
 CONSTRUCTABILITY REVIEWS CLAIMS AVOIDANCE & ANALYSIS  
 CONSTRUCTION COST ESTIMATES CONTRACTOR'S SPECIALTY ENGINEERING  
 DESIGN CPM SCHEDULES INSPECTIONS  
 5391 N. NOB HILL ROAD  
 SUNRISE, FL 33351  
 (954) 922-6917 CERT. NO. 7616

CLIENT:  
**MIAMI BEACH PORT, LLC.**

PROJECT:  
**ONE ISLAND PARK BULKHEAD RENOVATIONS**

SHEET TITLE:  
**TYPICAL TIE ROD DEVIATIONS OPPOSITE ANCHOR BEAM**

ORIGINAL: 26AUG22  
 REVISIONS:  
 1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

MICHAEL C. BONE, P.E. FL19383  
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