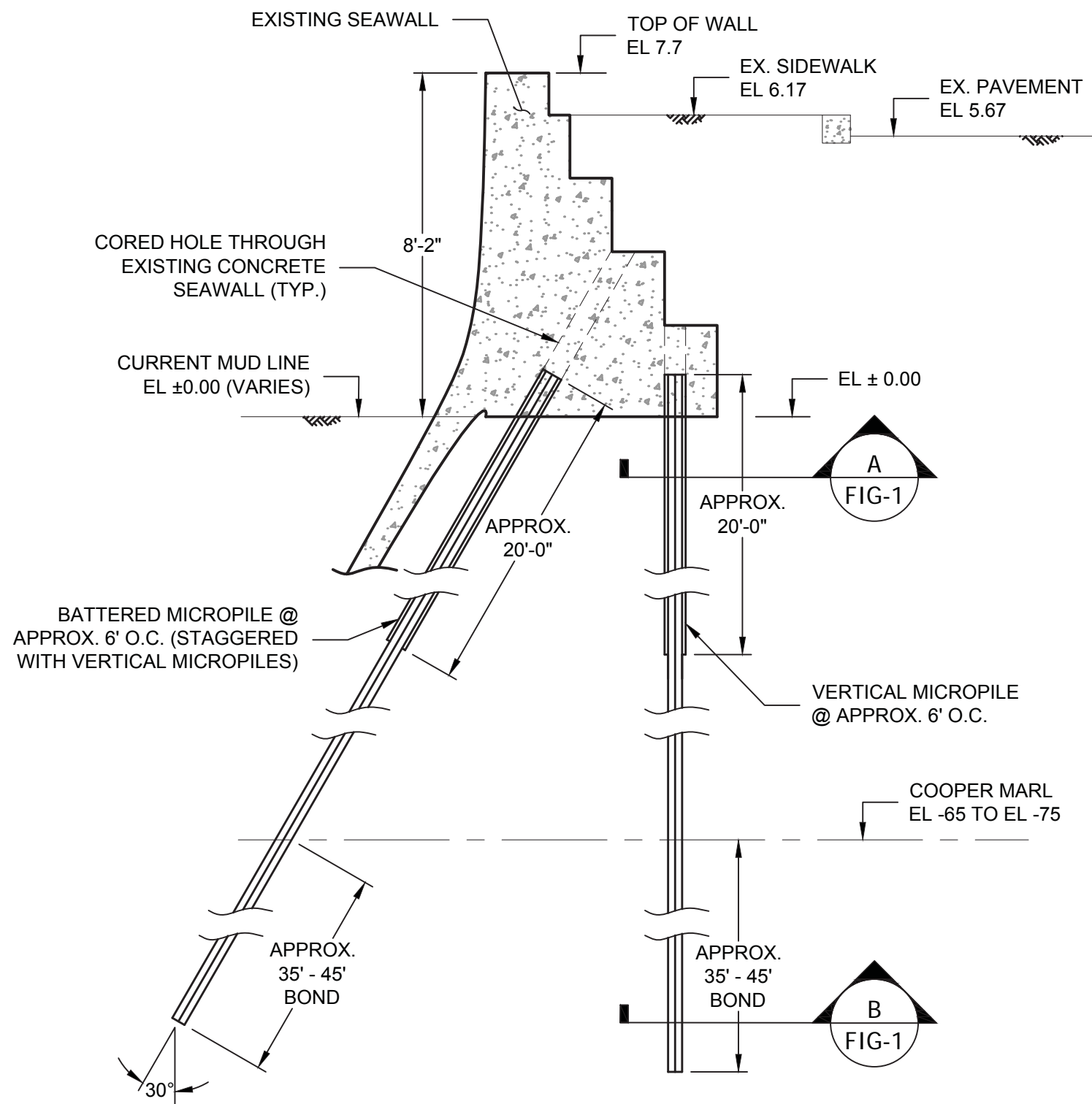




# Charleston Seawall Repairs: The Low battery Seawall Rehabilitation Project

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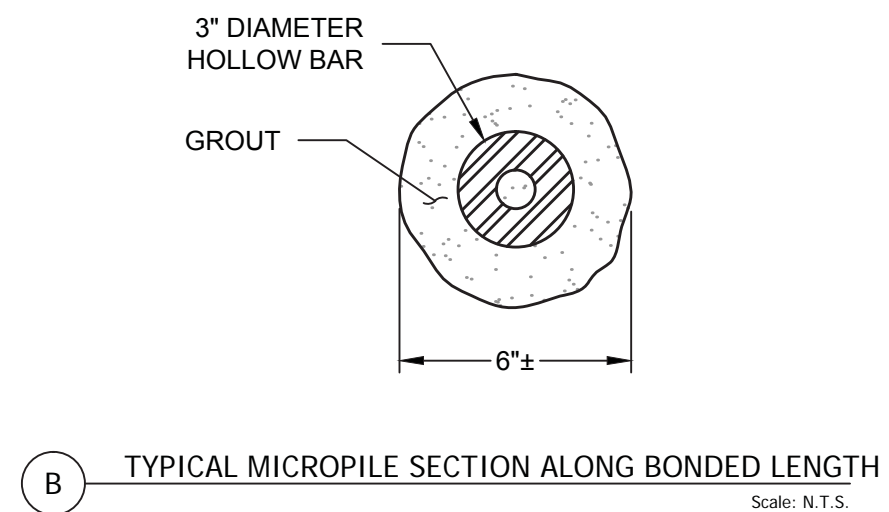
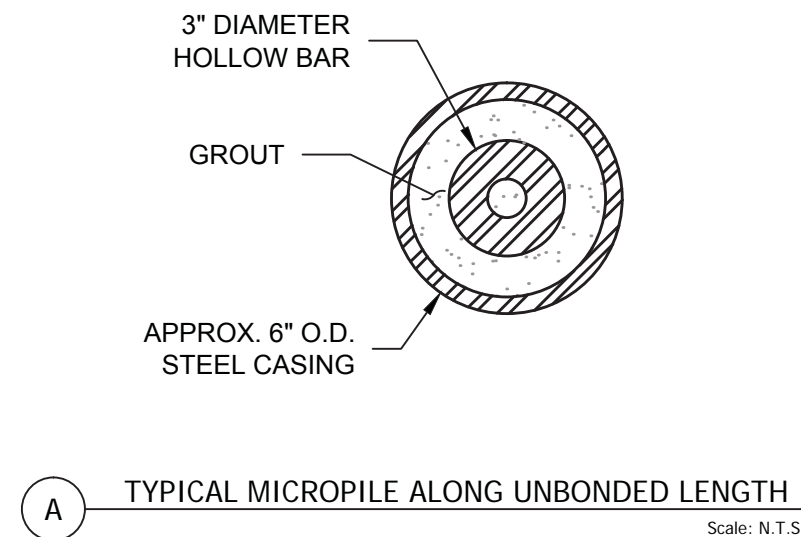
## Appendix A



**NOTE:**  
EXISTING TIMBER PILES AND RELIEVING PLATFORM  
NOT SHOWN FOR CLARITY.

1 TYPICAL MICROPILE SUPPORTED SEAWALL SECTION  
Scale: N.T.S.

- NOTES: 1. DIMENSIONS SHOWN ON THIS DRAWINGS ARE APPROXIMATE AND FOR INFORMATION ONLY.
2. OPTION 1 ASSUMES THAT THE EXISTING SEAWALL CONCRETE IS ADEQUATE TO TRANSFER PILE LOADS. IF THE EXISTING CONCRETE IS NOT ADEQUATE, THEN REFER TO OPTION 2 FOR NEW CONCRETE PILE CAP ALTERNATIVE.



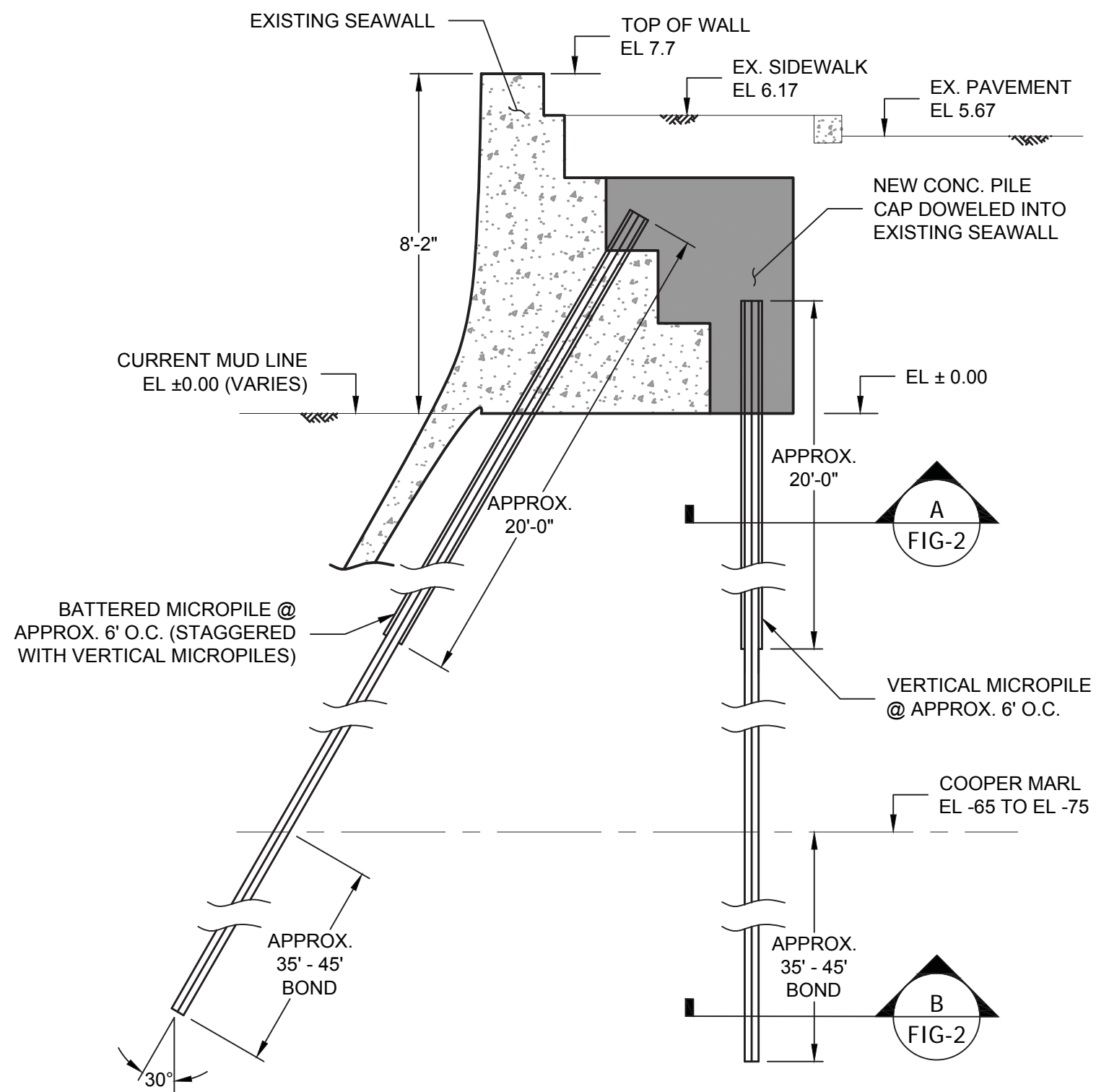
**PRELIMINARY**  
**NOT FOR CONSTRUCTION**



BATTERY SEAWALL  
SOUTH CAROLINA  
PROJECT NO. 15619015

CONCEPTUAL DRAWING  
OPTION 1

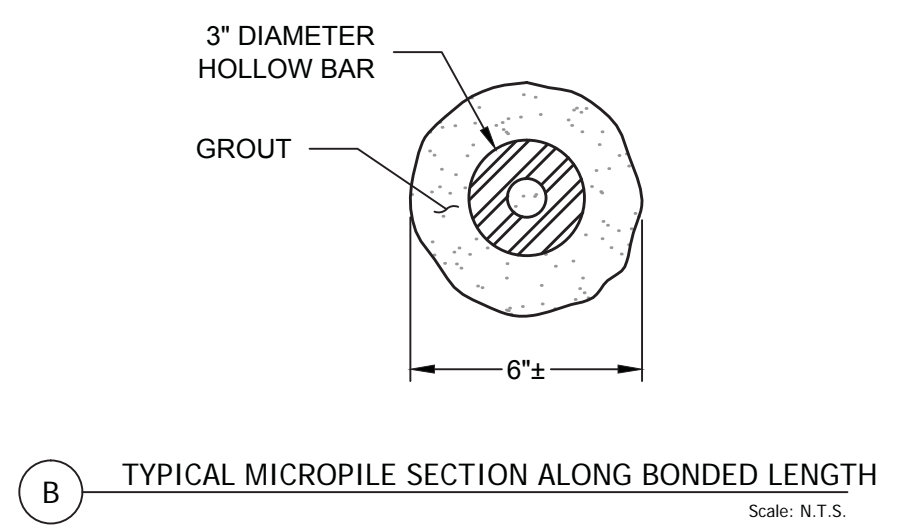
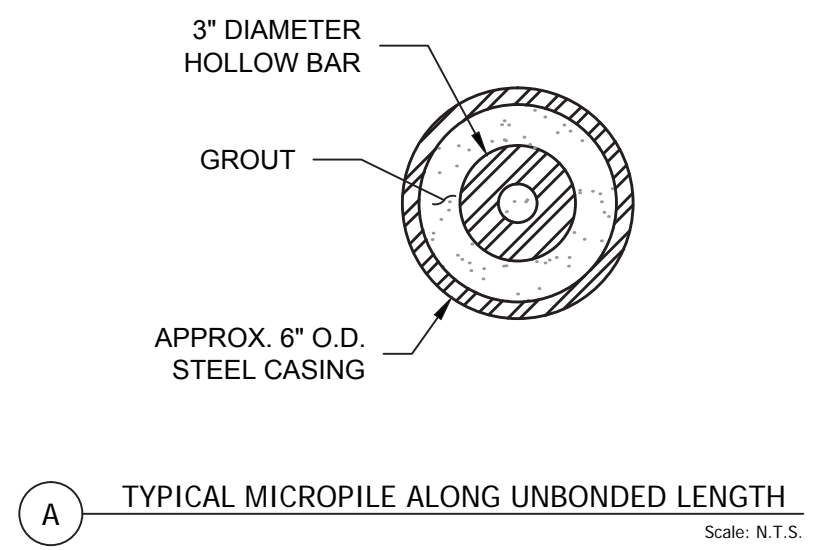
MGOFF 8/31/2015 10:00:34 PM



NOTE:  
EXISTING TIMBER PILES AND RELIEVING PLATFORM  
NOT SHOWN FOR CLARITY.

1 TYPICAL MICROPILE SUPPORTED SEAWALL SECTION  
Scale: N.T.S.

- NOTES:
1. DIMENSIONS SHOWN ON THIS DRAWINGS ARE APPROXIMATE AND FOR INFORMATION ONLY.
  2. OPTION 2 SHALL BE USED IF THE EXISTING SEAWALL CONCRETE IS NOT ADEQUATE TO TRANSFER PILE LOADS.

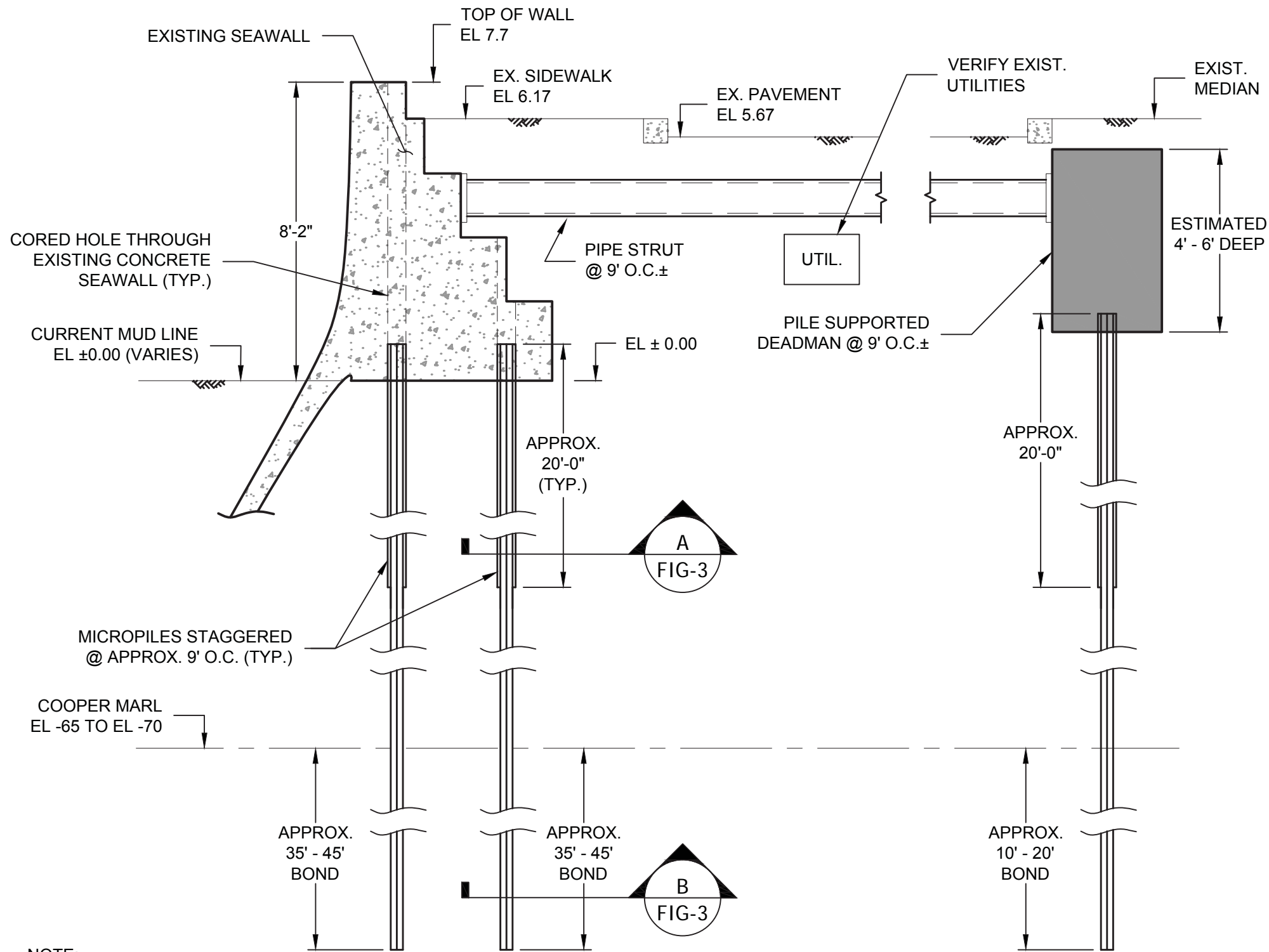


**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

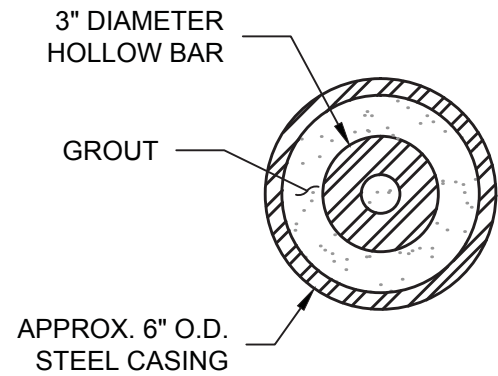
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	<p>BATTERY SEAWALL SOUTH CAROLINA PROJECT NO. 15619015</p>	<p>CONCEPTUAL DRAWING OPTION 2</p>
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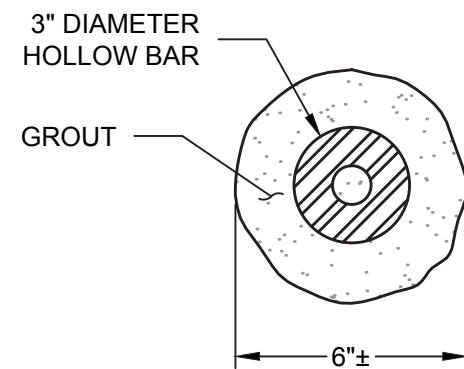
FIGURE 2



- NOTES:
1. DIMENSIONS SHOWN ON THIS DRAWINGS ARE APPROXIMATE AND FOR INFORMATION ONLY.
  2. BATTERED PILES ARE ELIMINATED BY THIS OPTION. LATERAL LOAD CAPACITY IS PROVIDED PRIMARILY BY THE DEADMAN SYSTEM.
  3. AS AN ALTERNATIVE, THE CONCRETE DEADMAN CAN BE ELIMINATED BY REPLACING THE SEAWALL MICROPILES WITH LARGER DIAMETER VERTICAL MICROPILES AT CLOSER SPACING (ESTIMATED 4' O.C.).



A TYPICAL MICROPILE ALONG UNBONDED LENGTH  
Scale: N.T.S.



B TYPICAL MICROPILE SECTION ALONG BONDED LENGTH  
Scale: N.T.S.

NOTE:  
EXISTING TIMBER PILES AND RELIEVING PLATFORM NOT SHOWN FOR CLARITY.

1 TYPICAL MICROPILE SUPPORTED SEAWALL SECTION  
Scale: N.T.S.

OPTION 4: AS AN ALTERNATIVE TO OPTION 3, THE CONCRETE DEADMAN CAN BE ELIMINATED BY REPLACING THE SEAWALL MICROPILES WITH LARGER DIAMETER VERTICAL MICROPILES AT CLOSER SPACING (ESTIMATED 4' O.C.).

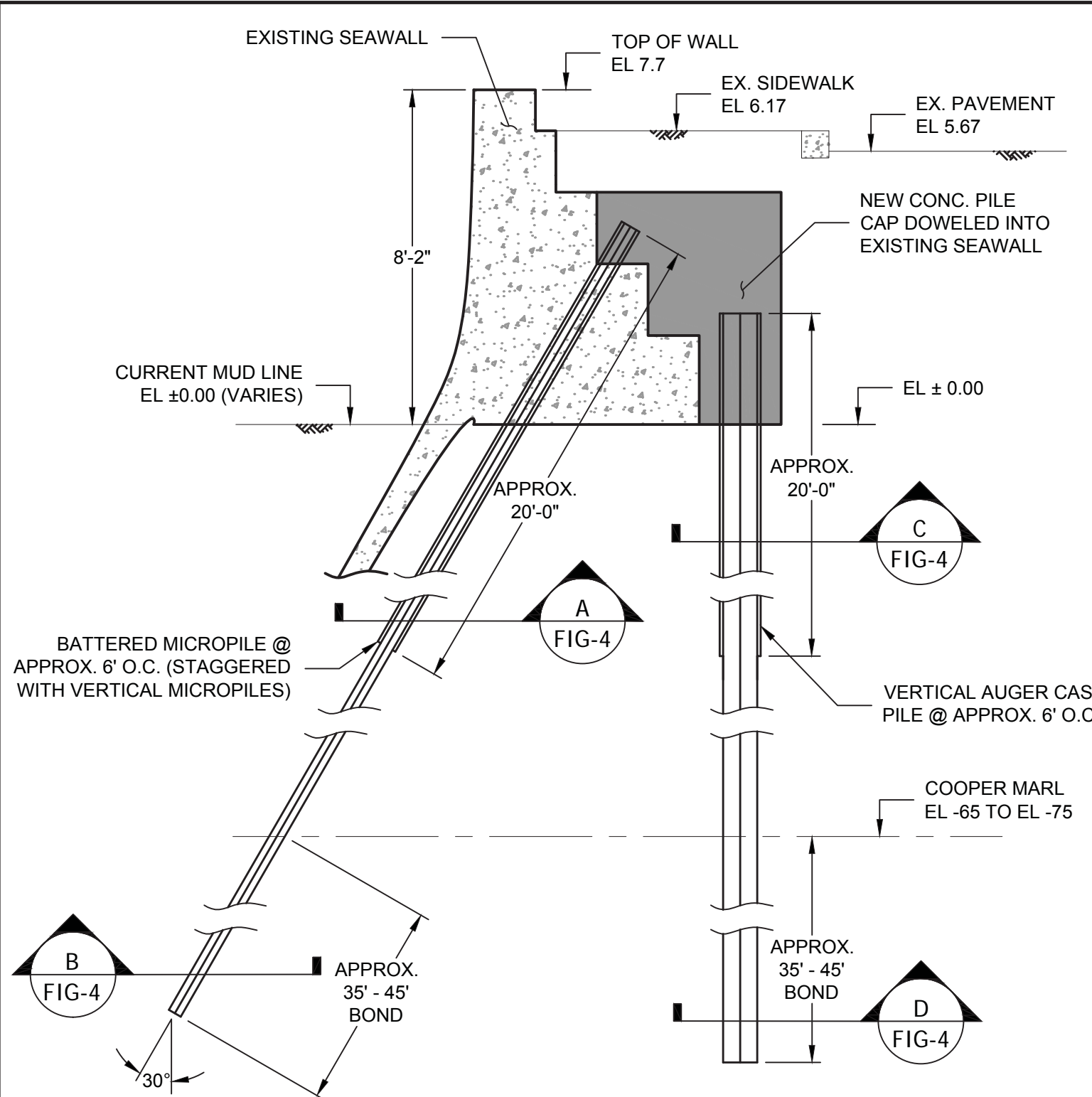
**PRELIMINARY  
NOT FOR CONSTRUCTION**



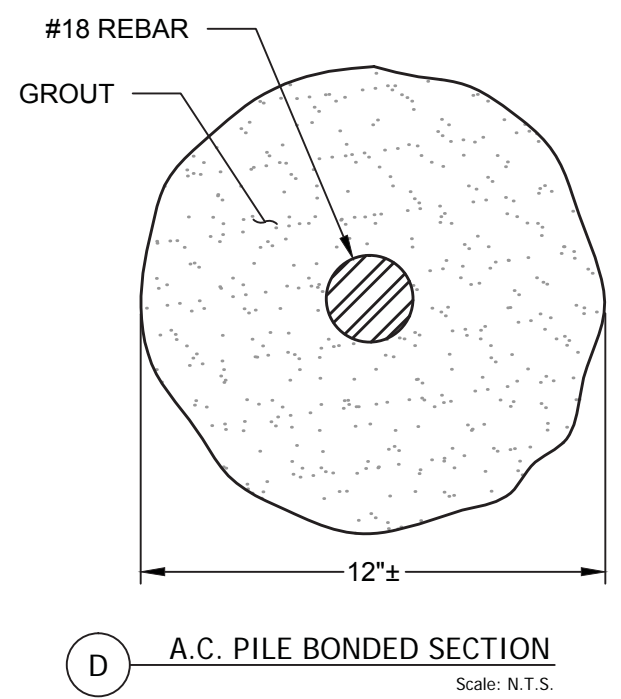
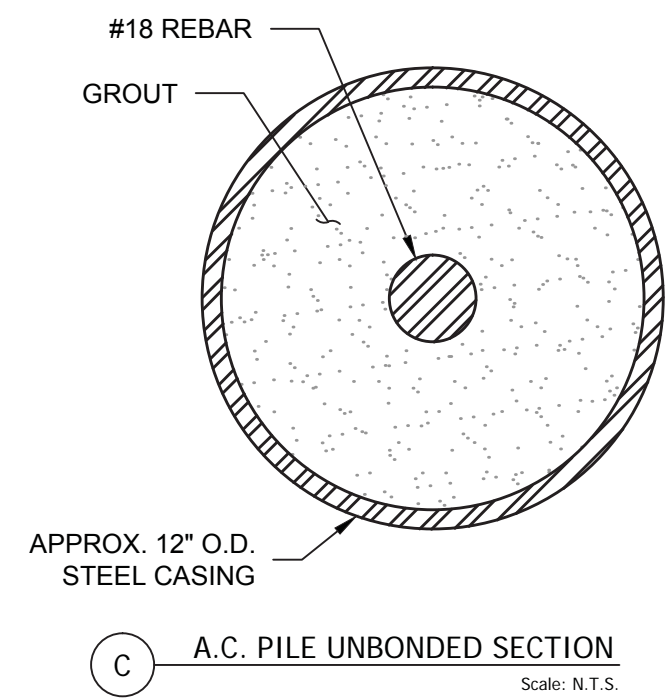
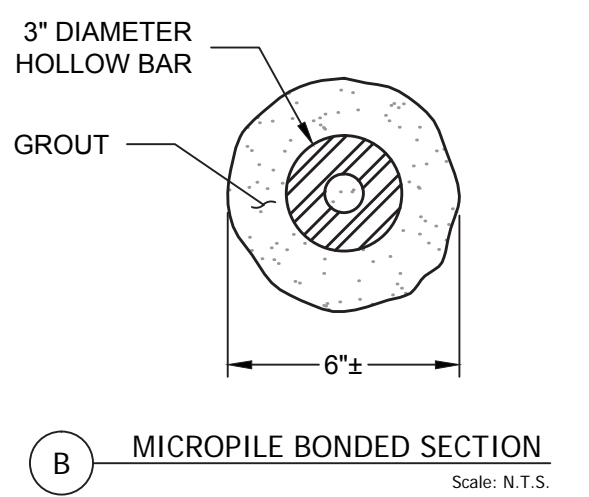
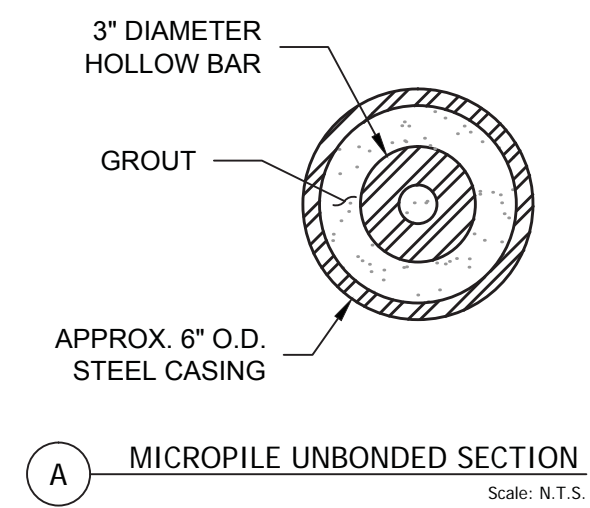
BATTERY SEAWALL  
SOUTH CAROLINA  
PROJECT NO. 15619015

CONCEPTUAL DRAWING  
OPTION 3

FIGURE 3



NOTES: 1. DIMENSIONS SHOWN ON THIS DRAWINGS ARE APPROXIMATE AND FOR INFORMATION ONLY.



NOTE:  
EXISTING TIMBER PILES AND RELIEVING PLATFORM NOT SHOWN FOR CLARITY.

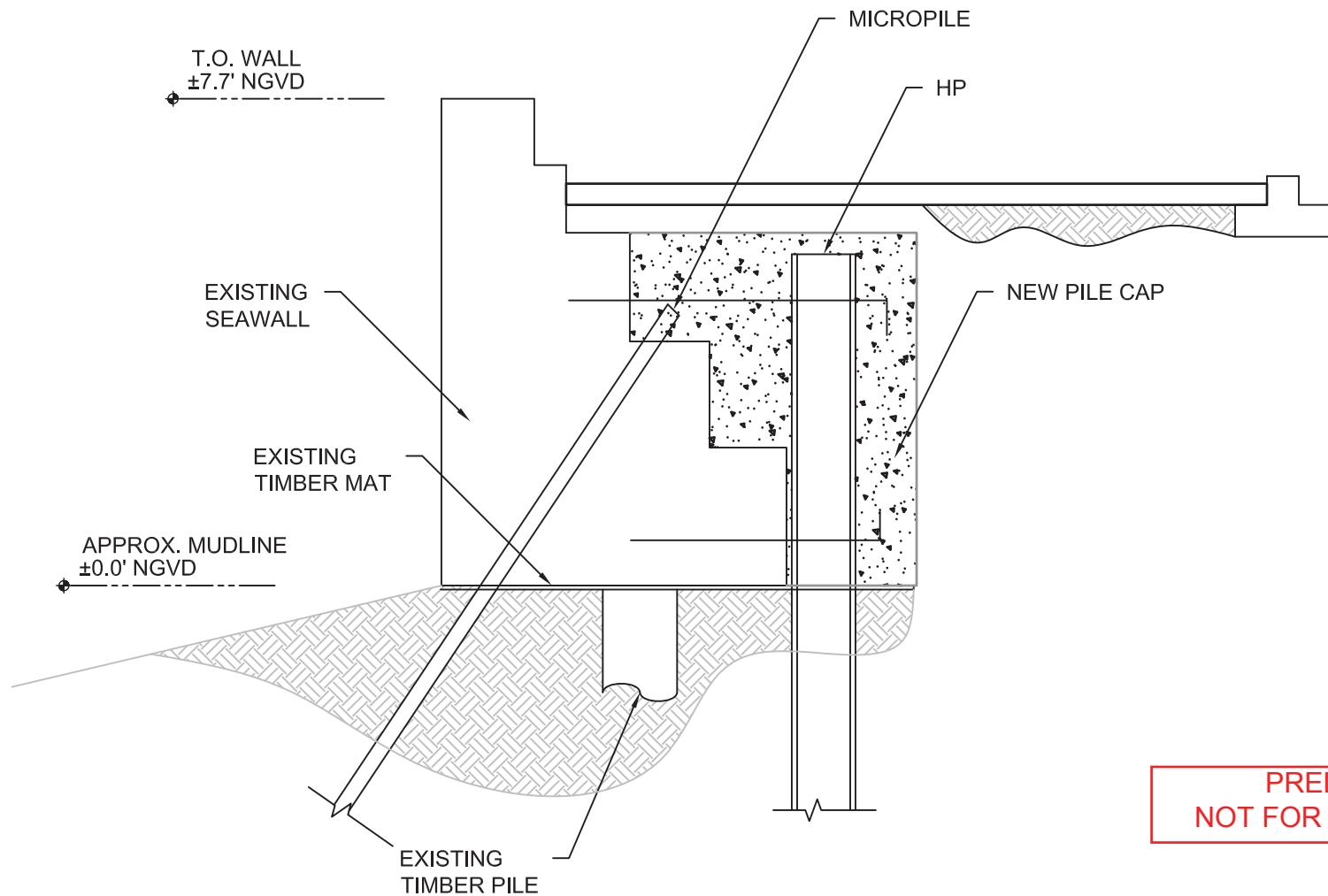
1 TYPICAL MICROPILE AND AUGER CAST PILE SEAWALL SECTION

Scale: N.T.S.

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**CITY OF CHARLESTON**  
**LOW BATTERY INVESTIGATION**  
**REPAIR AND RECCOMENDATIONS**  
CHARLESTON, SOUTH CAROLINA

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SHEET  
**OPTION**  
**5**

DATE: SEPTEMBER 21, 2015    SKETCH REF. DRAWING NUMBER: XXX  
DRAWING: STEEL HP WITH MICROPILE-OPTION 5