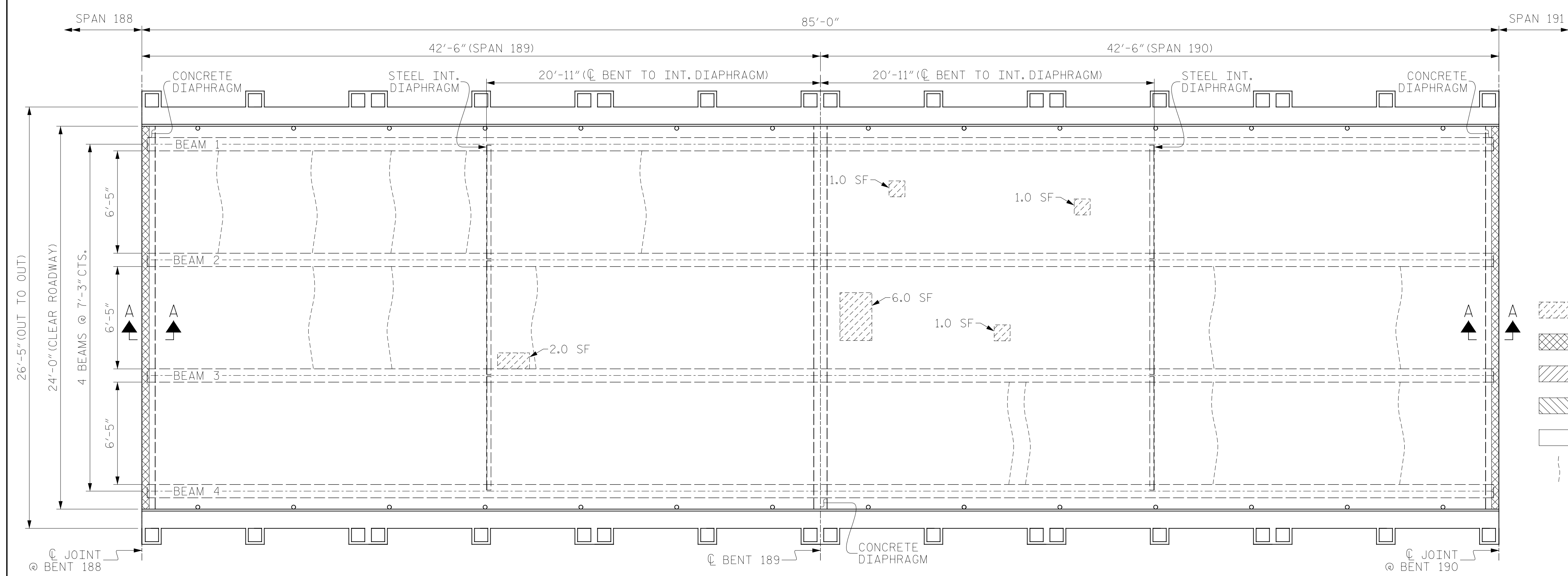


SUMMARY OF QUANTITIES FOR SPAN 187		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	32.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 188		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	15.5 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	32.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 189		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 190		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 187 THRU 190**

NOTE:

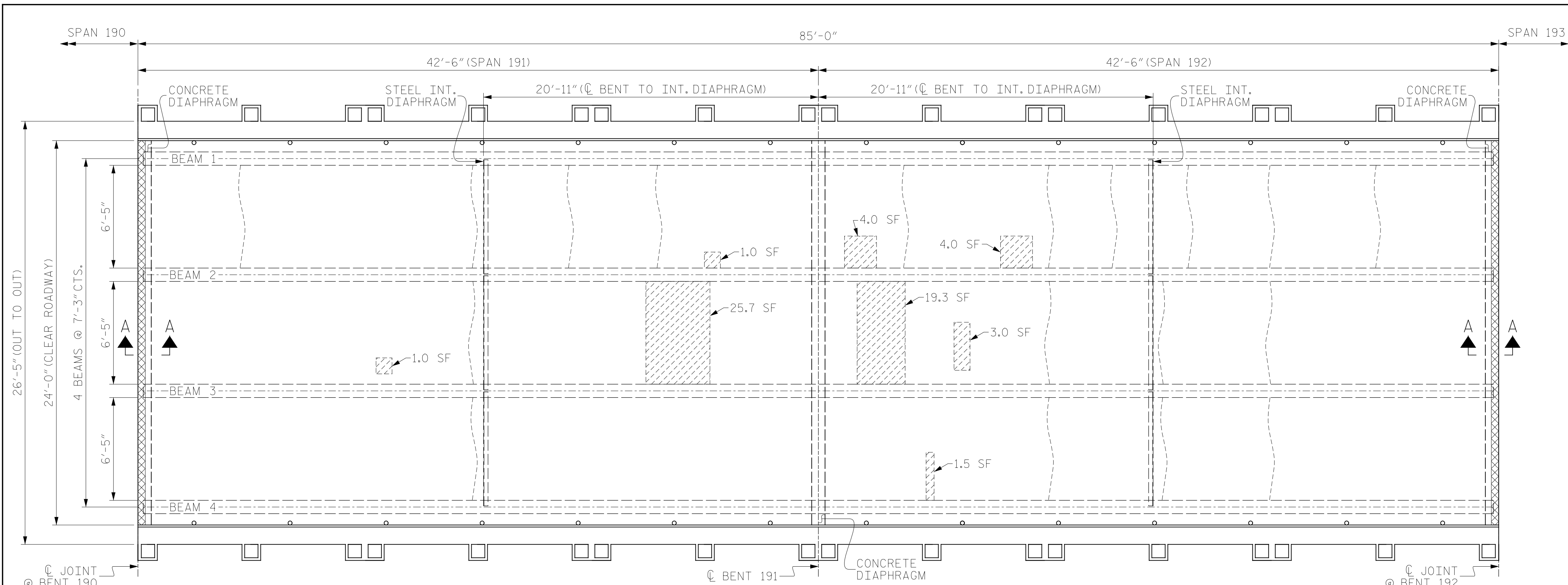
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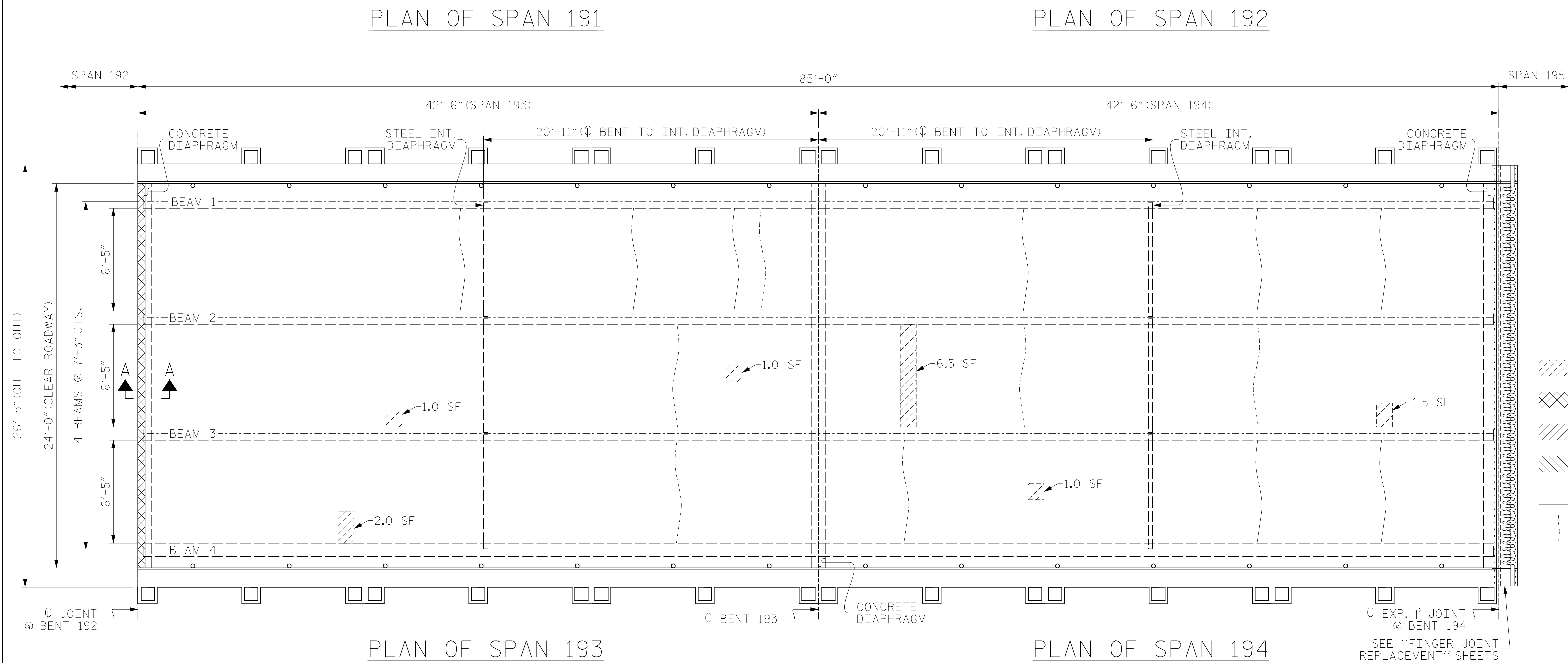
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1			3			75
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SUMMARY OF QUANTITIES FOR SPAN 191		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	9.3 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 192		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	10.6 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	77 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

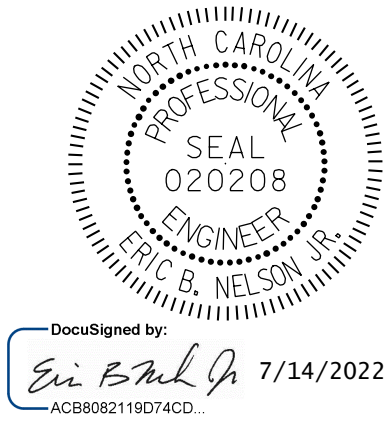
SUMMARY OF QUANTITIES FOR SPAN 193		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 194		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.0 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 191 THRU 194**

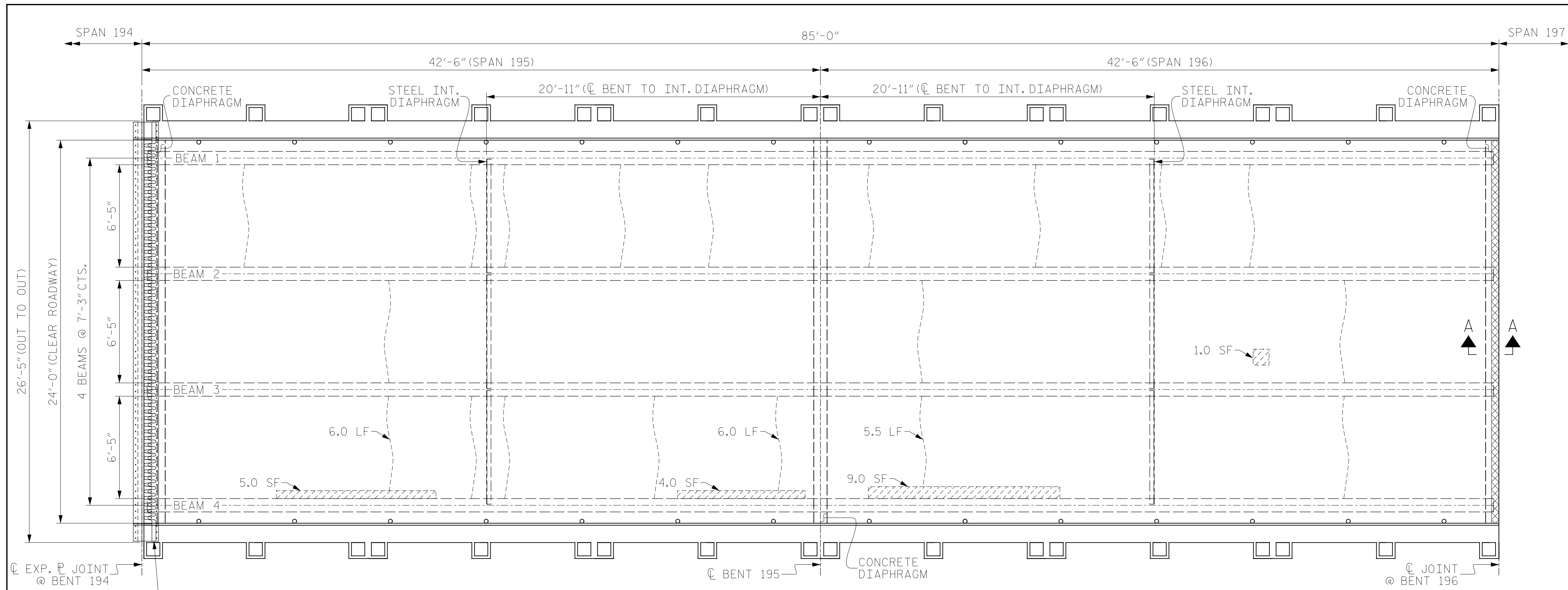
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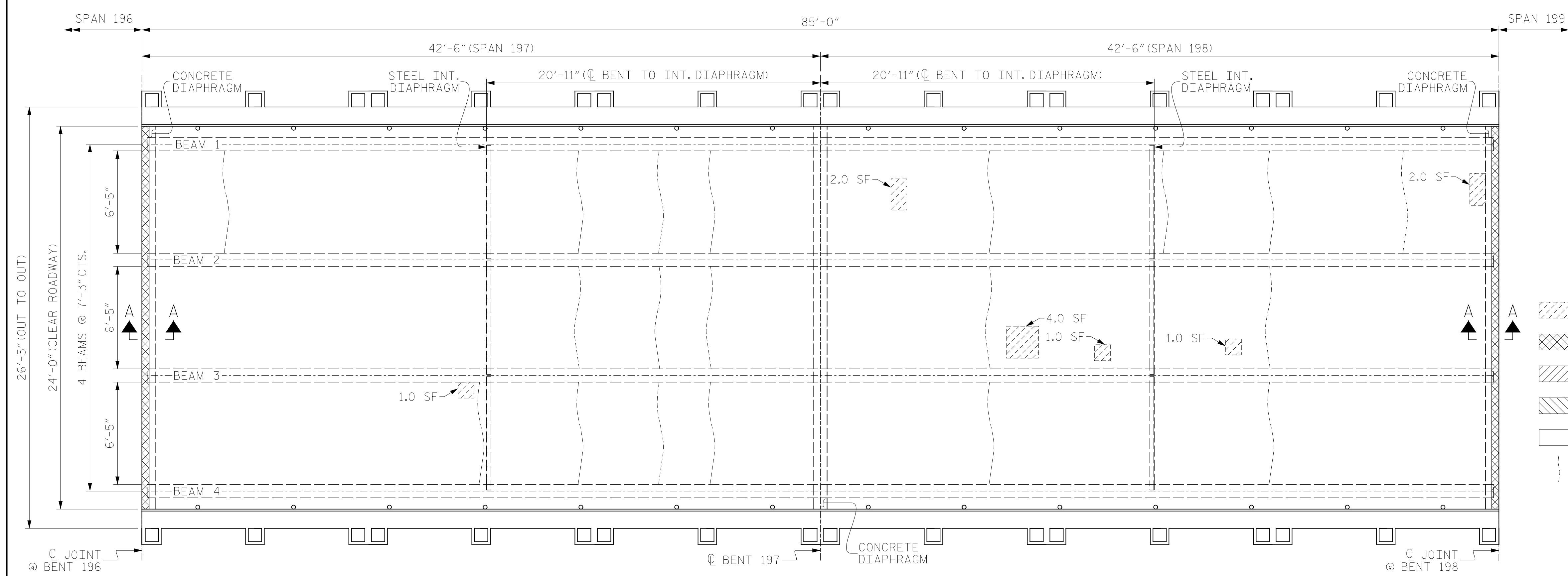
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SUMMARY OF QUANTITIES FOR SPAN 195		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.0 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	69.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 196		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	50.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

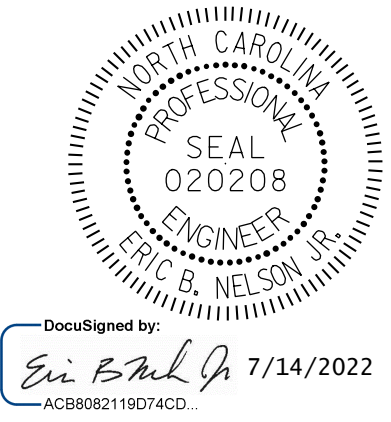
SUMMARY OF QUANTITIES FOR SPAN 197		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	70.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 198		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 195 THRU 198**

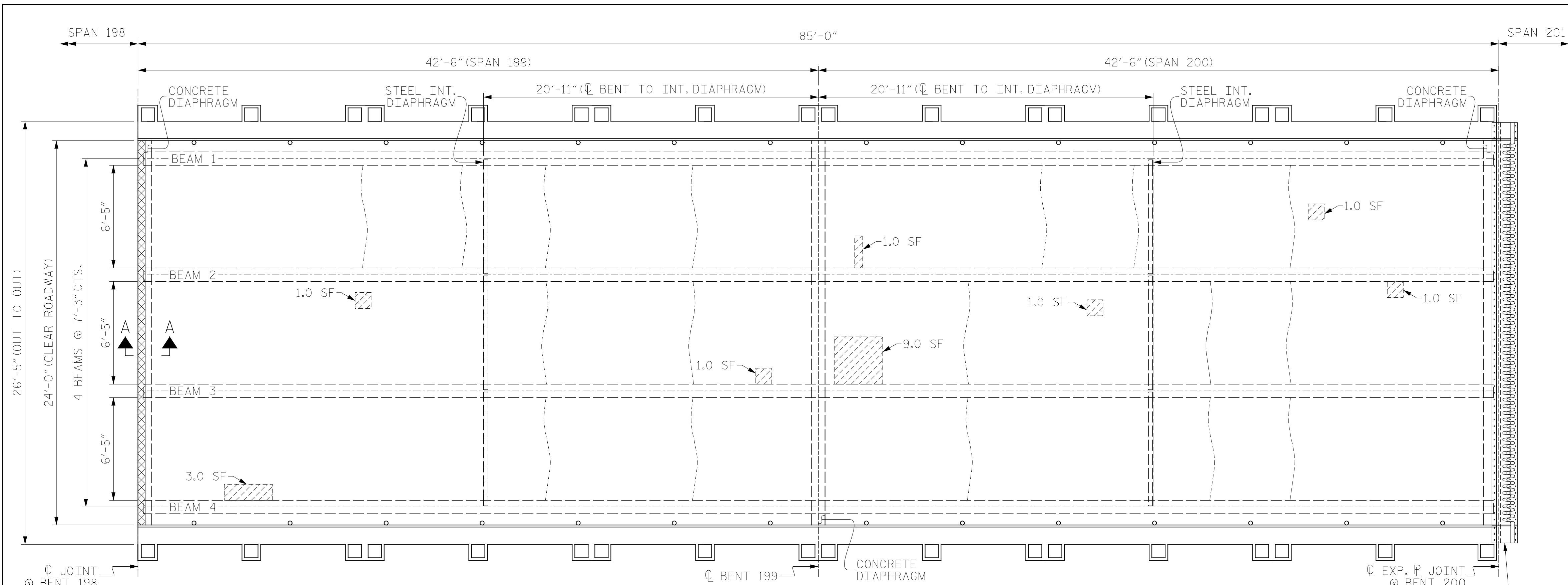
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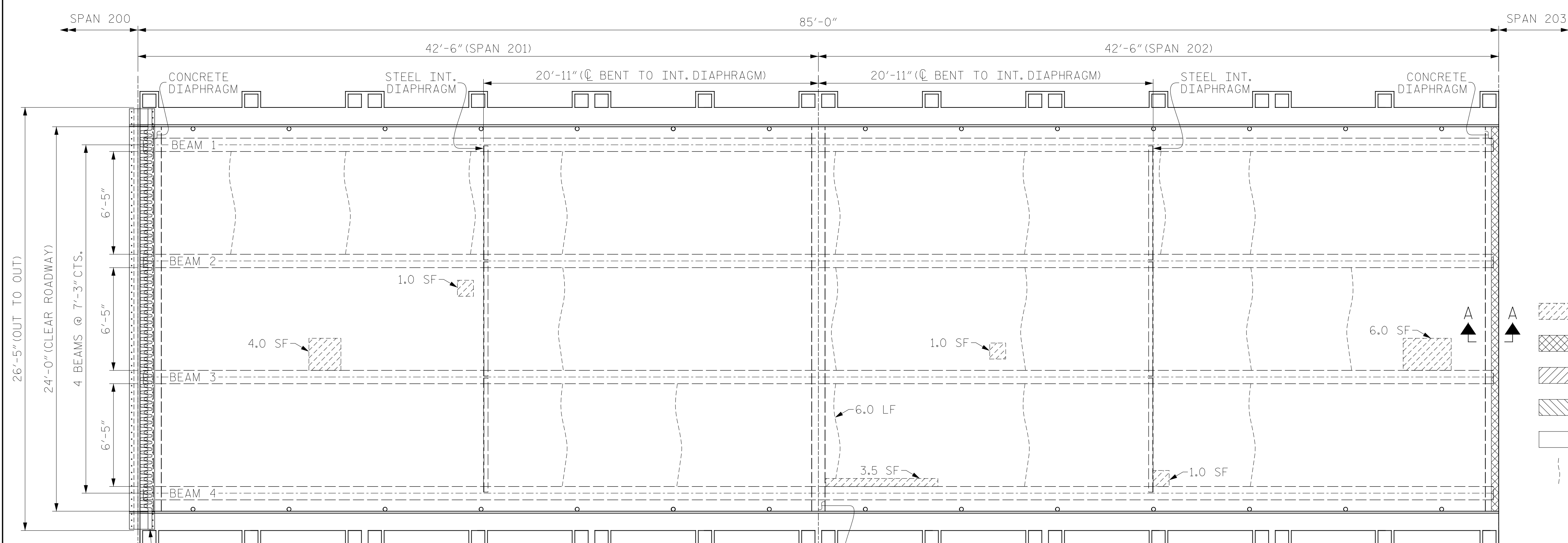
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PLAN OF SPAN 199

PLAN OF SPAN 200



PLAN OF SPAN 201

PLAN OF SPAN 202

SUMMARY OF QUANTITIES FOR SPAN 199		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

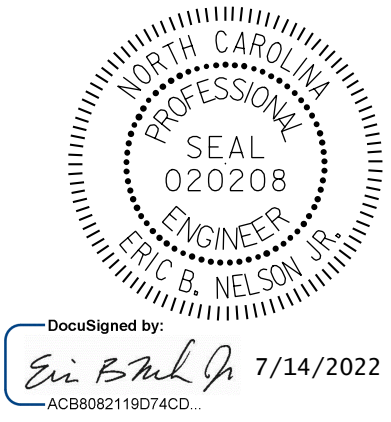
SUMMARY OF QUANTITIES FOR SPAN 200		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	4.4 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	57.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 201		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	44.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 202		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	70.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 199 THRU 202

NOTE:

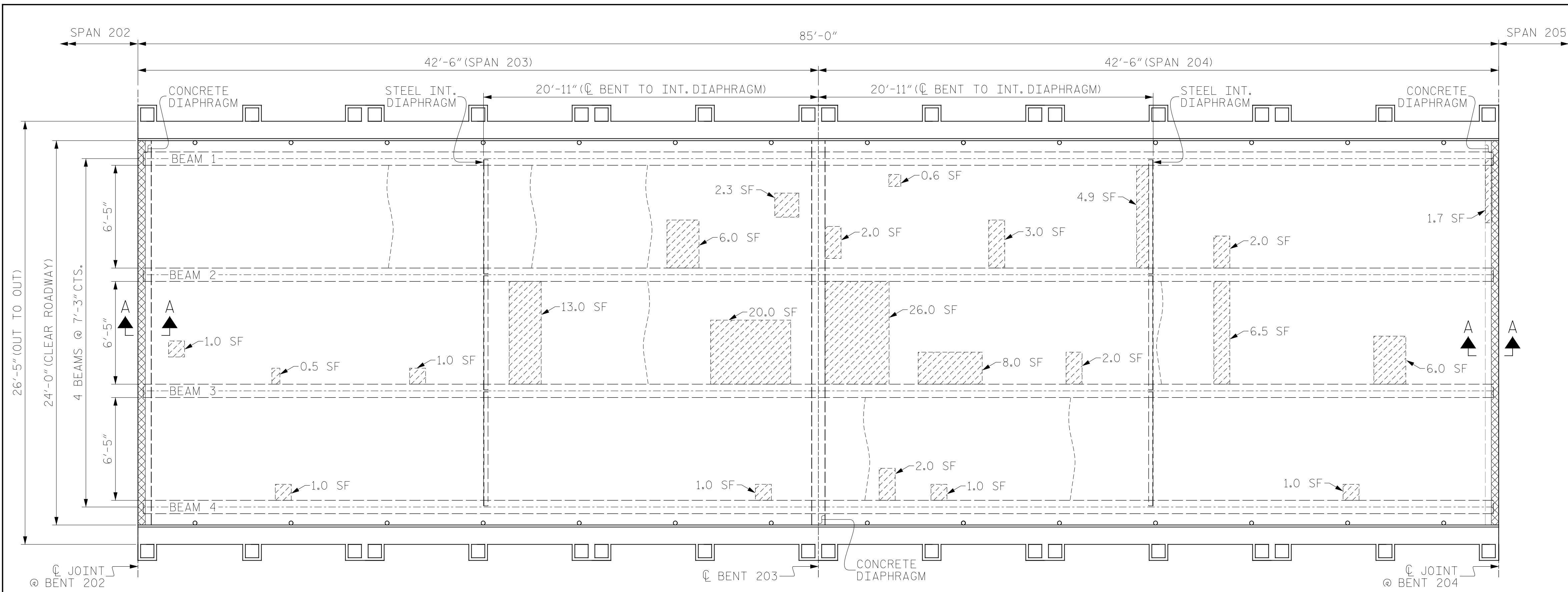
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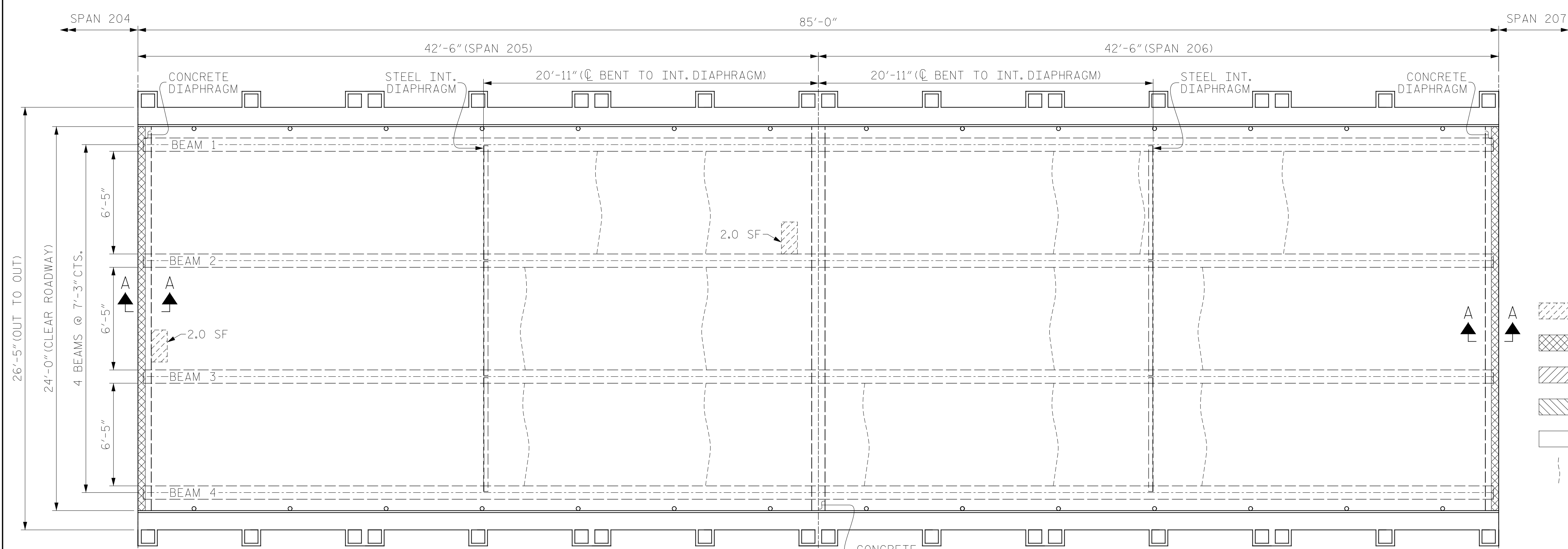
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2			4			



PLAN OF SPAN 203

PLAN OF SPAN 204



PLAN OF SPAN 205

PLAN OF SPAN 206

SUMMARY OF QUANTITIES FOR SPAN 203		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	15.3 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	25.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

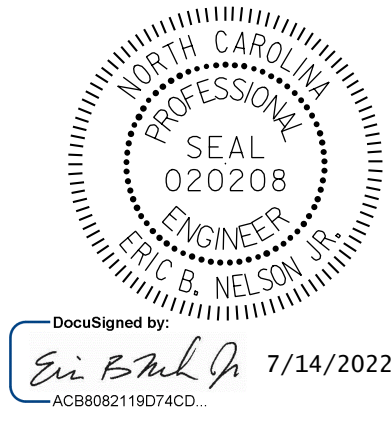
SUMMARY OF QUANTITIES FOR SPAN 204		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	22.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	19.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 205		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 206		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 SURFACE PREPARATION & UNDERDECK REPAIRS
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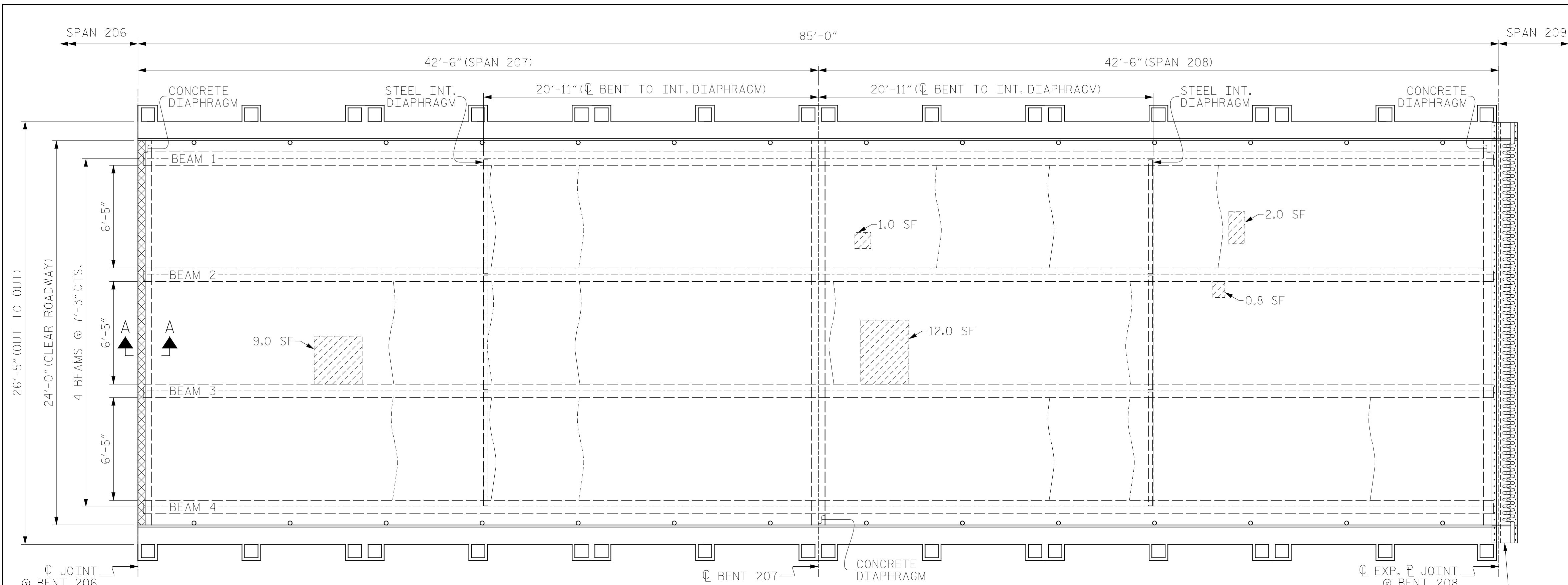
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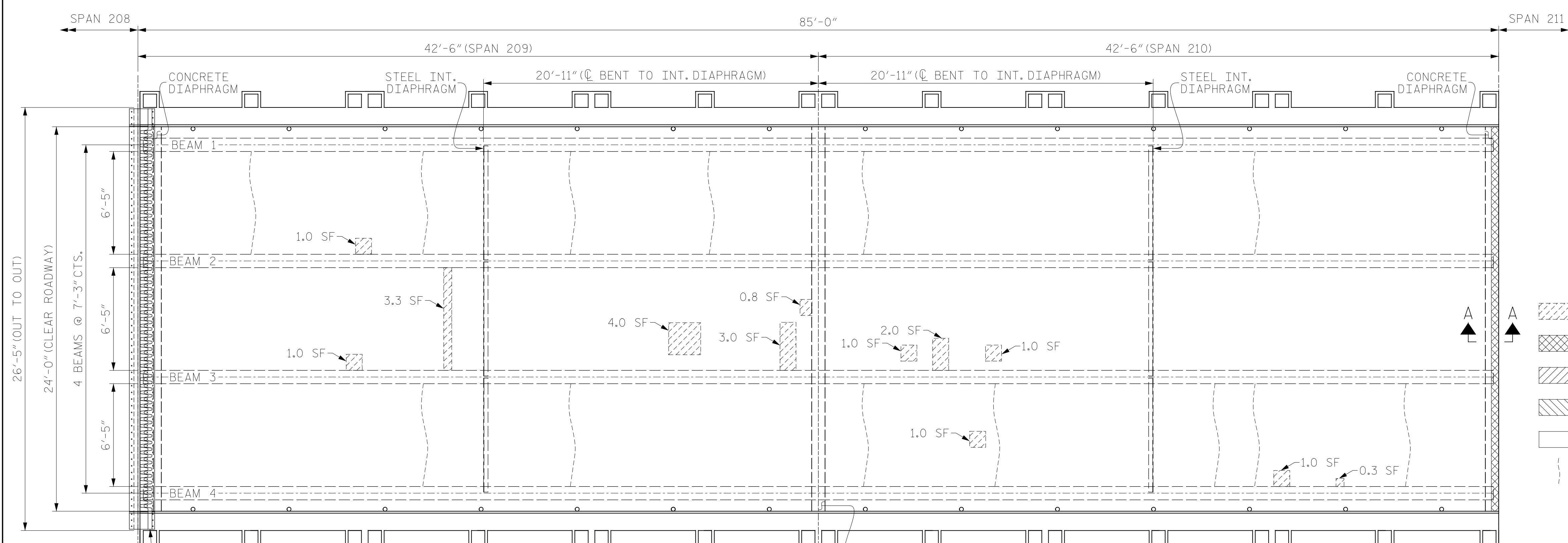
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PLAN OF SPAN 207

PLAN OF SPAN 208



PLAN OF SPAN 209

PLAN OF SPAN 210

SUMMARY OF QUANTITIES FOR SPAN 207		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

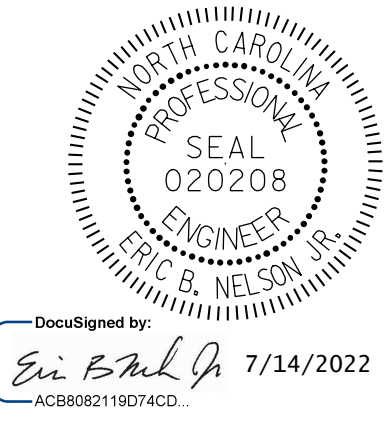
SUMMARY OF QUANTITIES FOR SPAN 208		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	5.3 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 209		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	4.4 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 210		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.1 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	44.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 207 THRU 210

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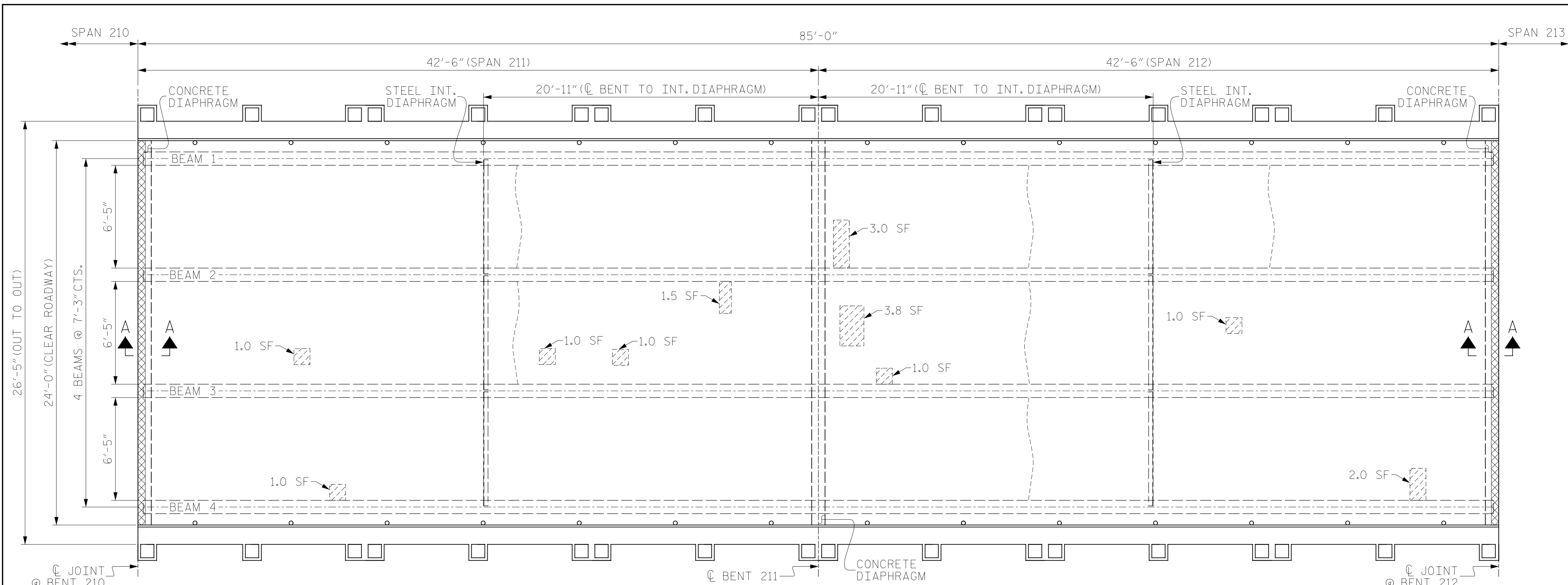
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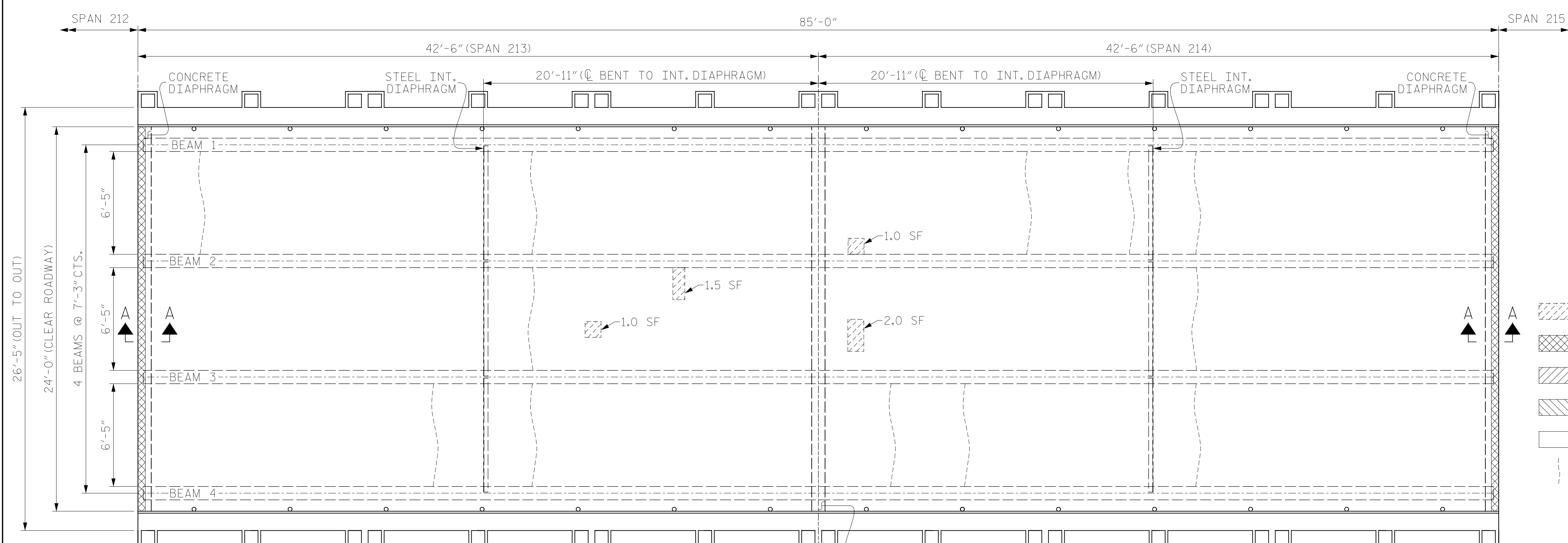
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PLAN OF SPAN 211

PLAN OF SPAN 212



PLAN OF SPAN 213

PLAN OF SPAN 214

SUMMARY OF QUANTITIES FOR SPAN 211		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	12.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

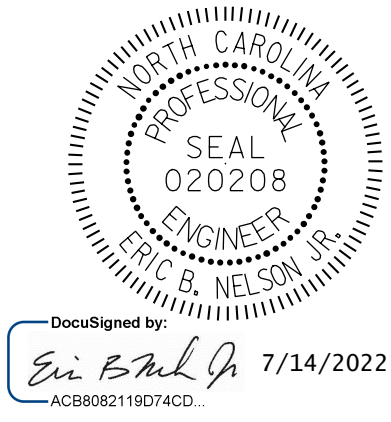
SUMMARY OF QUANTITIES FOR SPAN 212		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.6 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	25.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 213		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	32.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 214		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	44.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 211 THRU 214

NOTE:

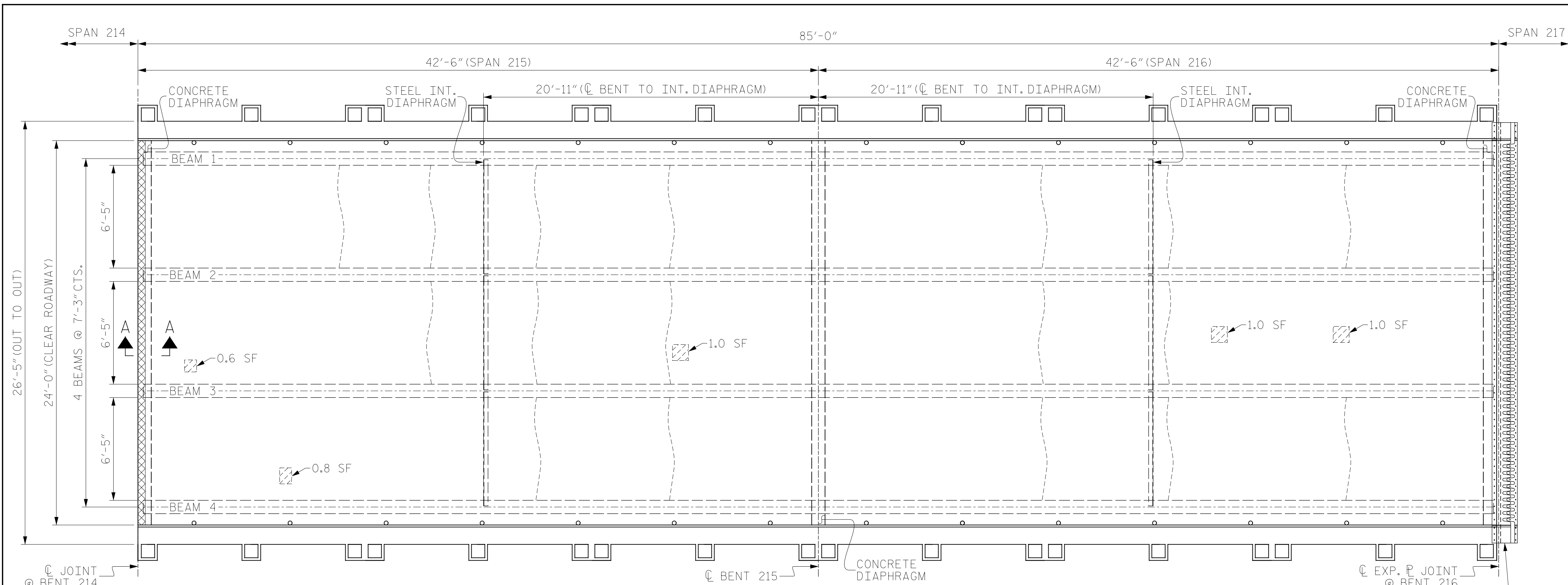
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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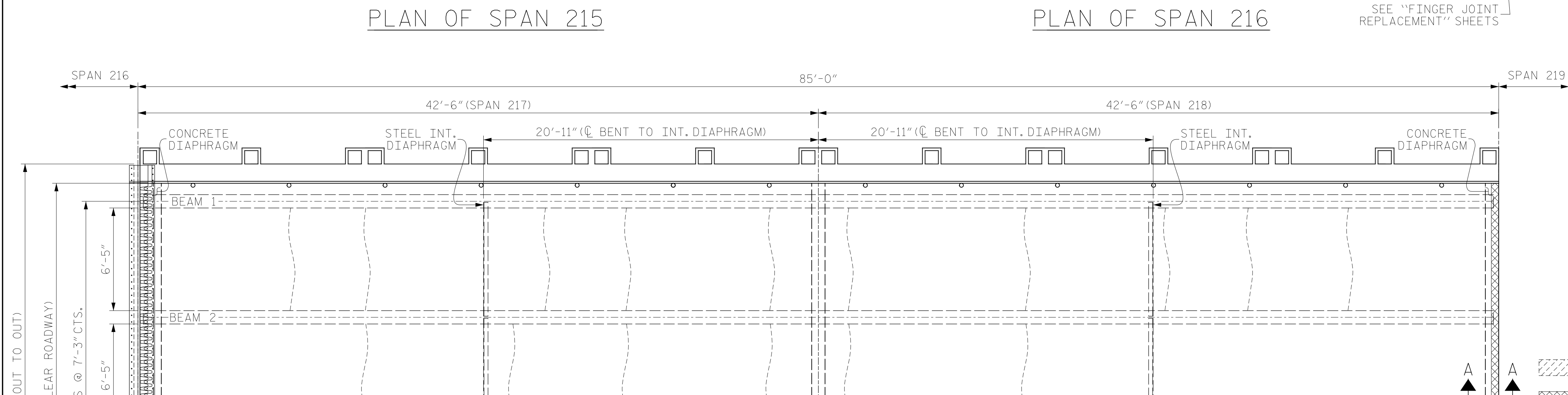
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SUMMARY OF QUANTITIES FOR SPAN 215		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.8 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	57.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 216		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

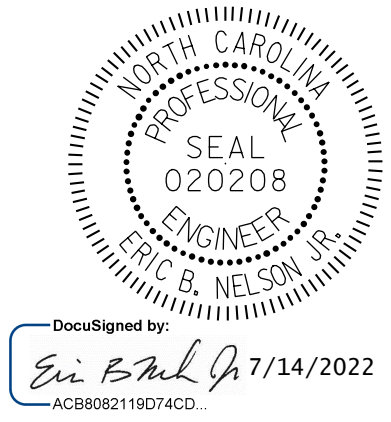
SUMMARY OF QUANTITIES FOR SPAN 217		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.3 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	83.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 218		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	77.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

PROJECT NO. HB-0017
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 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 215 THRU 218**

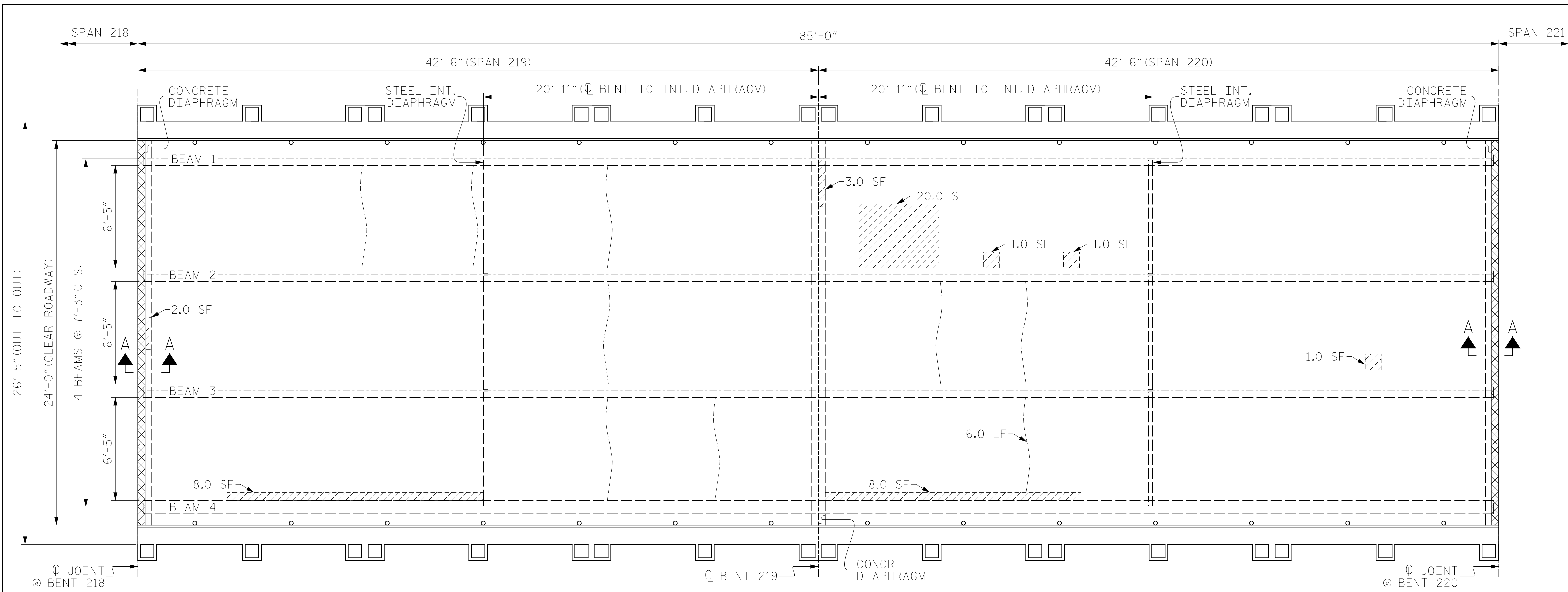
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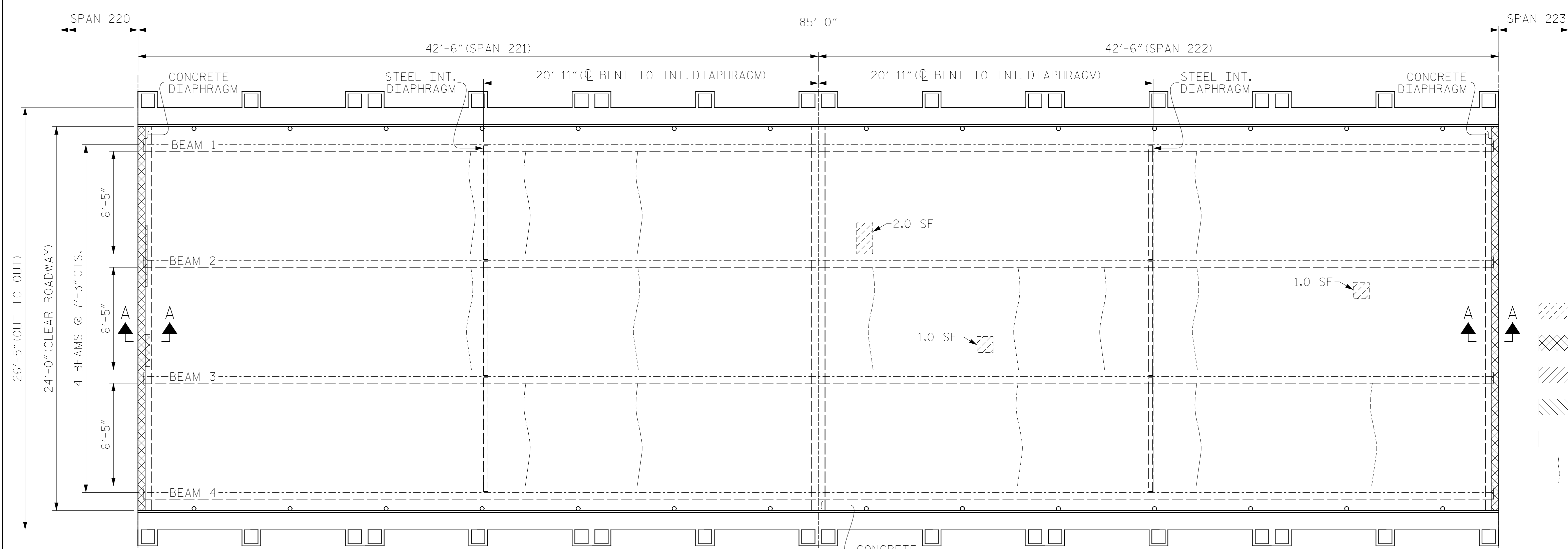
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PLAN OF SPAN 219

PLAN OF SPAN 220



PLAN OF SPAN 221

PLAN OF SPAN 222

SUMMARY OF QUANTITIES FOR SPAN 219		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

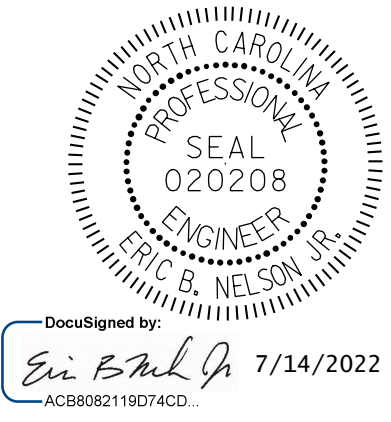
SUMMARY OF QUANTITIES FOR SPAN 220		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	11.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	18.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 221		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	44.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 222		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 219 THRU 222

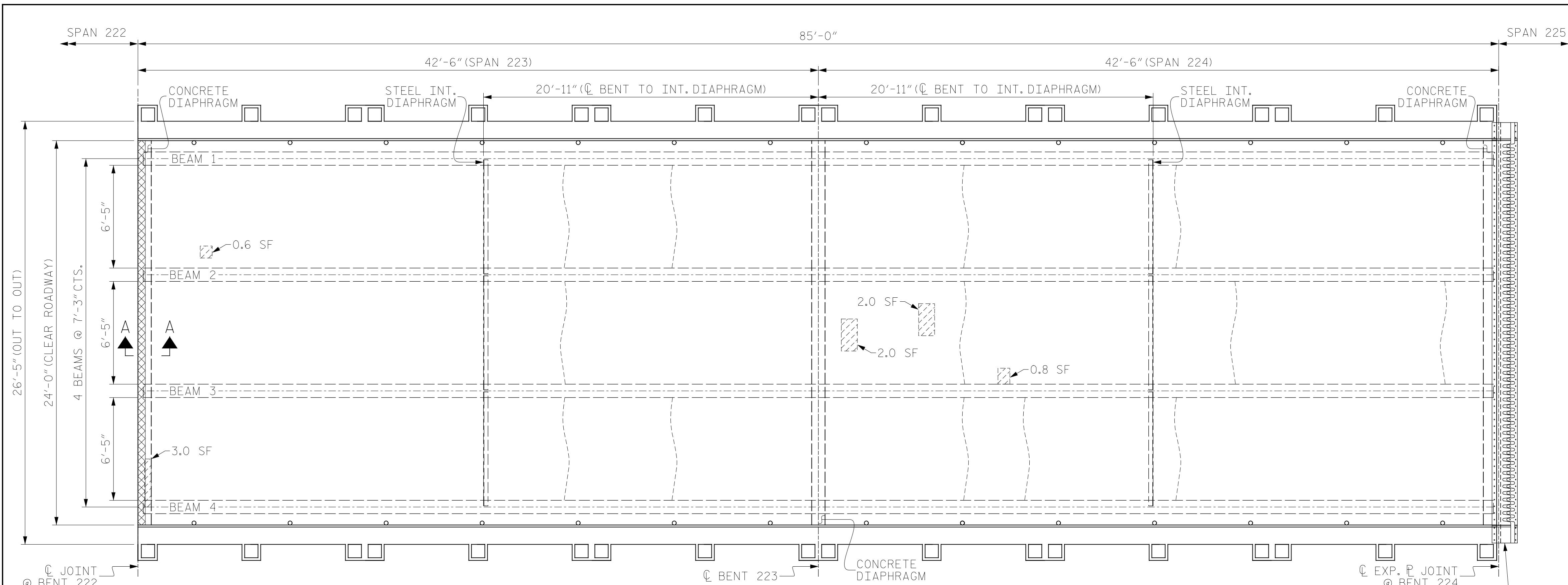
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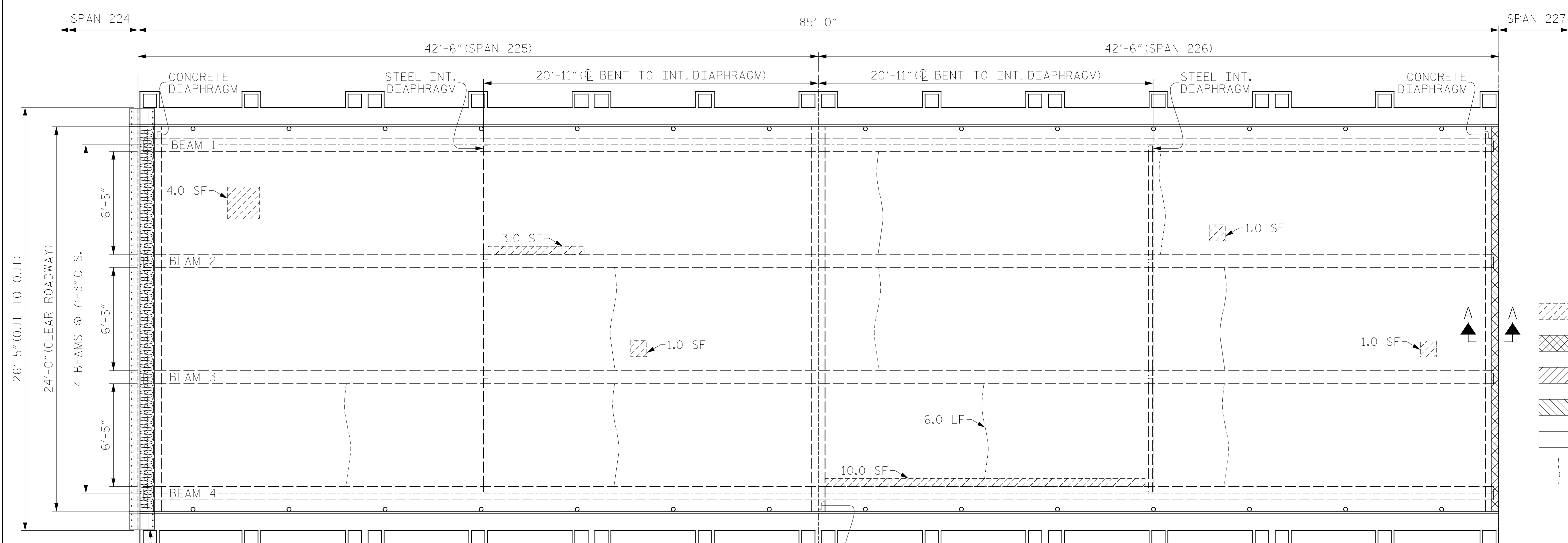
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PLAN OF SPAN 223

PLAN OF SPAN 224



PLAN OF SPAN 225

PLAN OF SPAN 226

SUMMARY OF QUANTITIES FOR SPAN 223		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.5 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	32.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

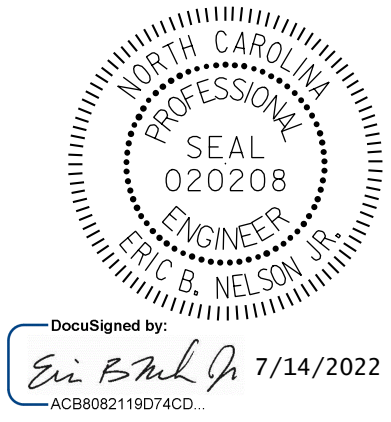
SUMMARY OF QUANTITIES FOR SPAN 224		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.6 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 225		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	19.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 226		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	4.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	38.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

PROJECT NO. HB-0017
 COUNTY DARE
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 223 THRU 226

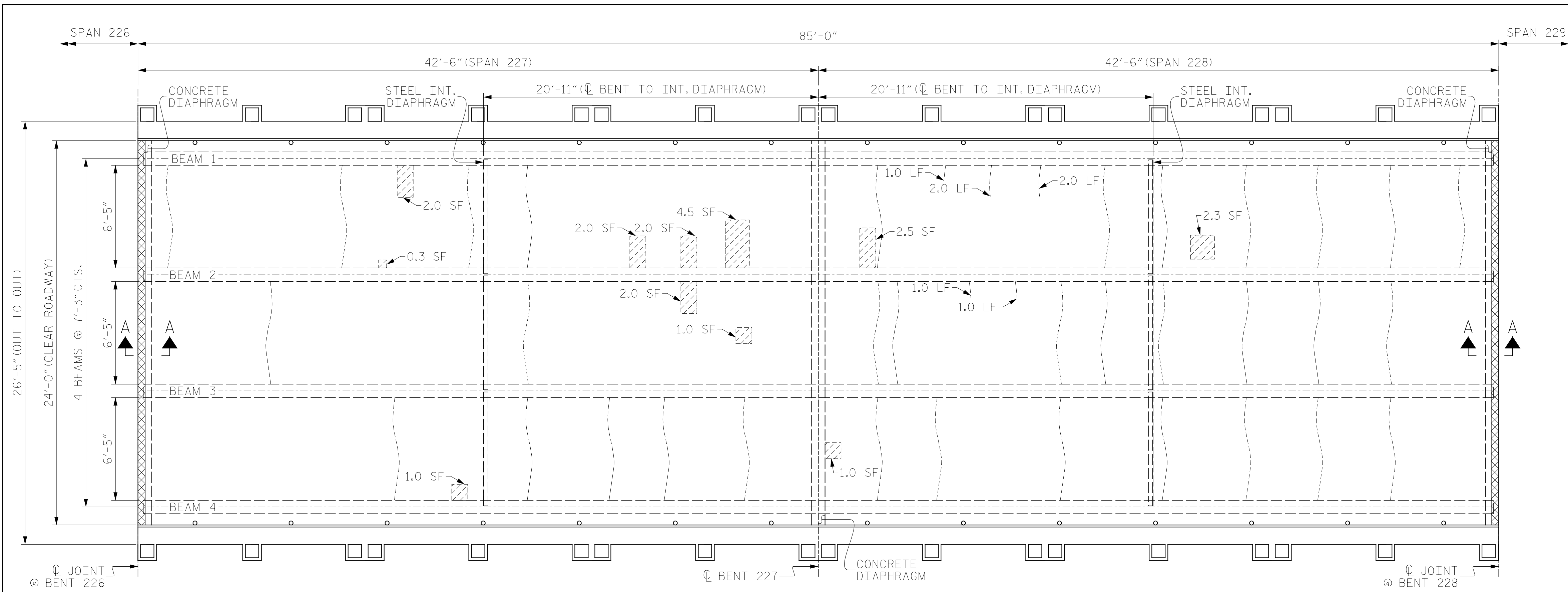
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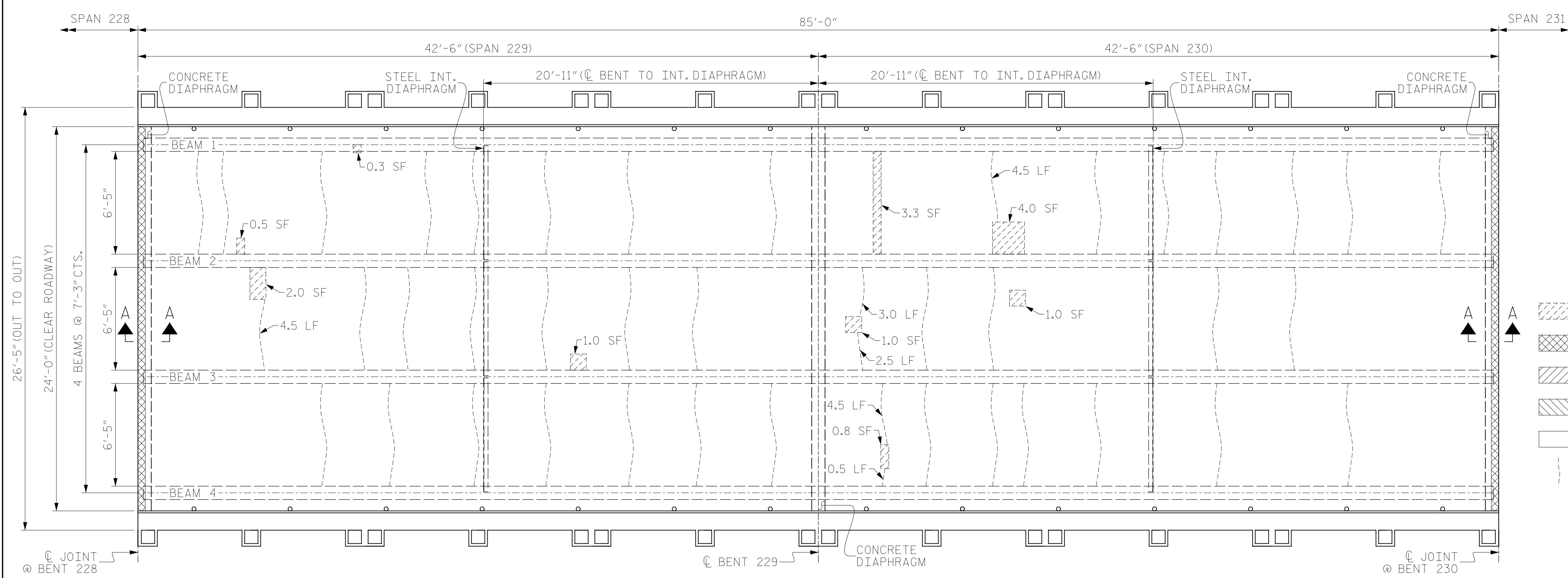
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SUMMARY OF QUANTITIES FOR SPAN 227		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	5.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	70.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 228		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	148.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 229		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.3 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	139.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 230		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	117.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH

**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 227 THRU 230**

NOTE:

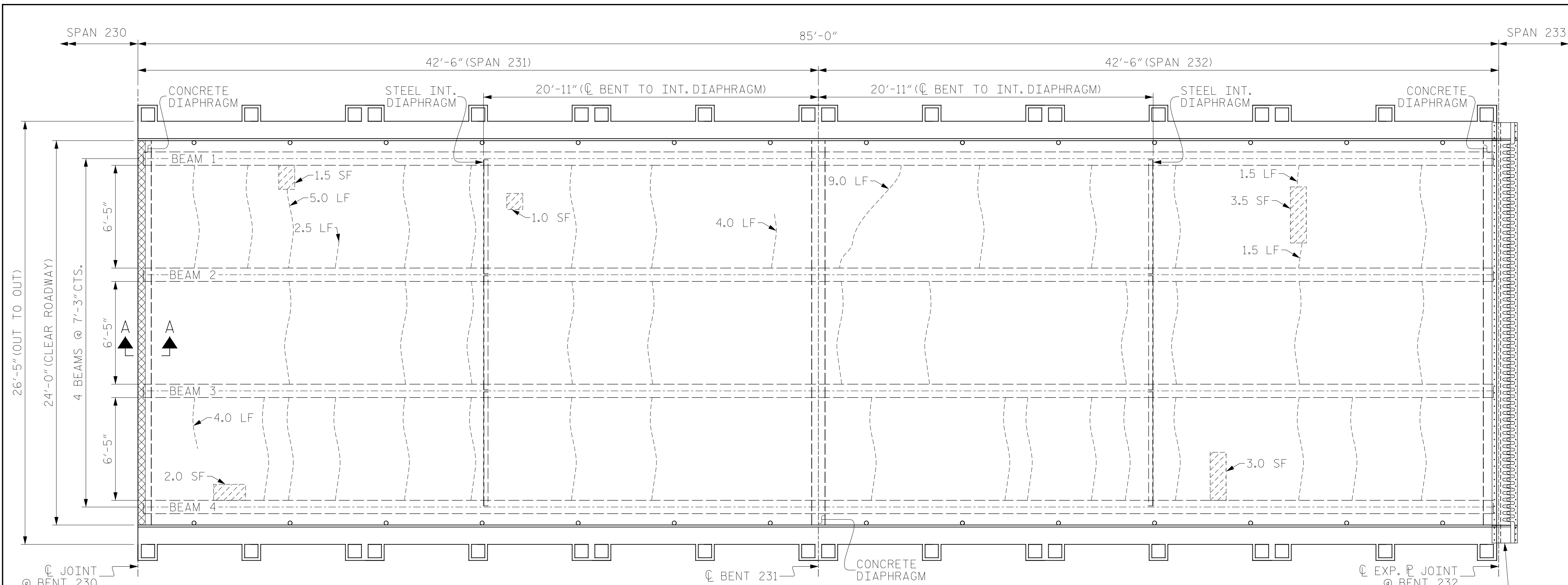
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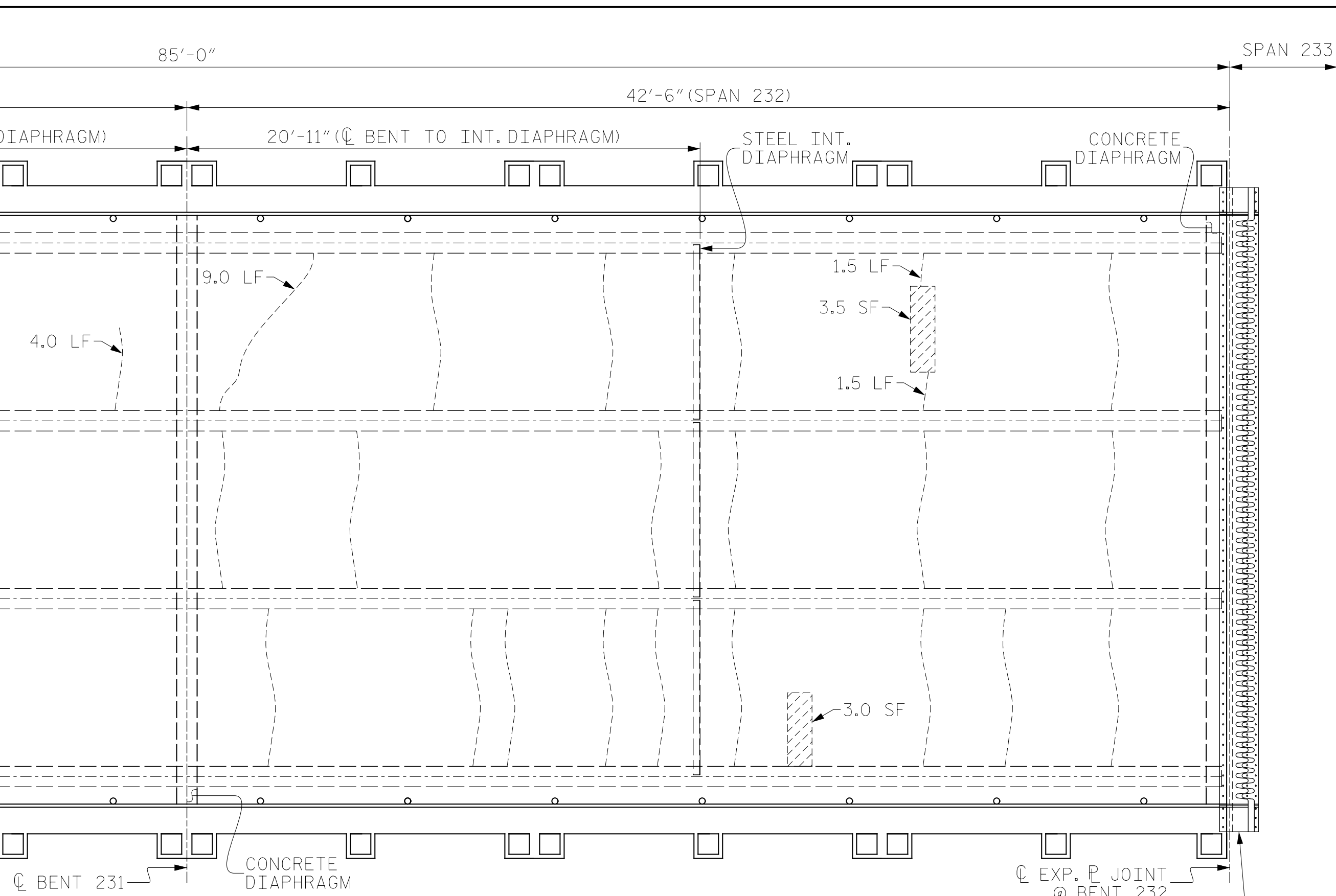


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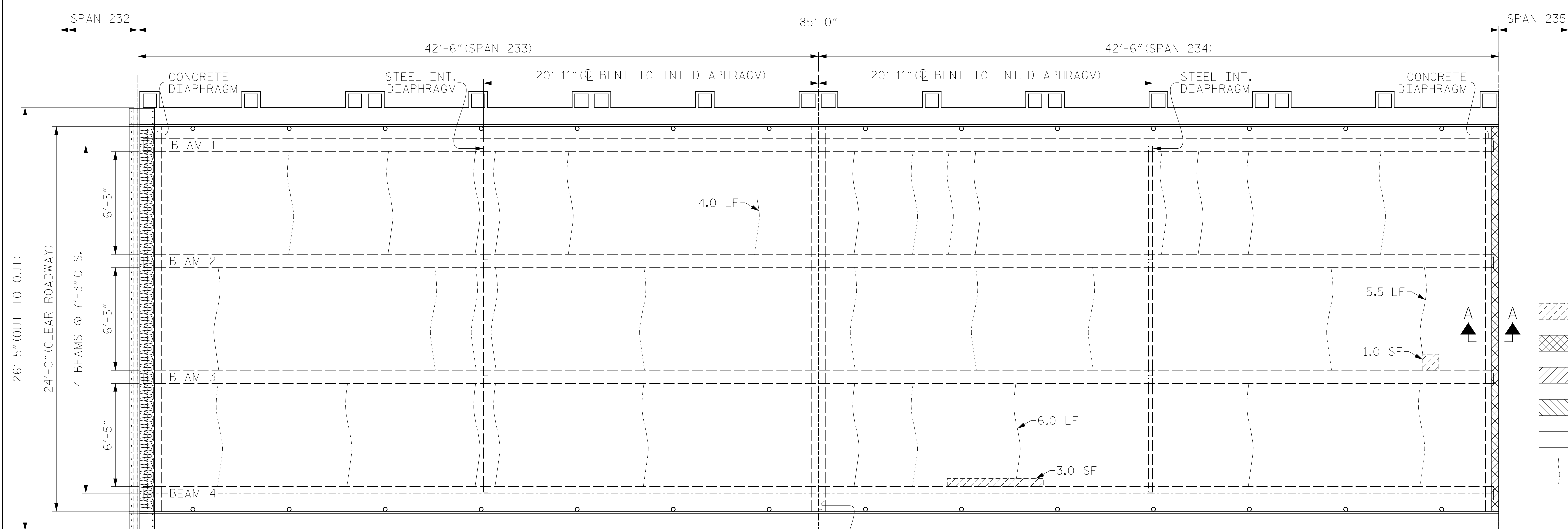
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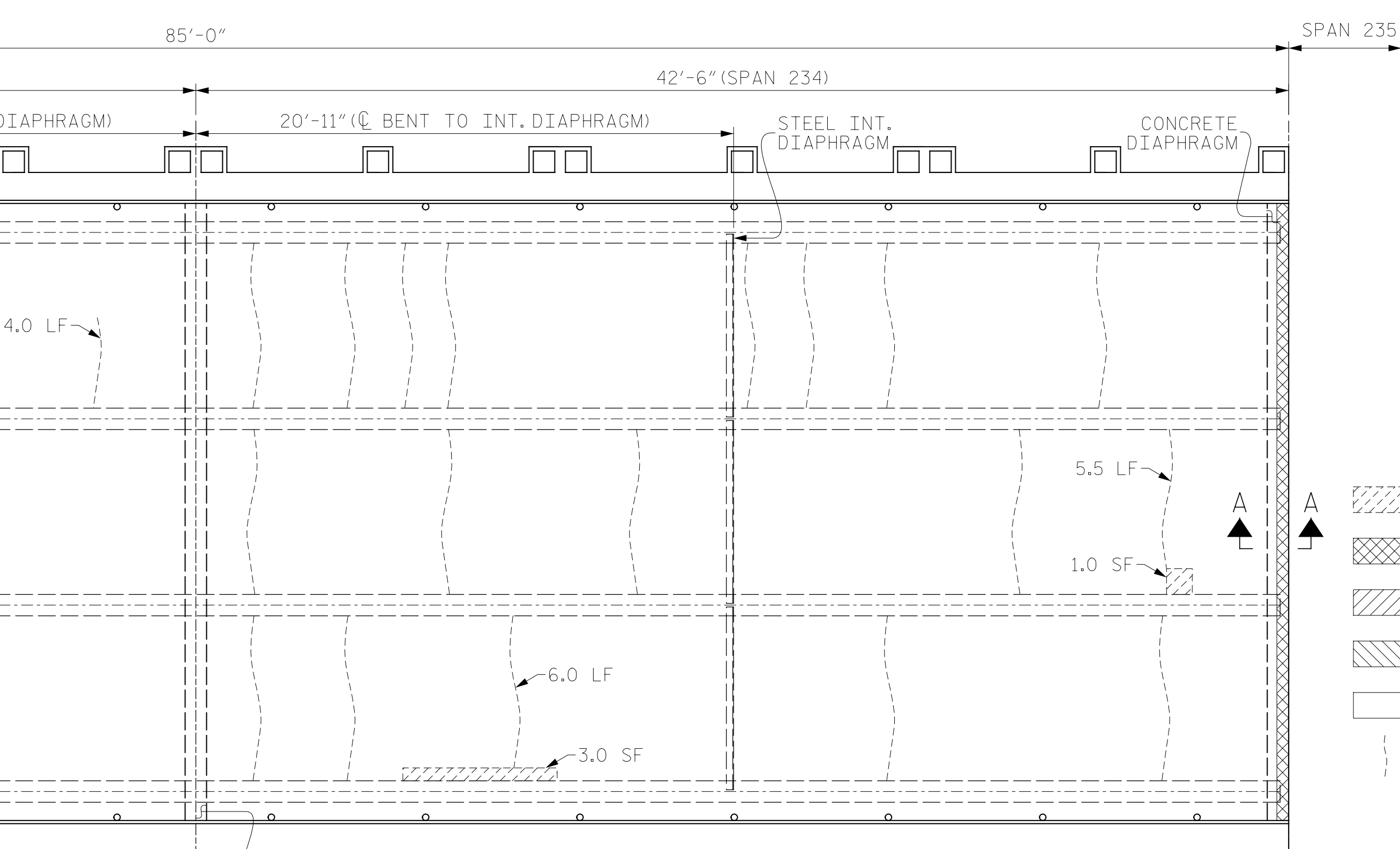
PLAN OF SPAN 231



PLAN OF SPAN 232



PLAN OF SPAN 233



PLAN OF SPAN 234

SUMMARY OF QUANTITIES FOR SPAN 231		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.5 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	131.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

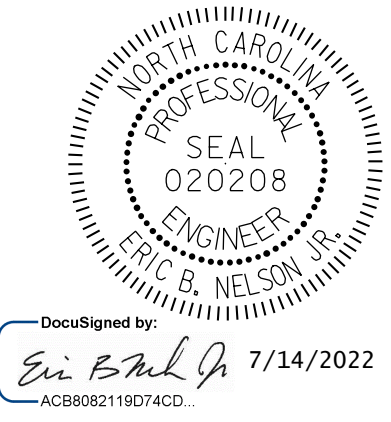
SUMMARY OF QUANTITIES FOR SPAN 232		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.2 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	133.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 233		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	100.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 234		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	114.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 231 THRU 234

NOTE:

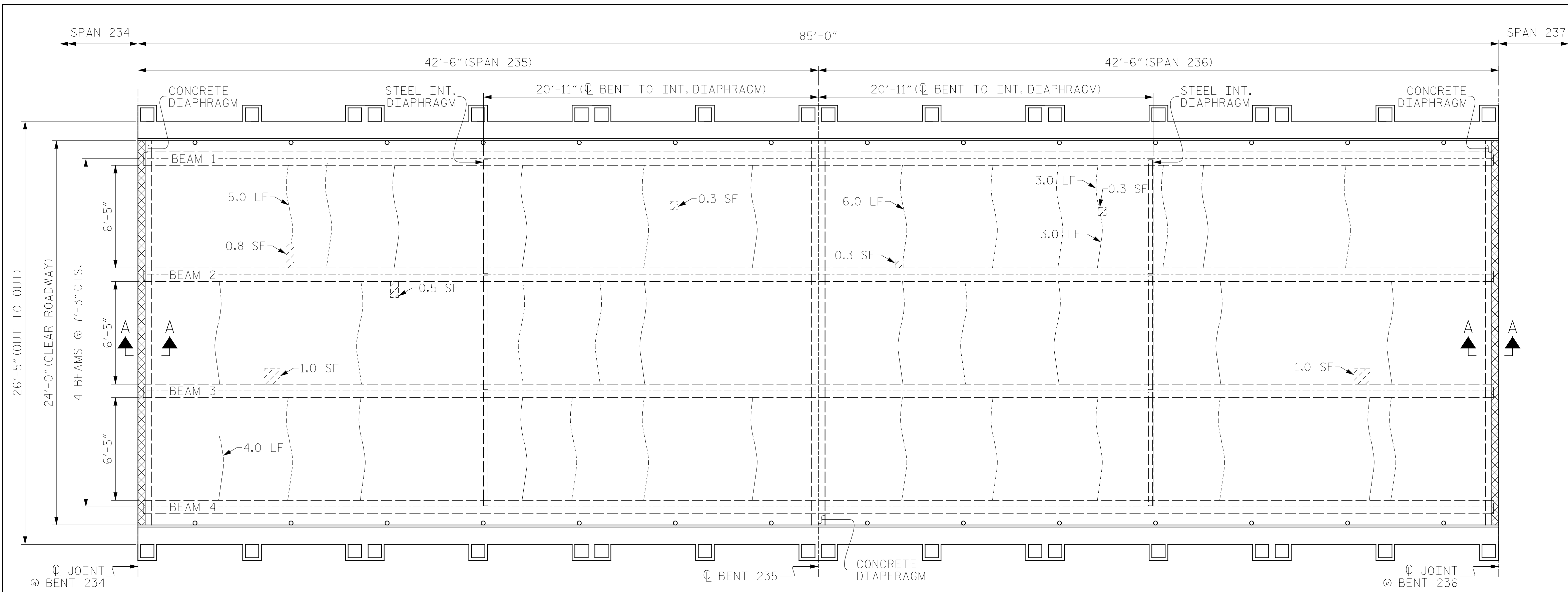
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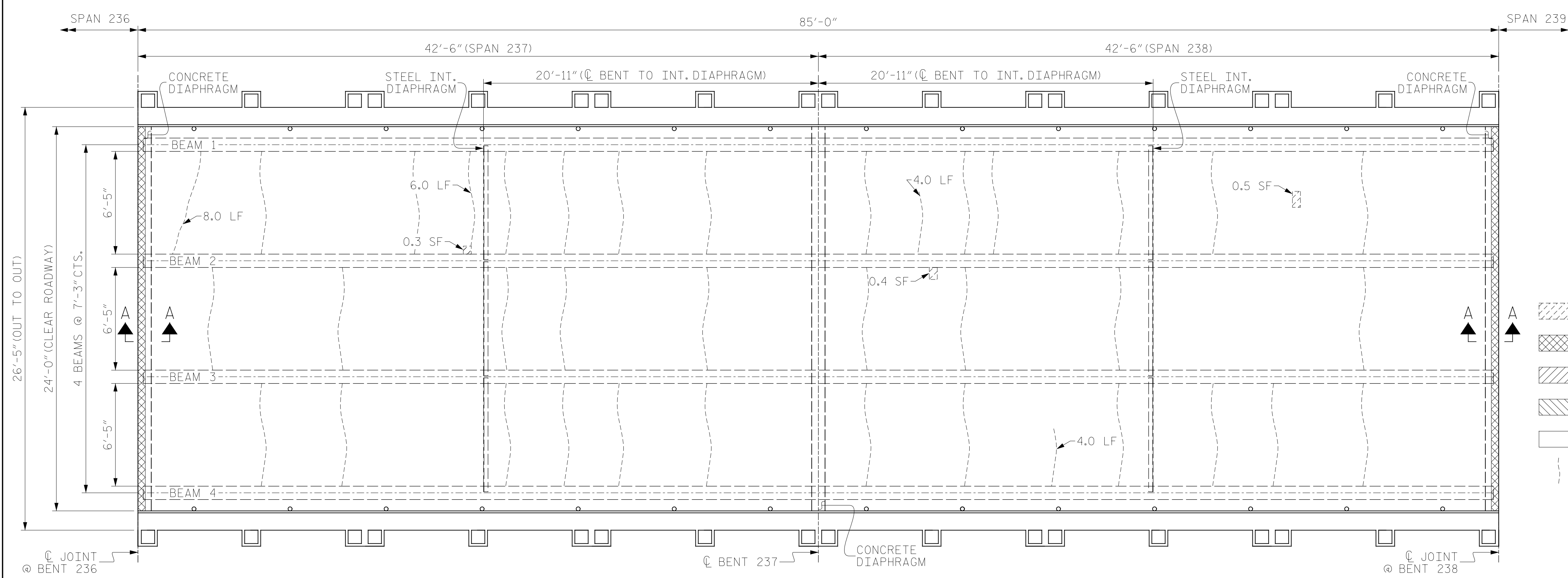
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SUMMARY OF QUANTITIES FOR SPAN 235		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	111.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 236		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.6 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	114.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

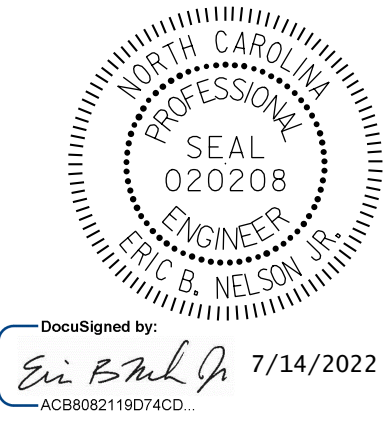
SUMMARY OF QUANTITIES FOR SPAN 237		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.1 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	123.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 238		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.3 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	110.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

PROJECT NO. HB-0017
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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 235 THRU 238**

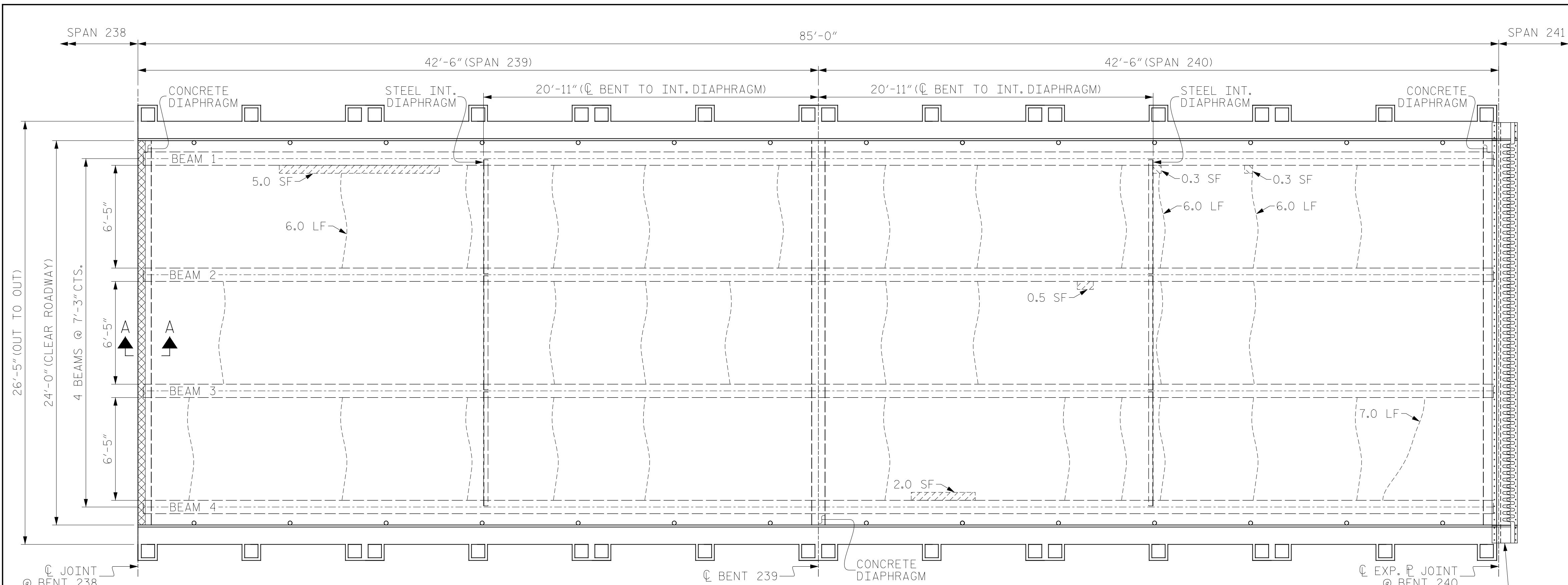
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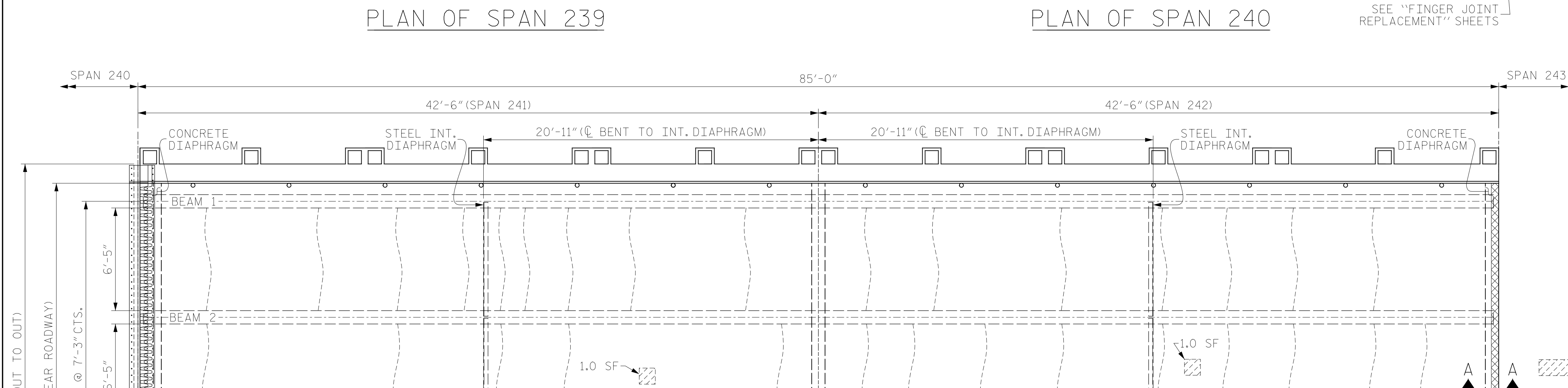
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SUMMARY OF QUANTITIES FOR SPAN 239		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.7 LF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 240		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.1 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	108.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

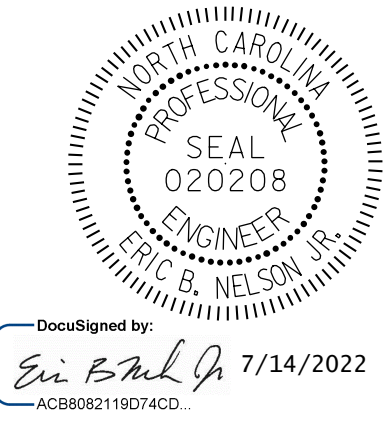
SUMMARY OF QUANTITIES FOR SPAN 241		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.3 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	133.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 242		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	153.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 239 THRU 242**

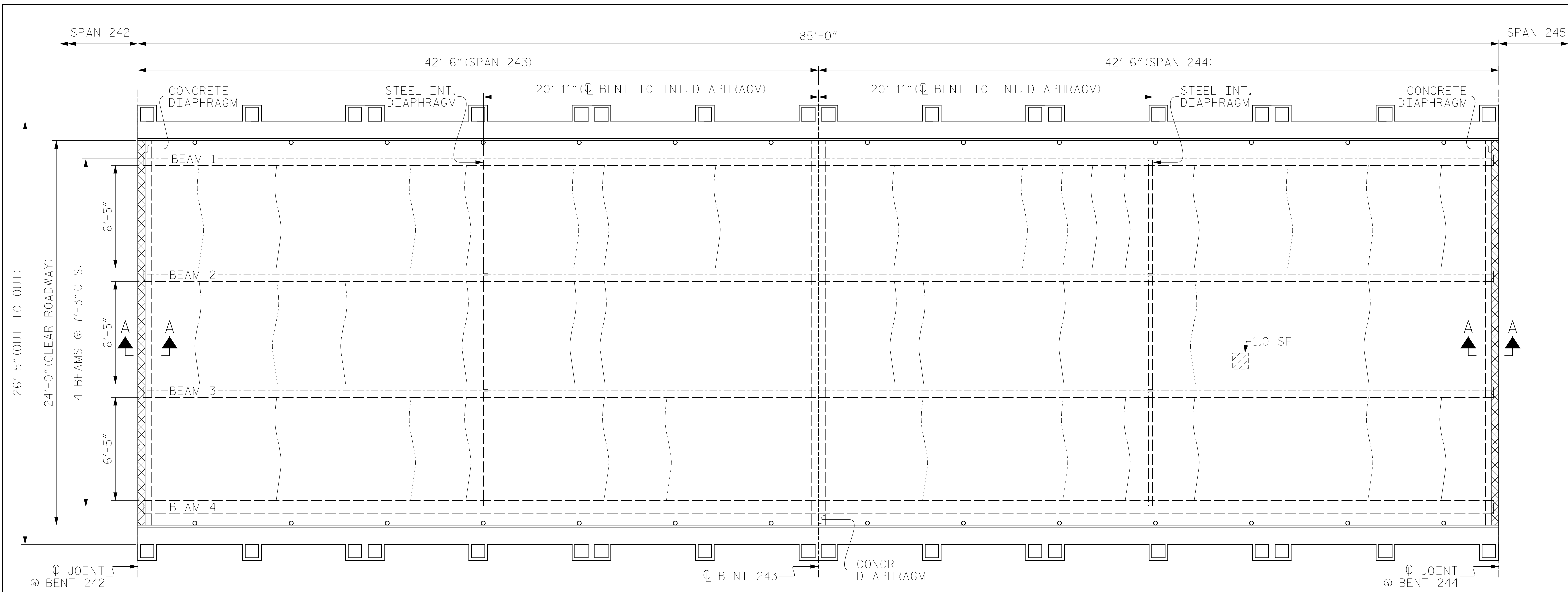
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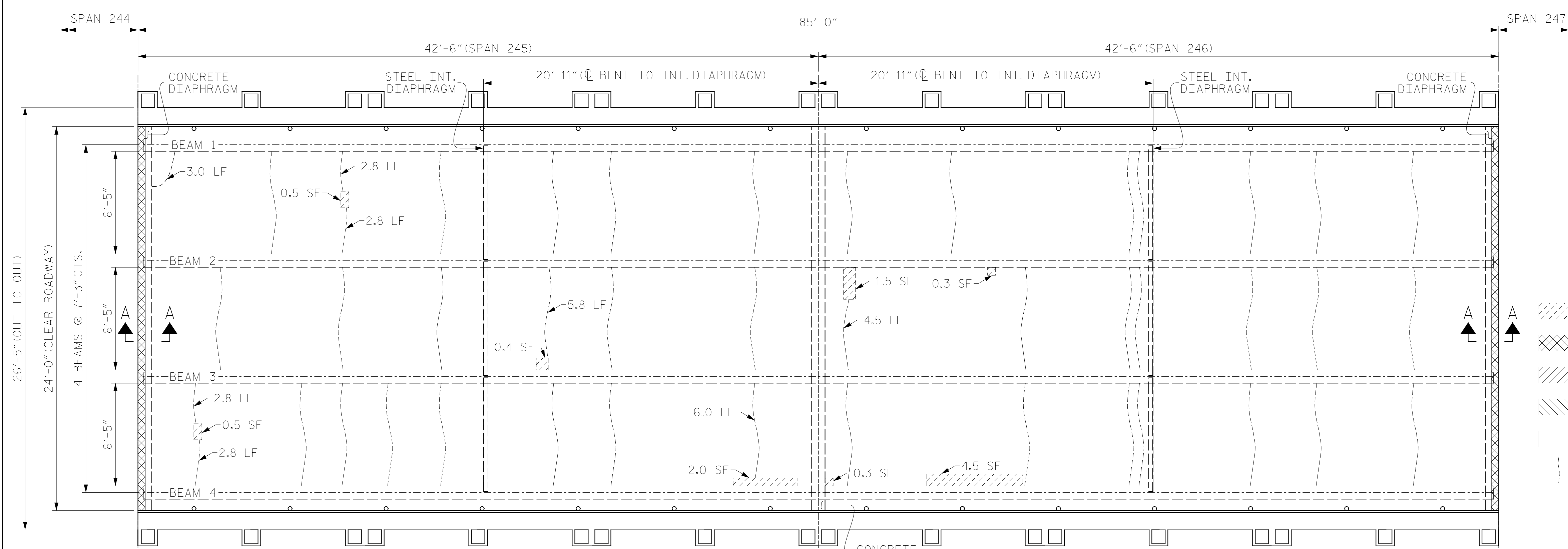
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PLAN OF SPAN 243

PLAN OF SPAN 244



PLAN OF SPAN 245

PLAN OF SPAN 246

SUMMARY OF QUANTITIES FOR SPAN 243		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	115.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

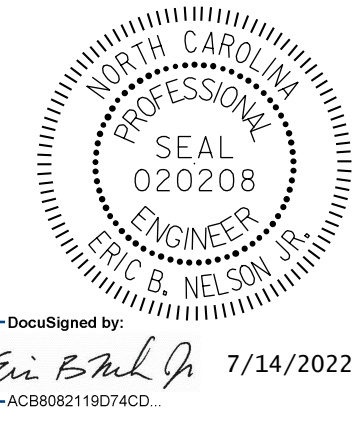
SUMMARY OF QUANTITIES FOR SPAN 244		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	128.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 245		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.2 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	128.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 246		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.2 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	132.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 243 THRU 246

NOTE:

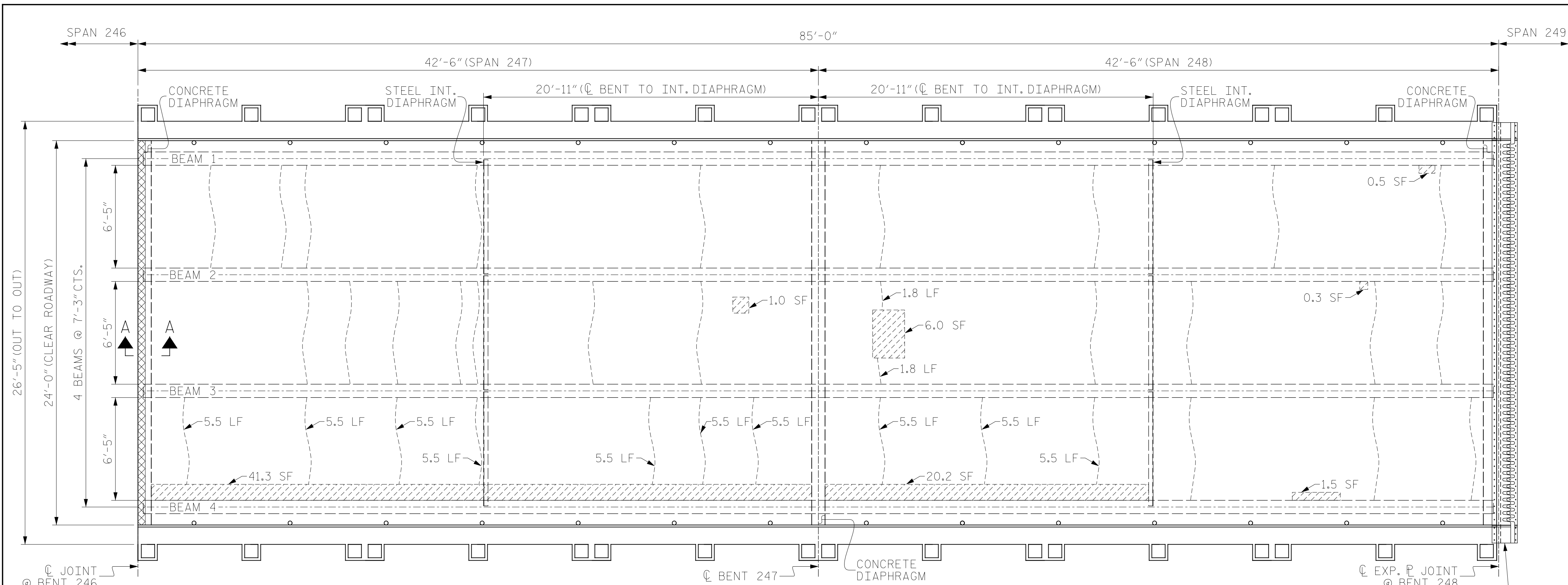
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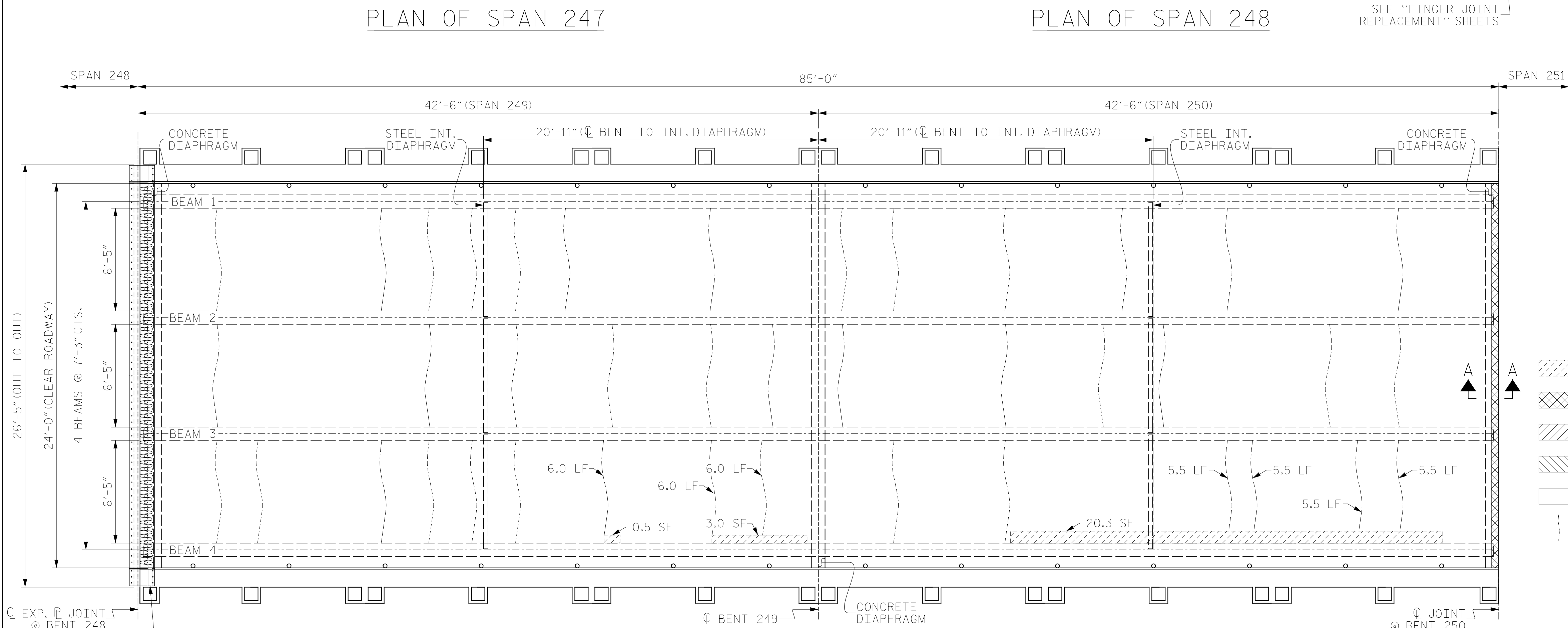
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SUMMARY OF QUANTITIES FOR SPAN 247		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	14.1 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	115.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 248		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	9.5 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	90.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

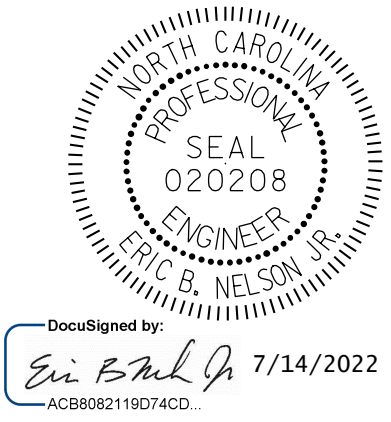
SUMMARY OF QUANTITIES FOR SPAN 249		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.2 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	139.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 250		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	6.8 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	111.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 RALEIGH

**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 247 THRU 250**

NOTE:

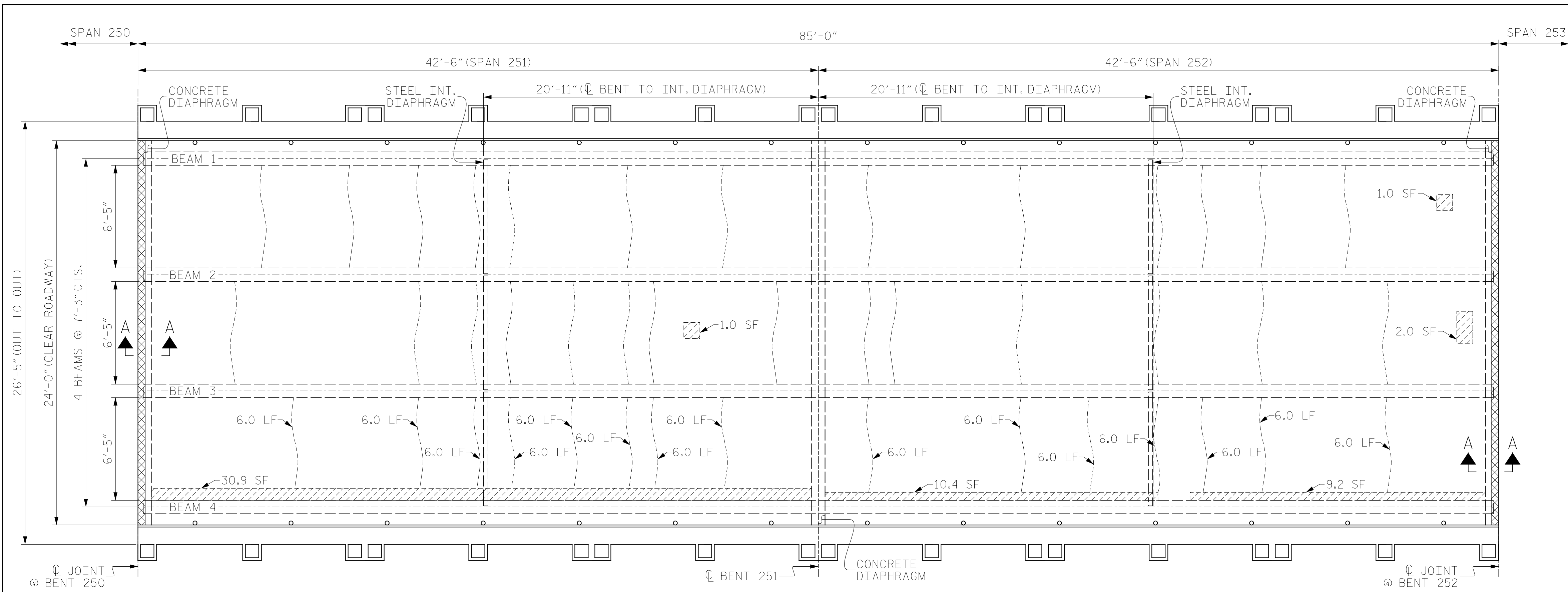
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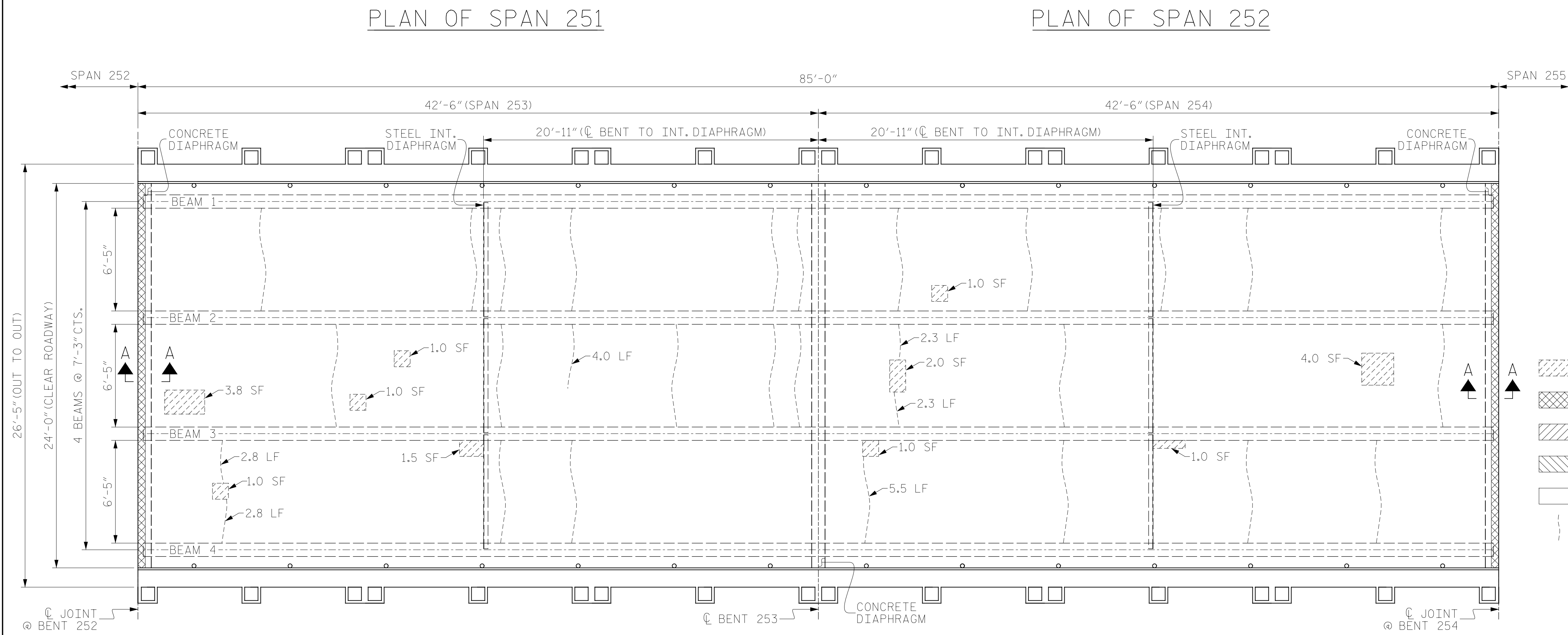
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SUMMARY OF QUANTITIES FOR SPAN 251		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	10.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	144.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 252		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	7.6 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	119.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

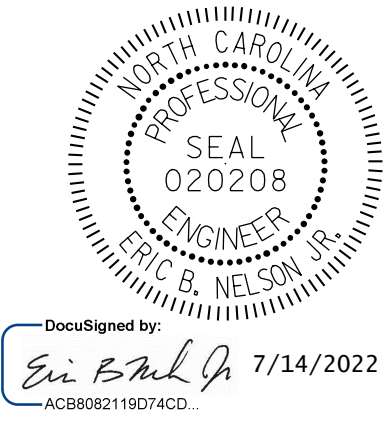
SUMMARY OF QUANTITIES FOR SPAN 253		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.8 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	93.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 254		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	74.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 RALEIGH

**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 251 THRU 254**

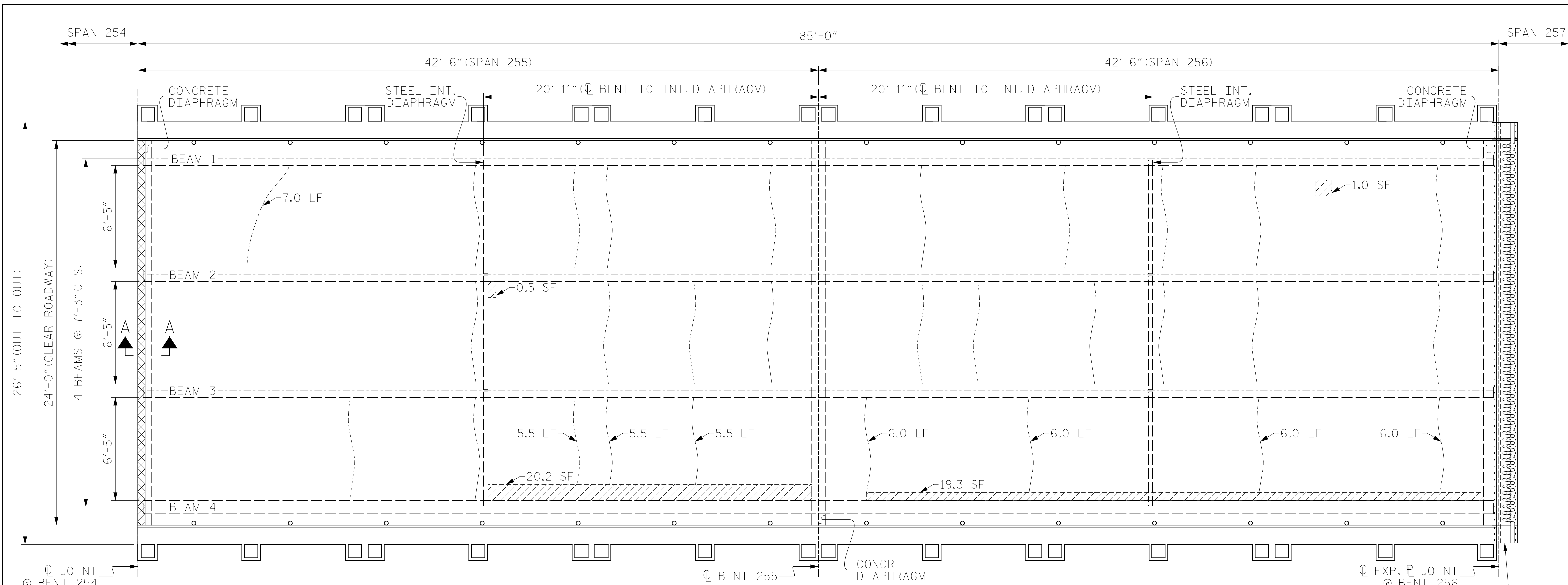
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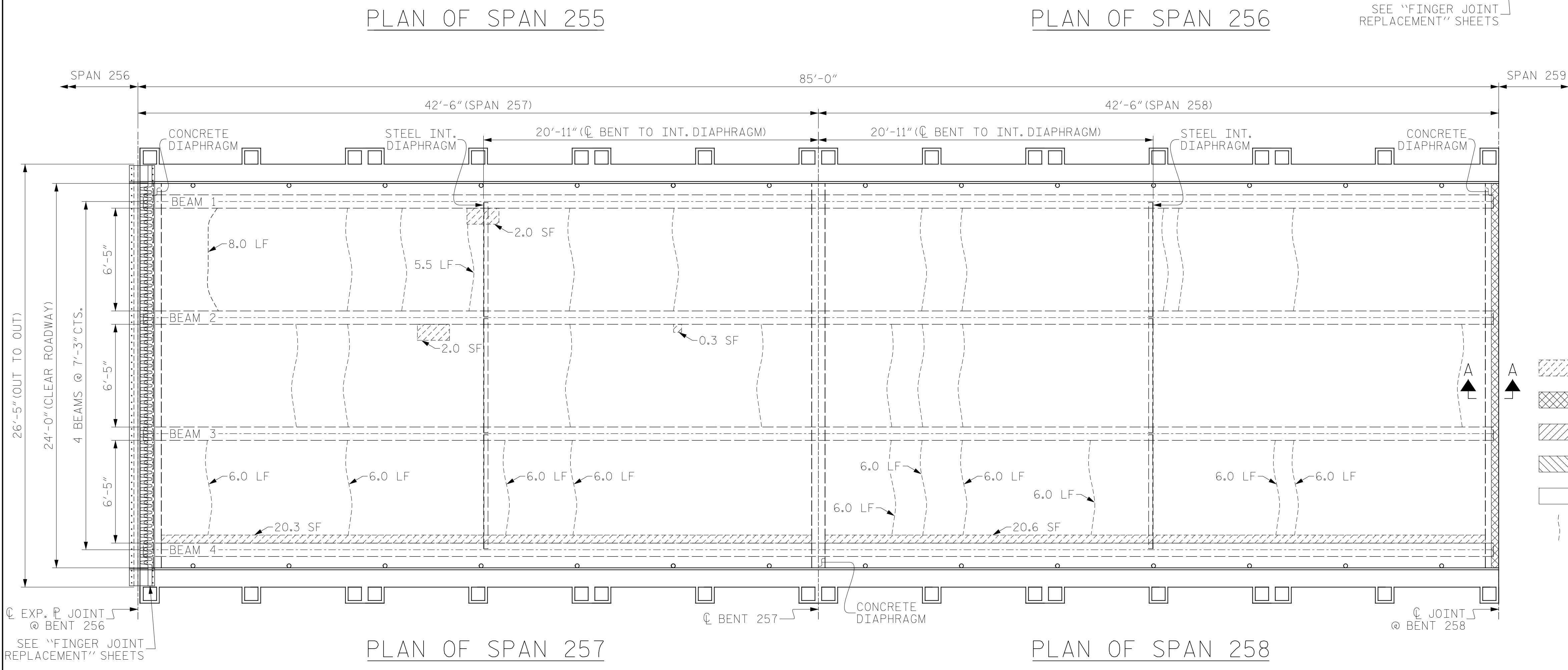


SUMMARY OF QUANTITIES FOR SPAN 255		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	6.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	87.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 256		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	6.8 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	94.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

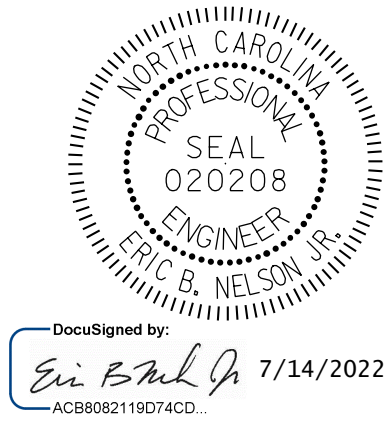
SUMMARY OF QUANTITIES FOR SPAN 257		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	8.3 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	88.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 258		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	6.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	93.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 255 THRU 258**

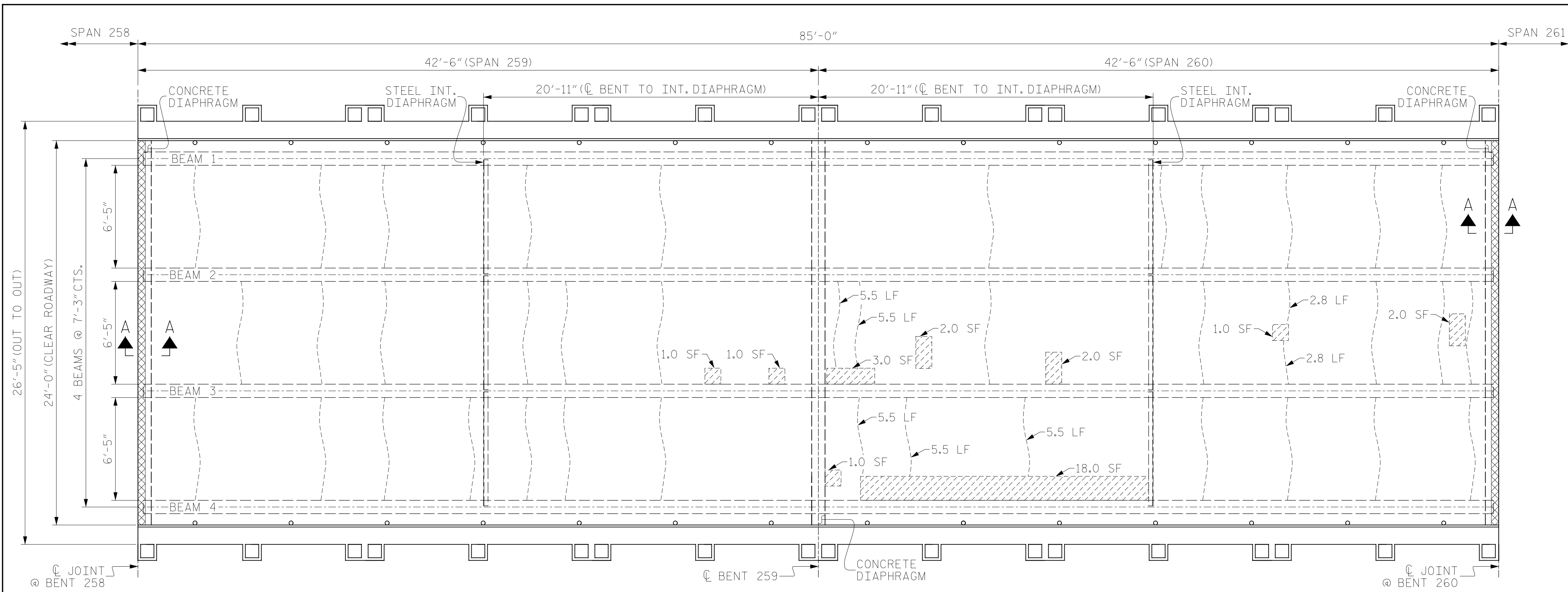
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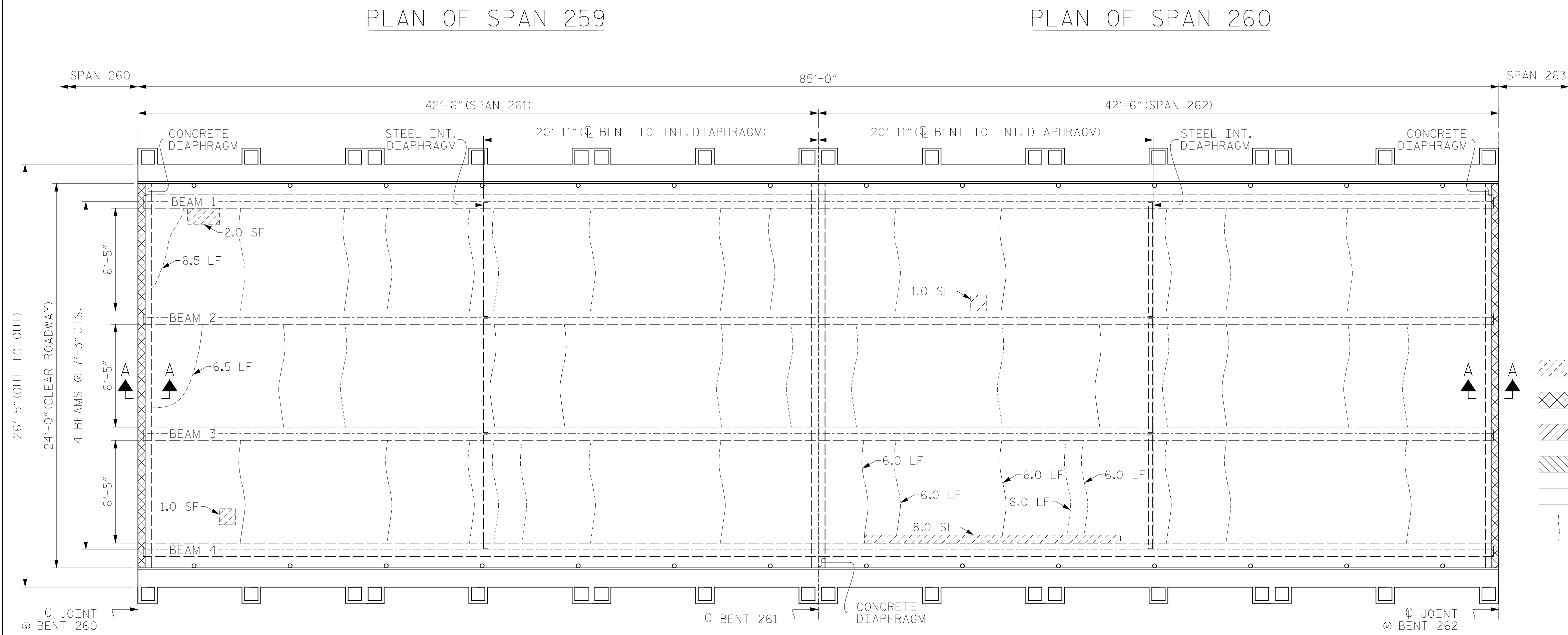
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SUMMARY OF QUANTITIES FOR SPAN 259		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	115.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 260		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	9.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	129.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

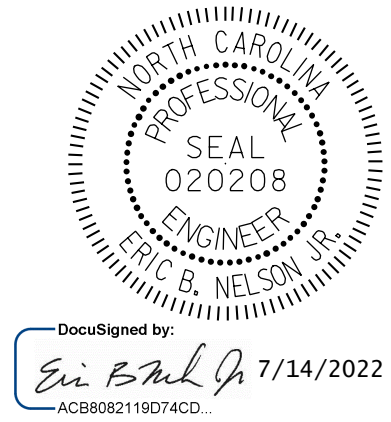
SUMMARY OF QUANTITIES FOR SPAN 261		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	147.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 262		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	126.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 259 THRU 262**

NOTE:

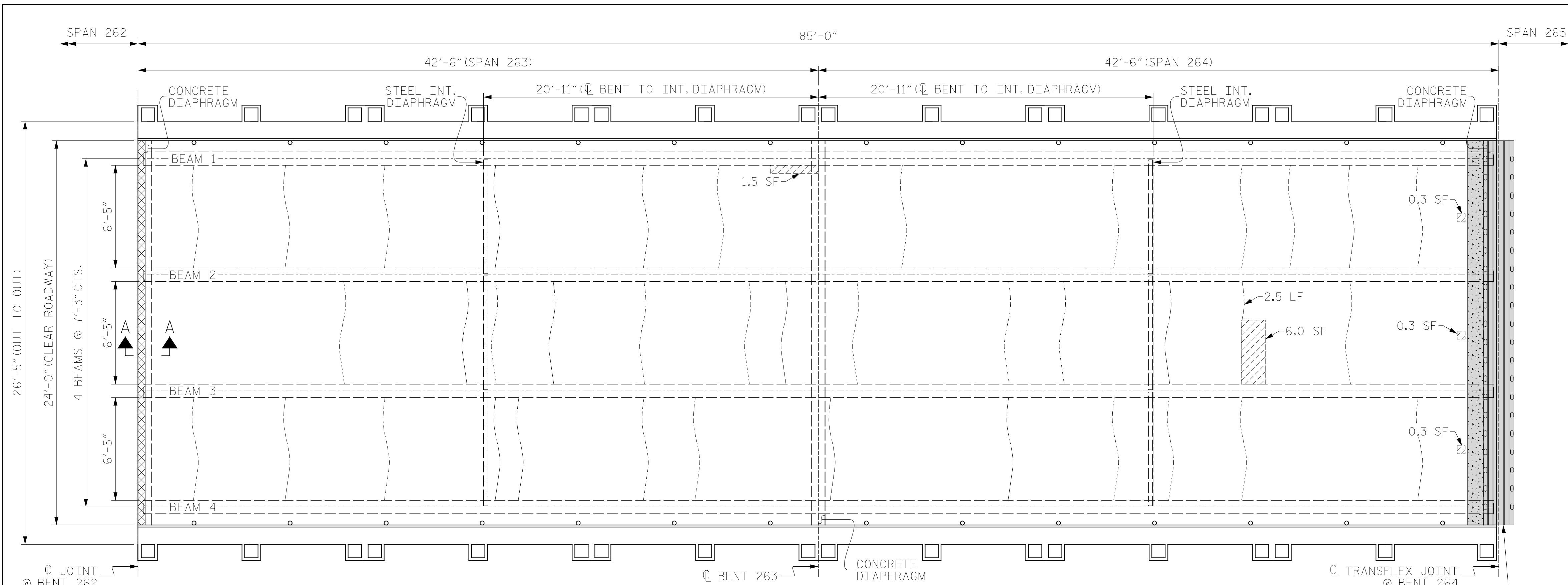
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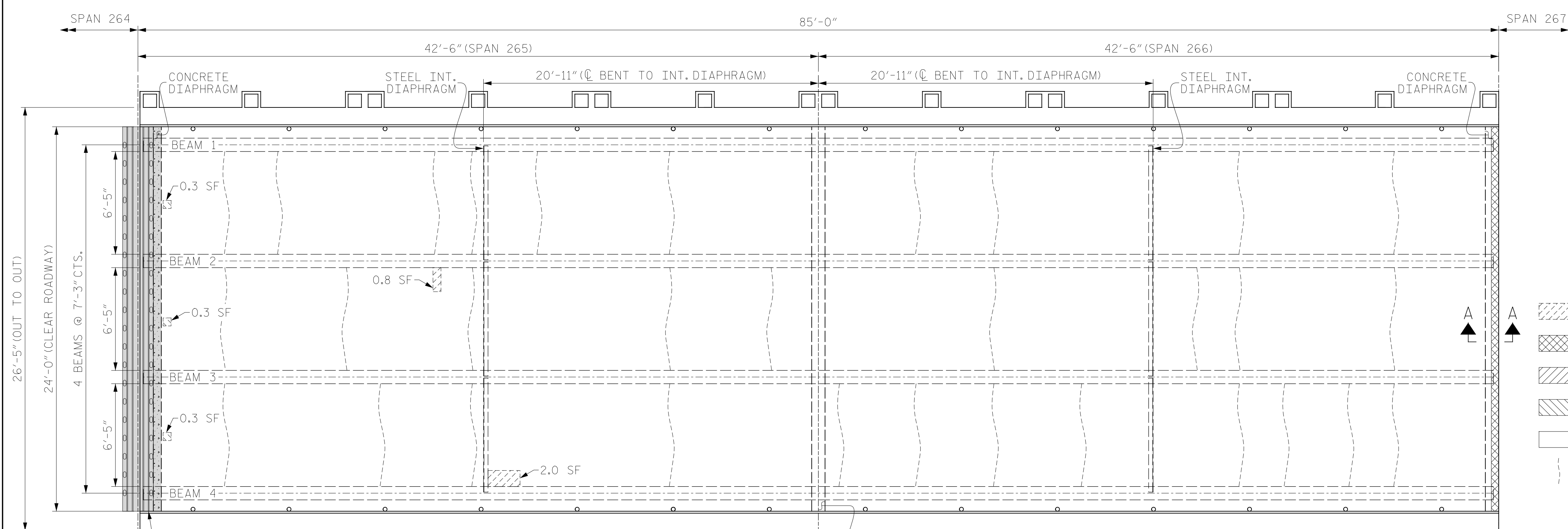
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PLAN OF SPAN 263

PLAN OF SPAN 264



PLAN OF SPAN 265

PLAN OF SPAN 266

SUMMARY OF QUANTITIES FOR SPAN 263		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.5 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	128.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

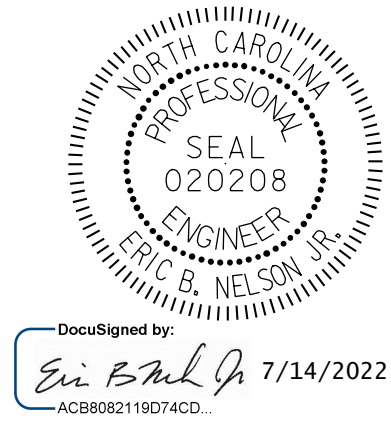
SUMMARY OF QUANTITIES FOR SPAN 264		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.3 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	111.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	108.2 SY	
MMA OVERLAY SYSTEM	973.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 265		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.3 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	96.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	109.5 SY	
MMA OVERLAY SYSTEM	985.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 266		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	102.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 SPANS 263 THRU 266

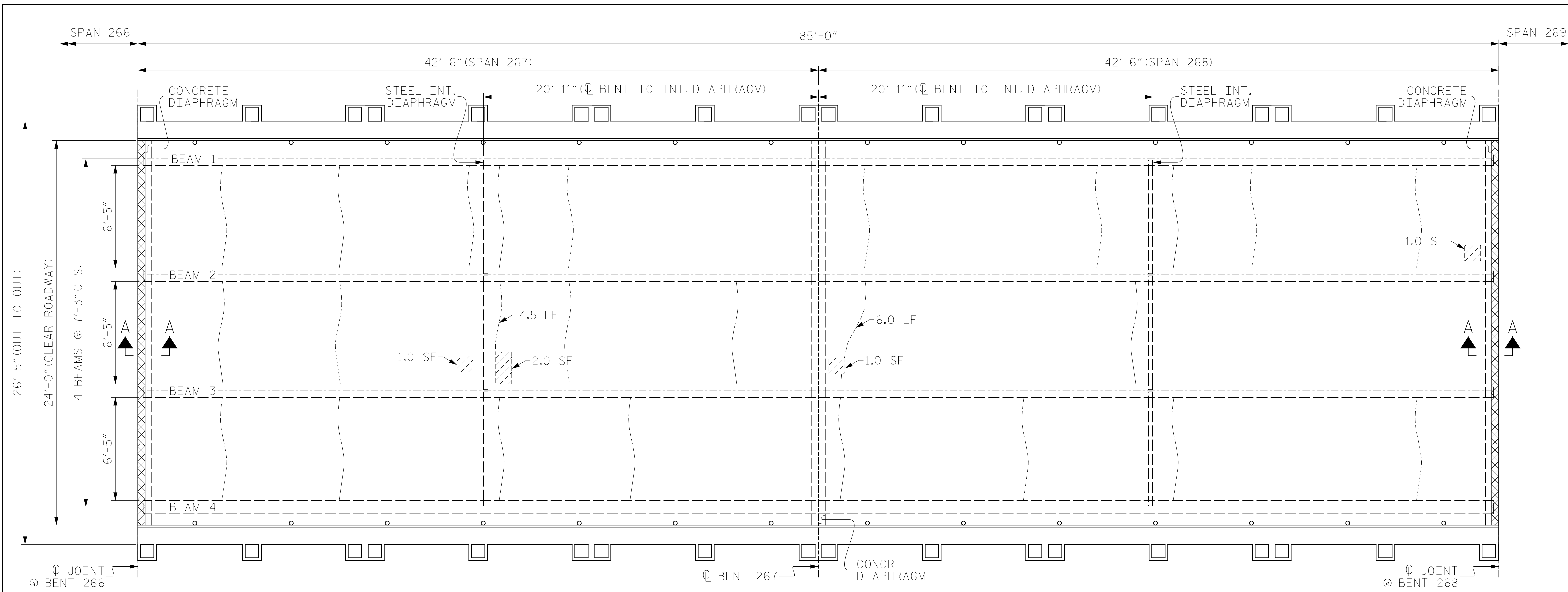
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DRAWN BY: M. SPENCER DATE: 12/2018
 CHECKED BY: J. FARNHAM DATE: 03/2019



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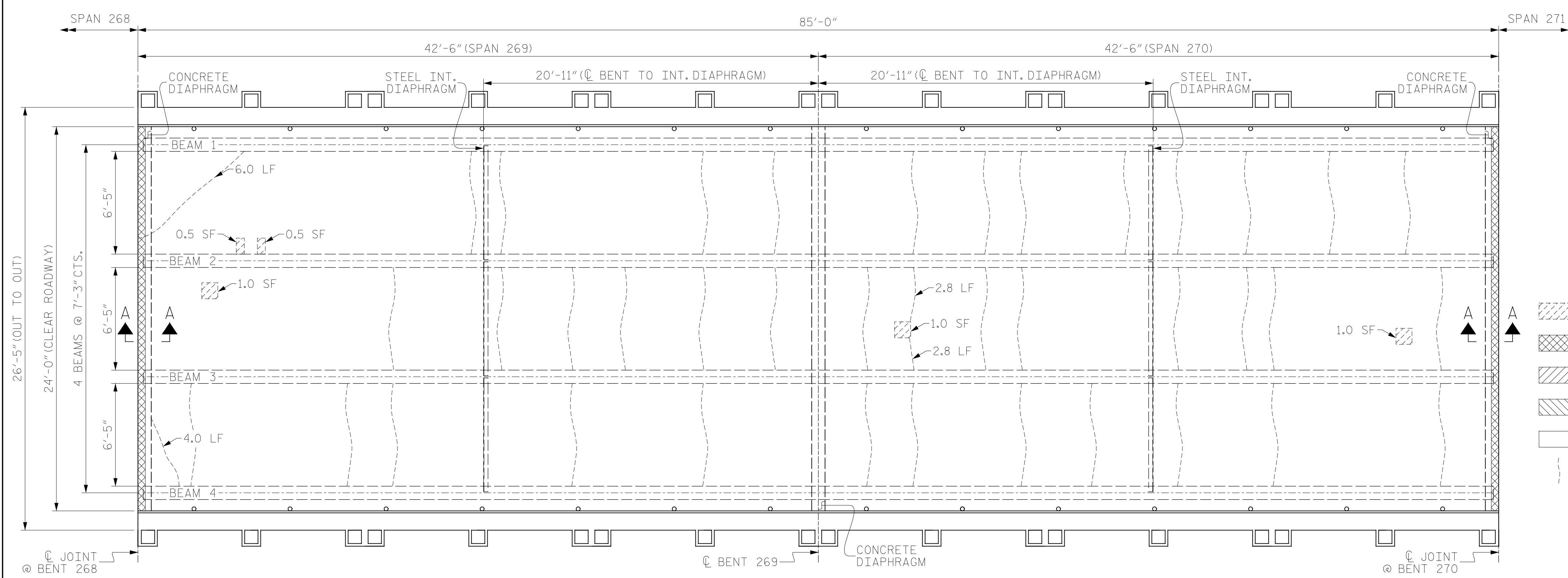
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SUMMARY OF QUANTITIES FOR SPAN 267		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	87.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 268		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	70.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

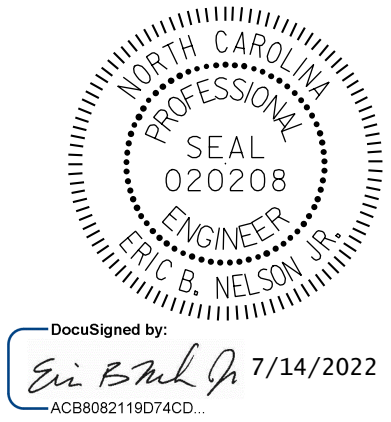
SUMMARY OF QUANTITIES FOR SPAN 269		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	106.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 270		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	146.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 RALEIGH

**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 267 THRU 270**

NOTE:

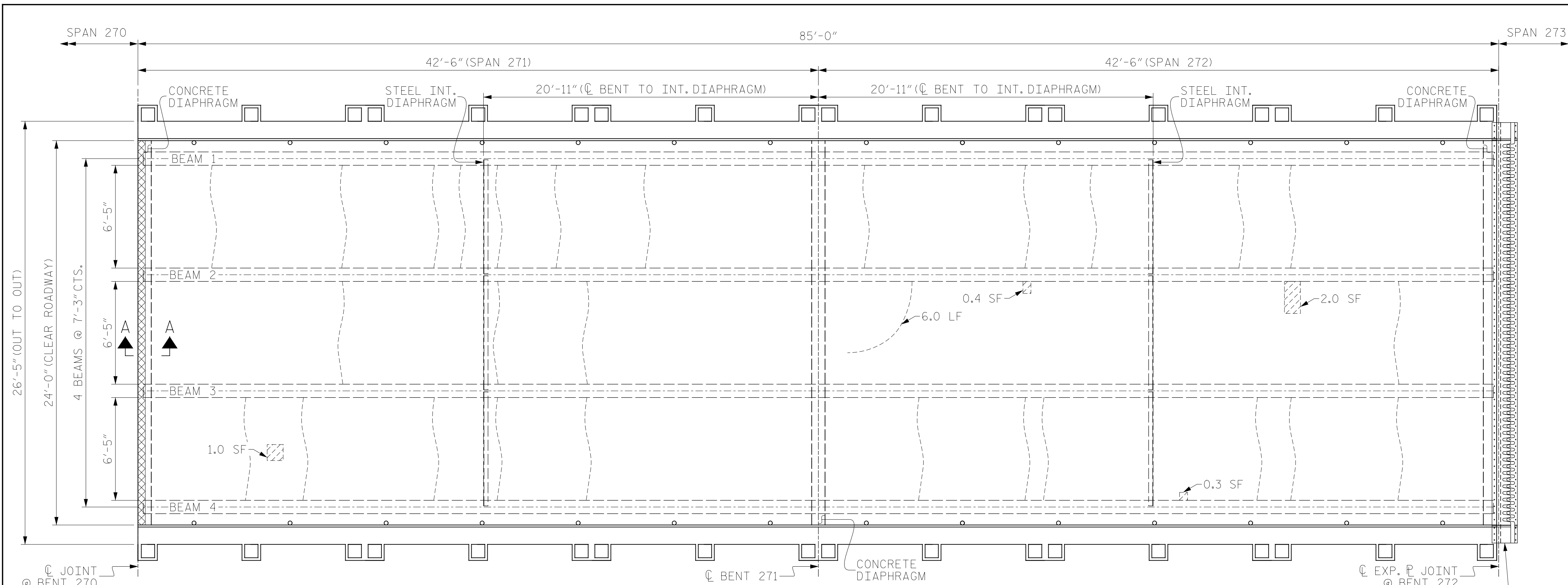
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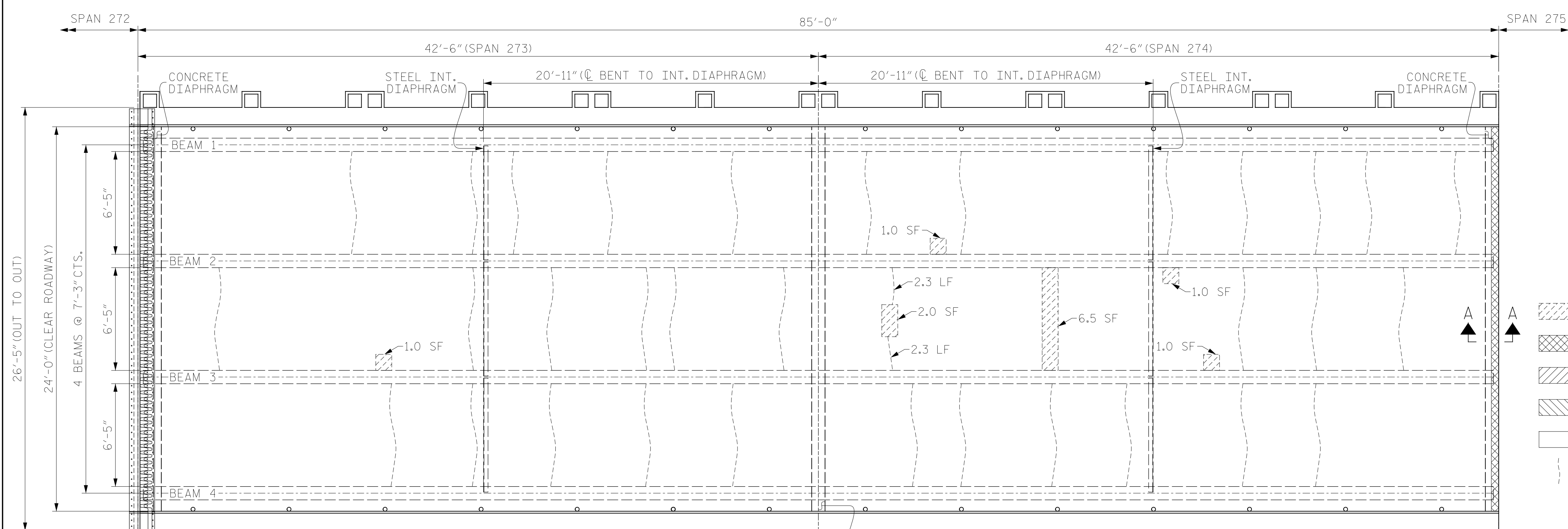
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PLAN OF SPAN 271

PLAN OF SPAN 272



PLAN OF SPAN 273

PLAN OF SPAN 274

SUMMARY OF QUANTITIES FOR SPAN 271		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	96.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

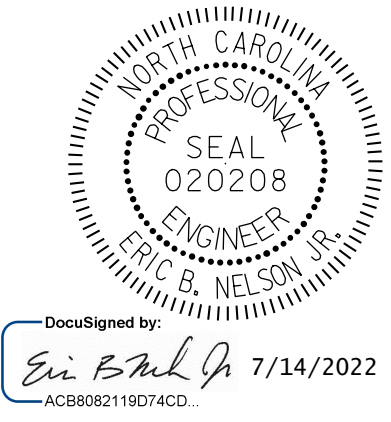
SUMMARY OF QUANTITIES FOR SPAN 272		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.9 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	83.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 273		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	102.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 274		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	107.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 COUNTY DARE
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 271 THRU 274

NOTE:

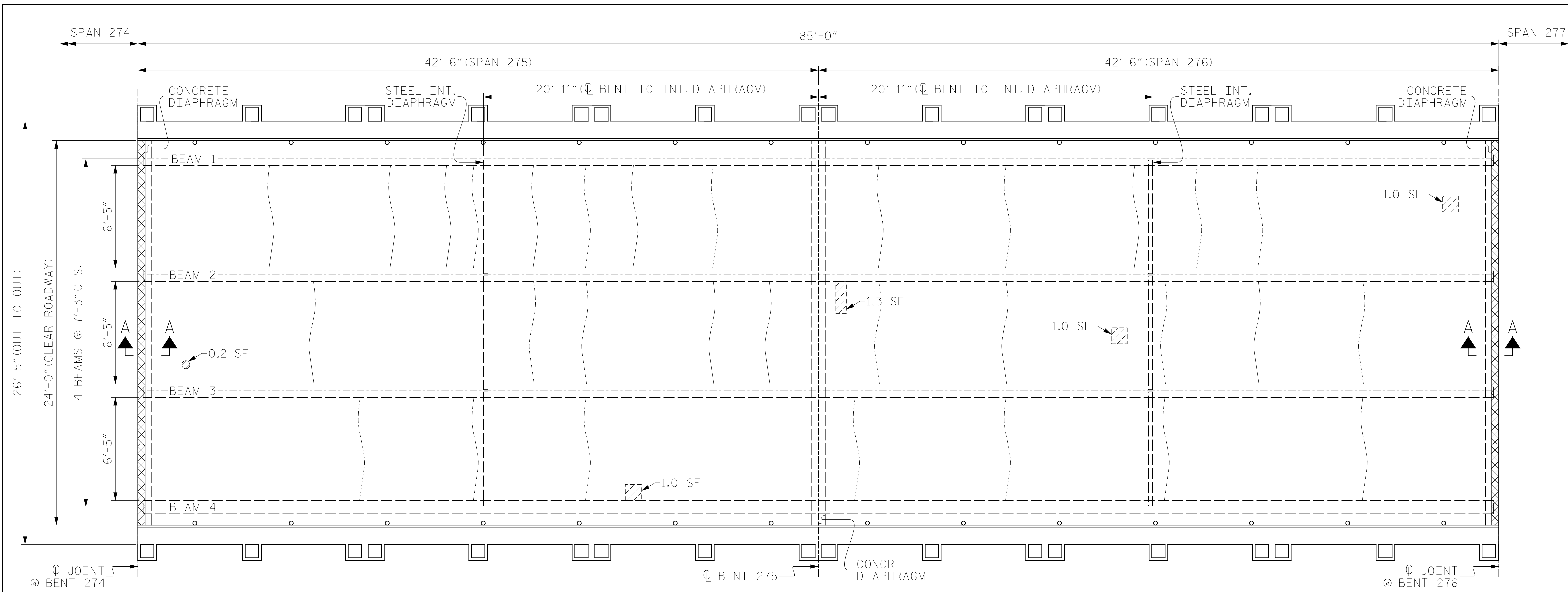
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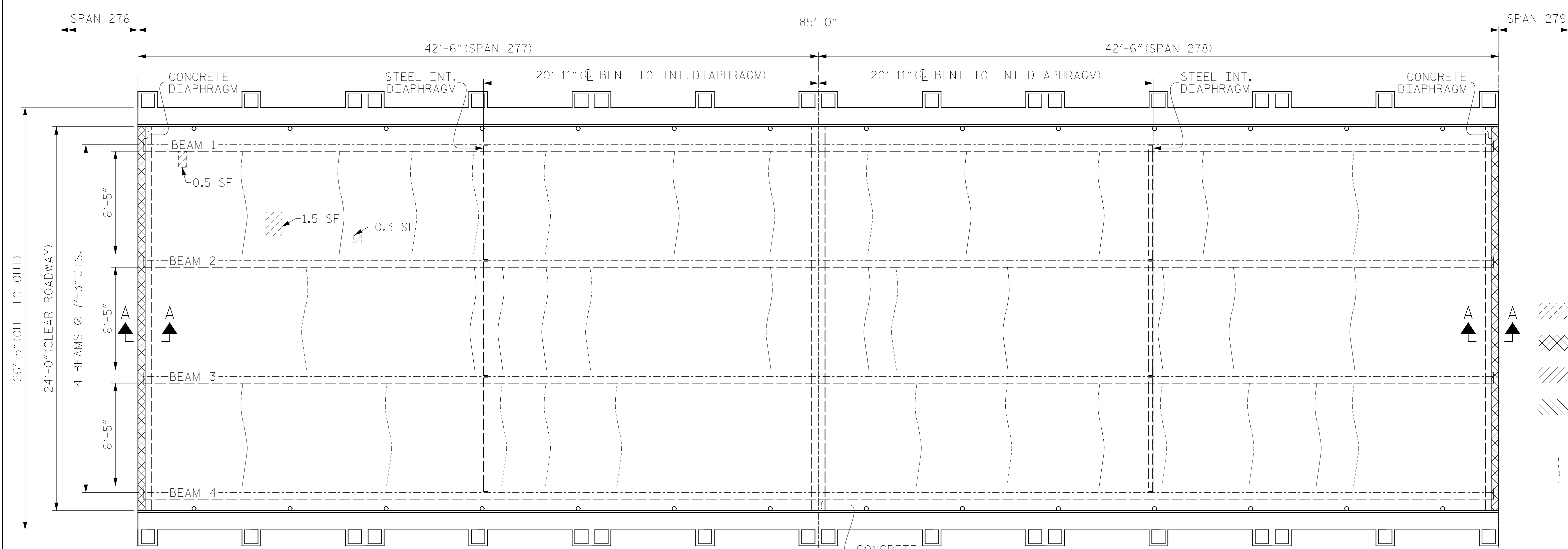
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PLAN OF SPAN 275

PLAN OF SPAN 276



PLAN OF SPAN 277

PLAN OF SPAN 278

SUMMARY OF QUANTITIES FOR SPAN 275		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	0.1 SY	
CLASS III SURFACE PREPARATION	02 CF	
CONCRETE DECK REPAIR FOR MMA OVERLAY	0.1 CF	
CRACK PRETREATMENT	102.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 276		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.1 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 277		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.8 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	115.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 278		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	115.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION
 & UNDERDECK REPAIRS
 SPANS 275 THRU 278

NOTE:

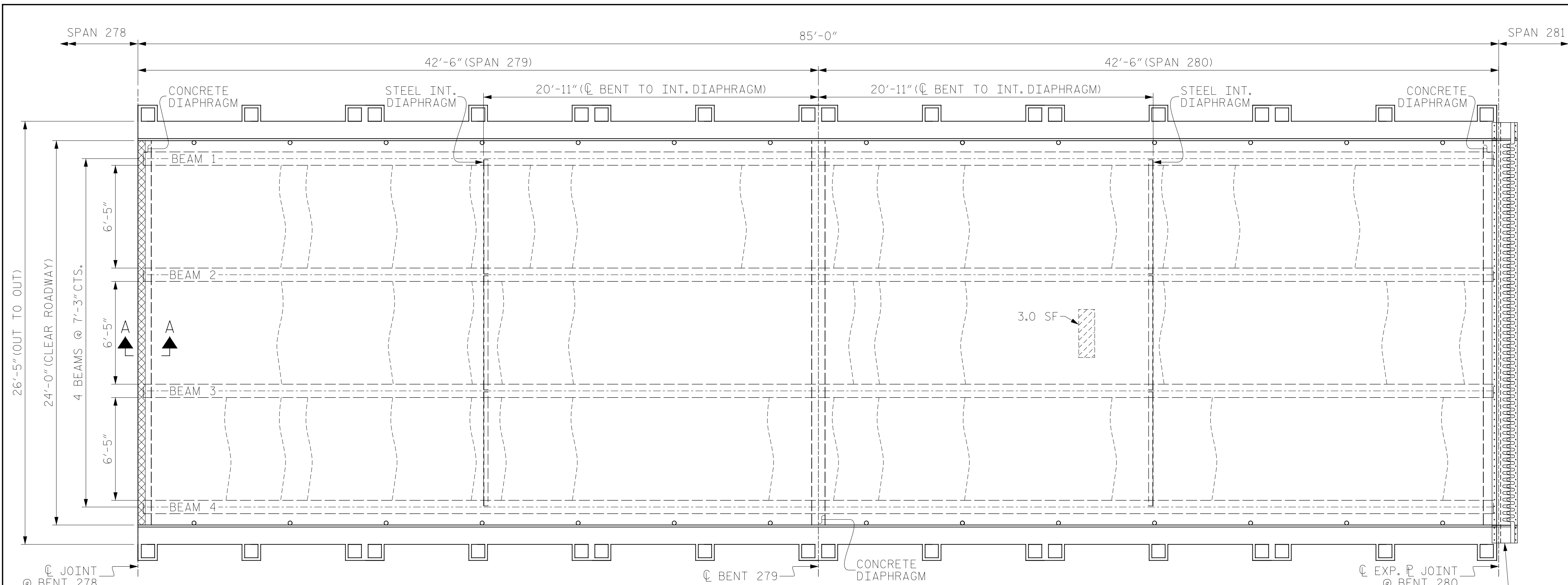
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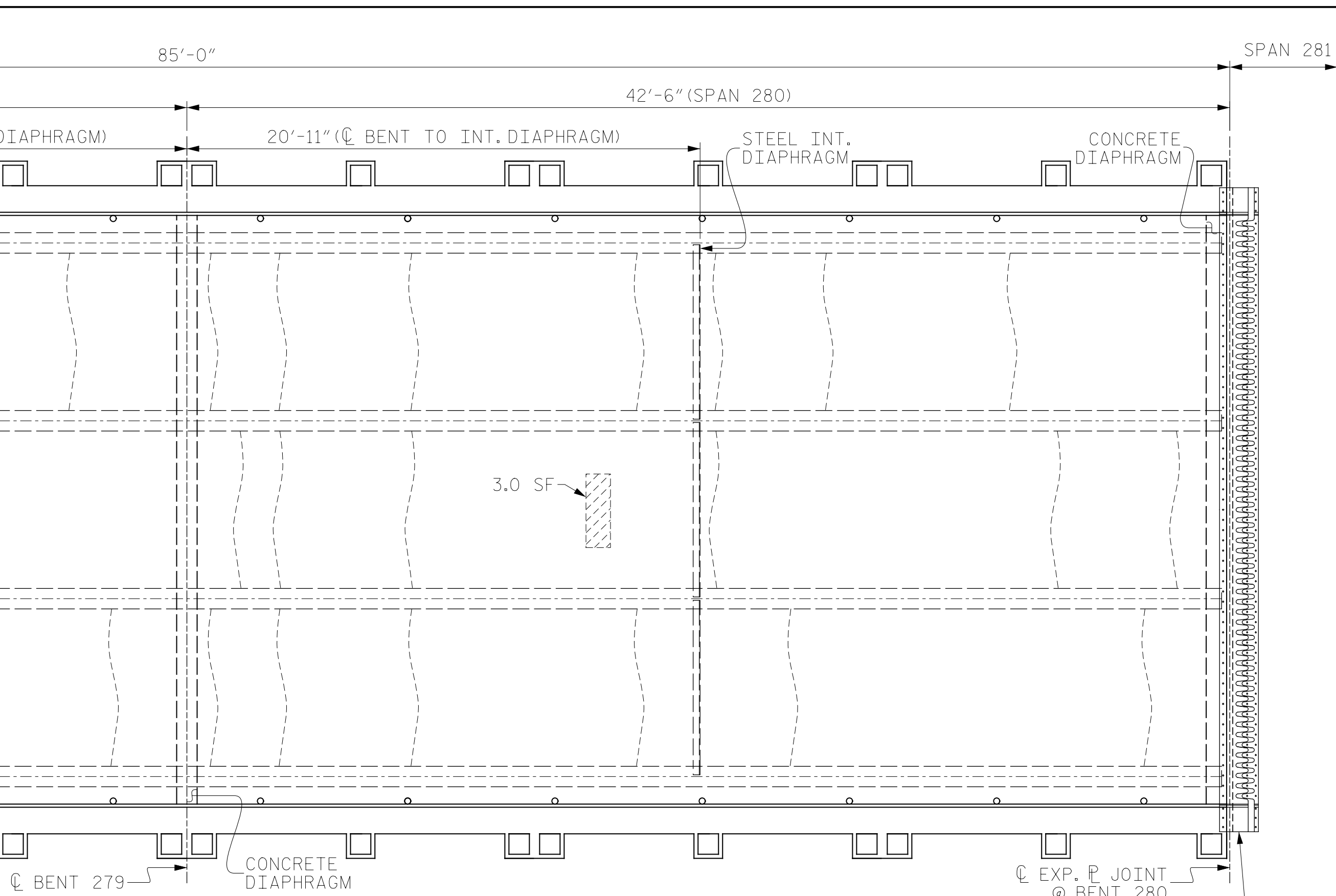


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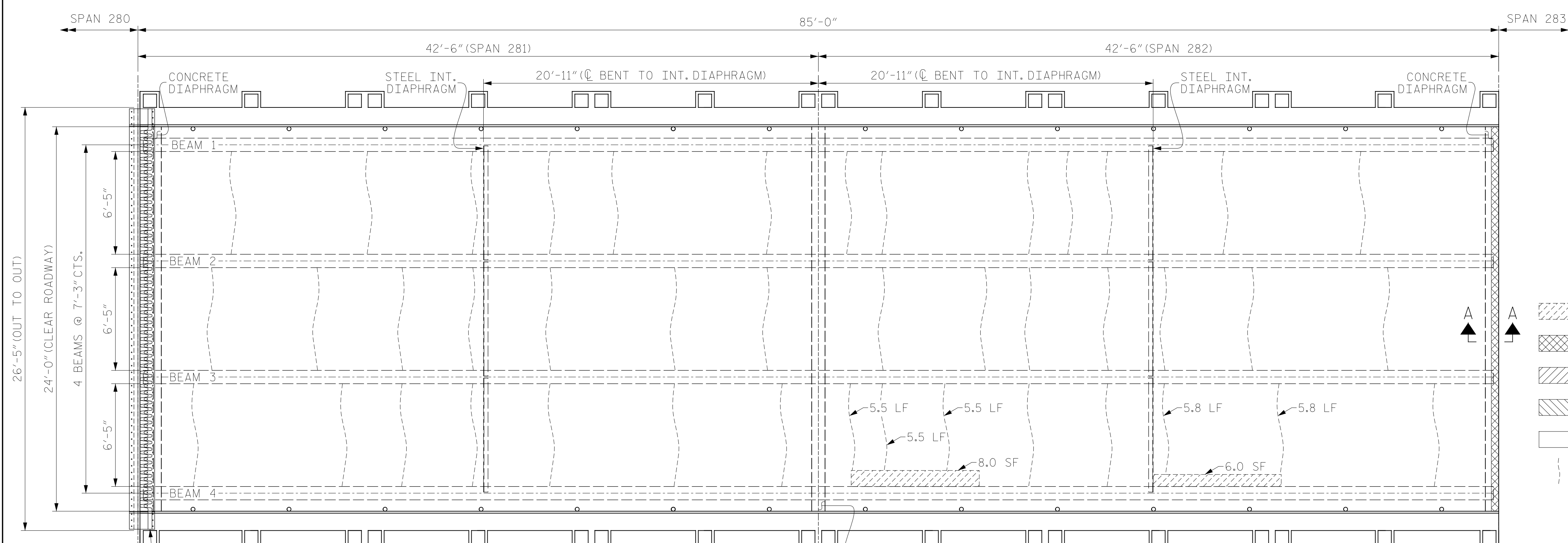
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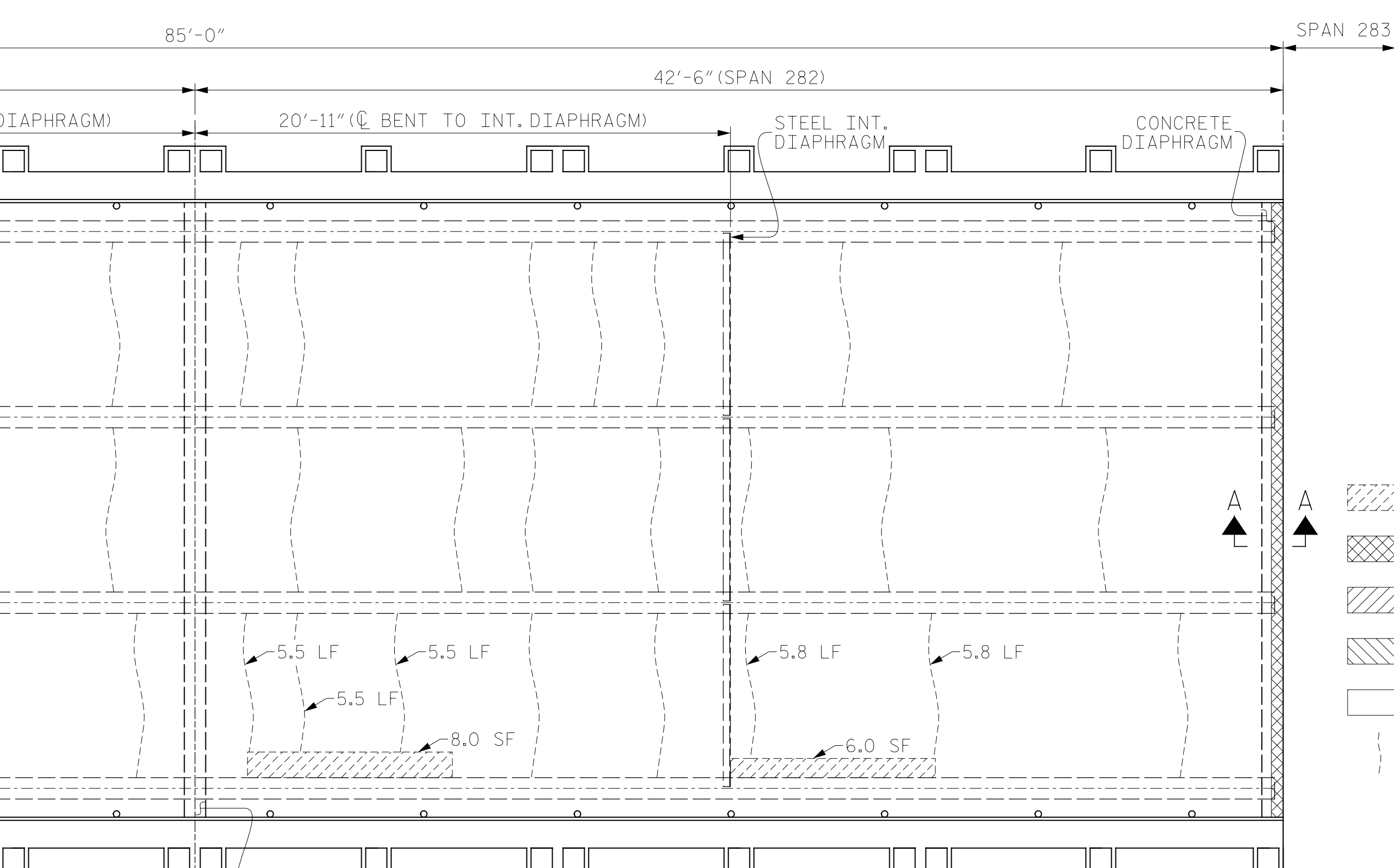
PLAN OF SPAN 279



PLAN OF SPAN 280



PLAN OF SPAN 281



PLAN OF SPAN 282

SUMMARY OF QUANTITIES FOR SPAN 279		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	128.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

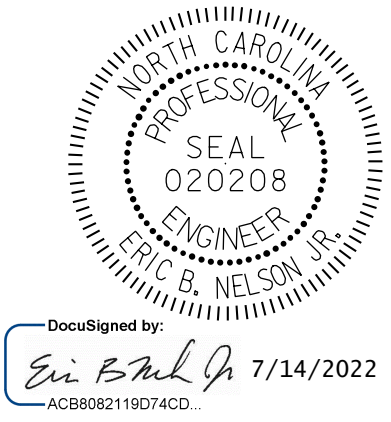
SUMMARY OF QUANTITIES FOR SPAN 280		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	121.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 281		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	128.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 282		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	4.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	137.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 279 THRU 282

NOTE:

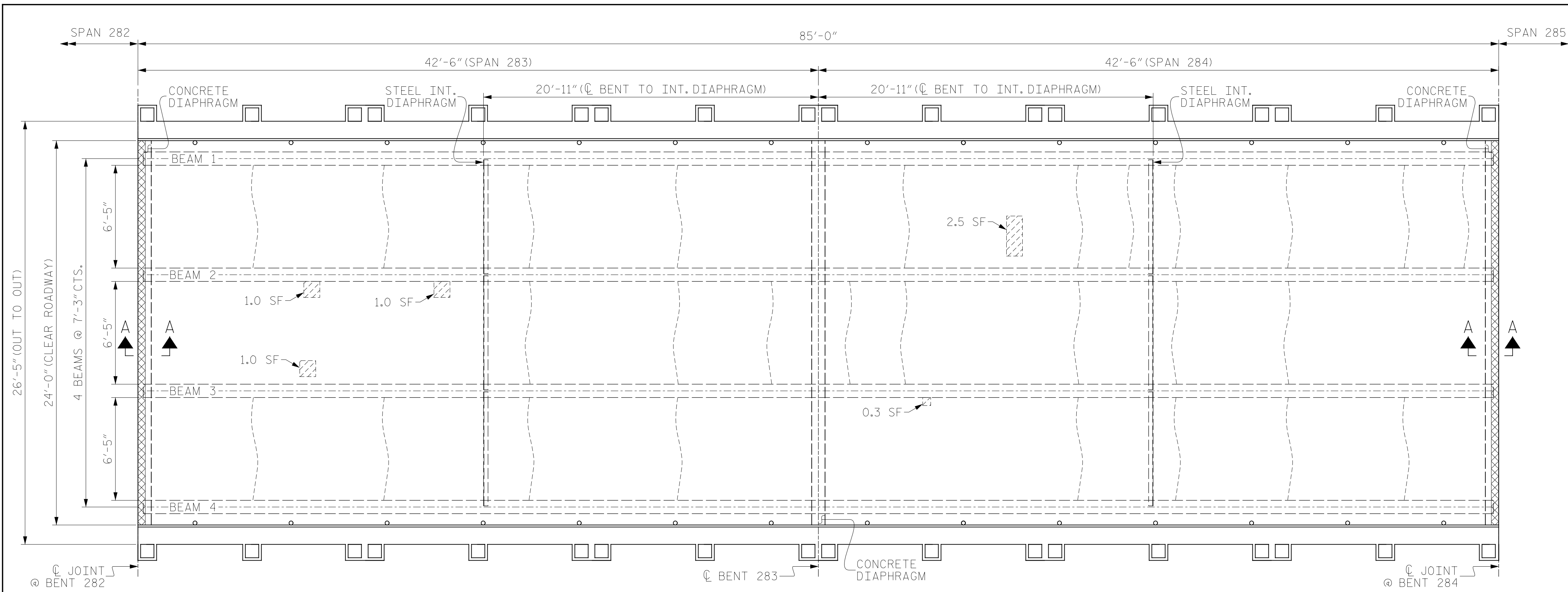
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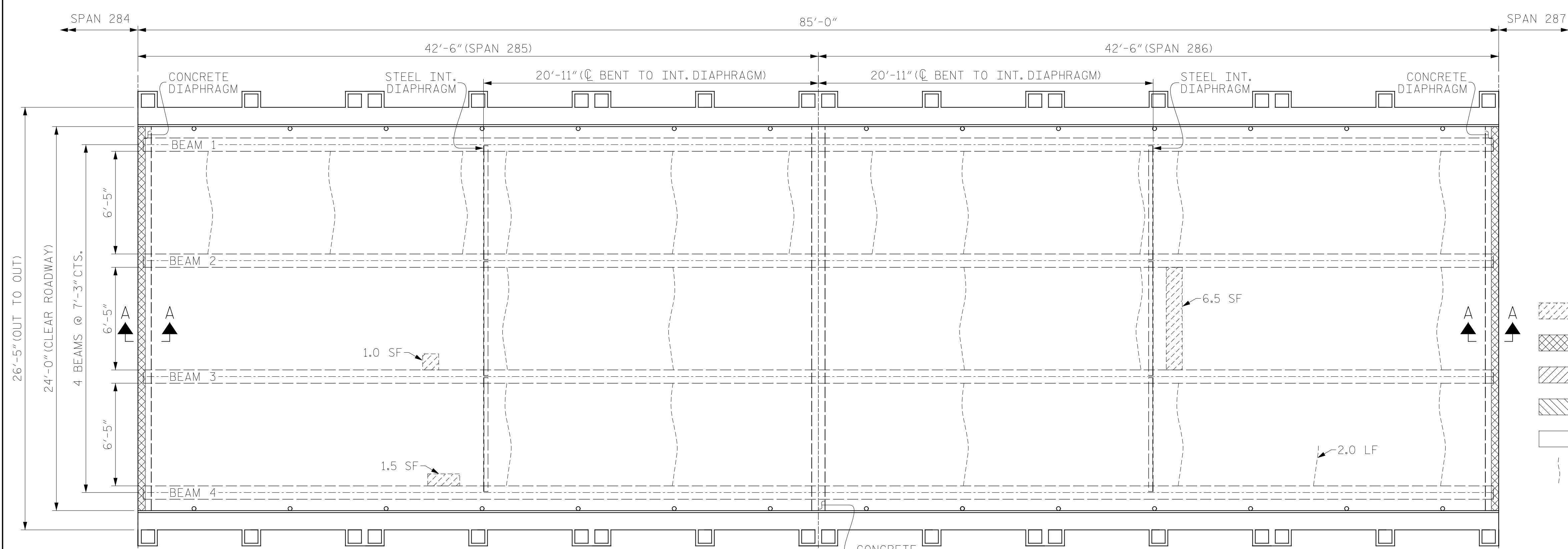
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PLAN OF SPAN 283

PLAN OF SPAN 284



PLAN OF SPAN 285

PLAN OF SPAN 286

SUMMARY OF QUANTITIES FOR SPAN 283		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	70.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 284		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	102.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 285		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	64.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 286		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.2 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	72.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 283 THRU 286

NOTE:

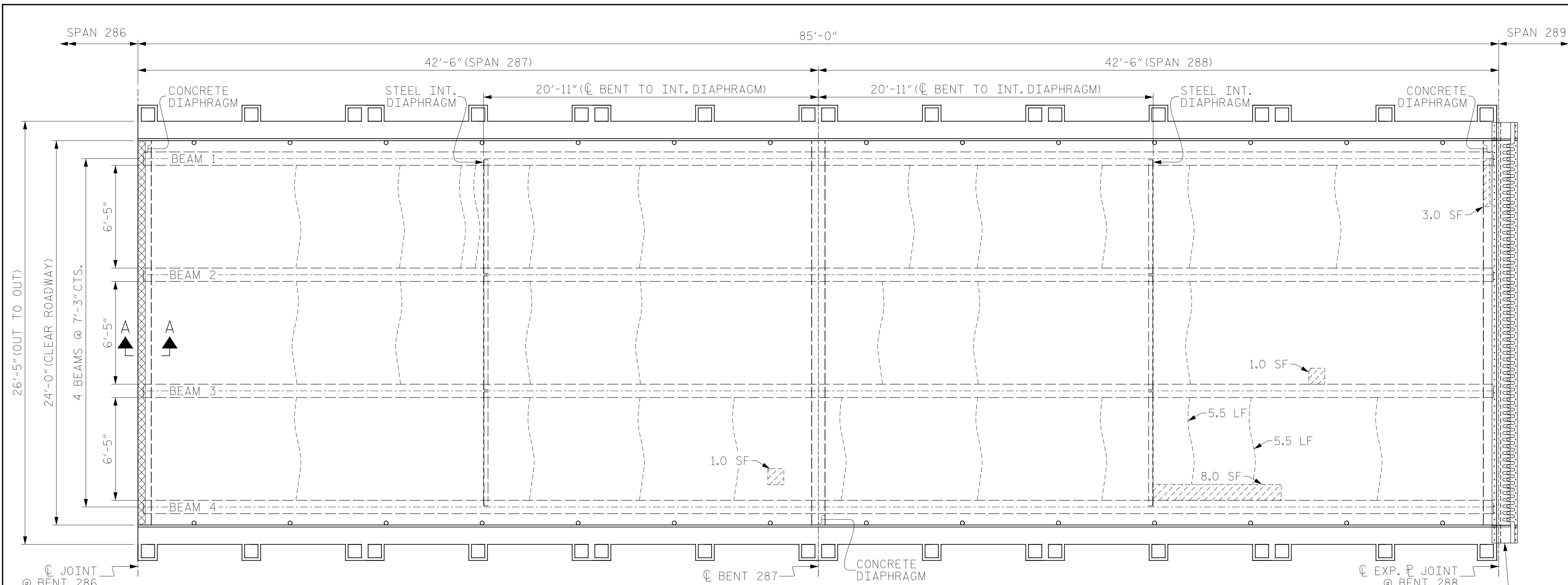
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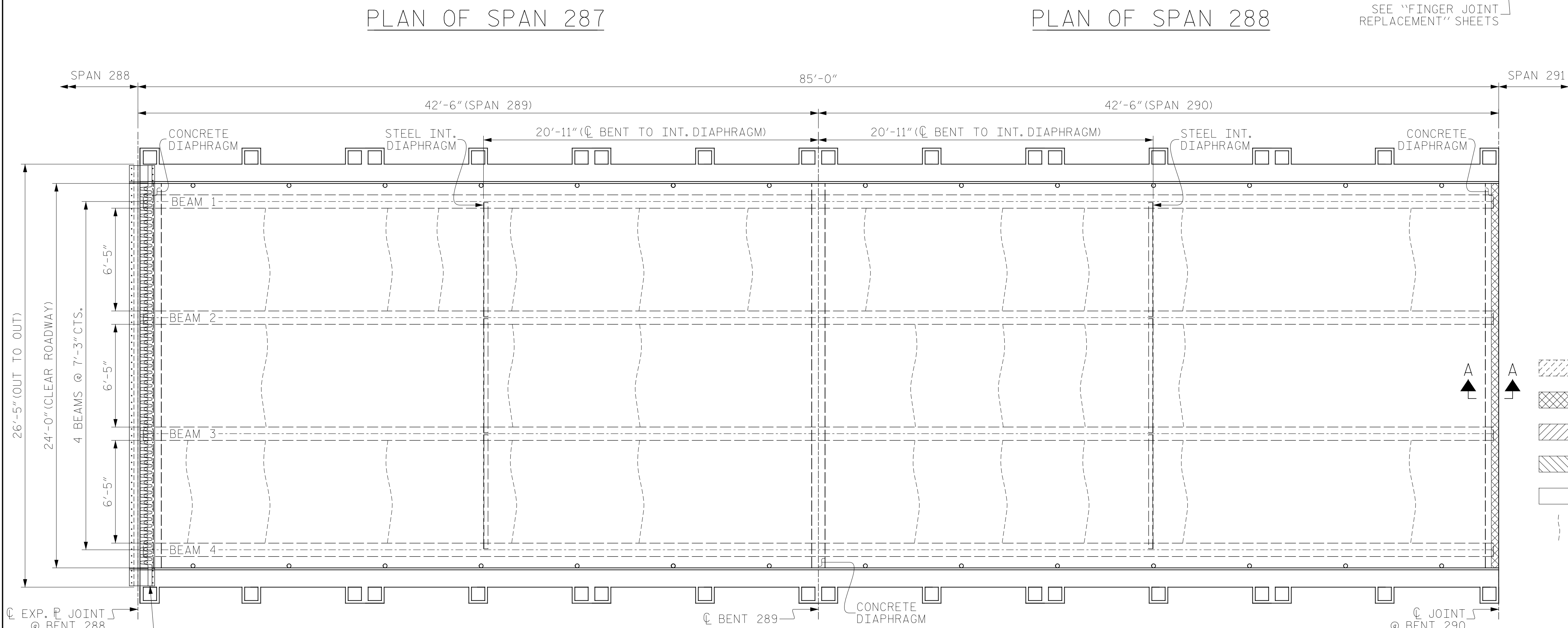
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SUMMARY OF QUANTITIES FOR SPAN 287		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 288		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	3.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	88.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

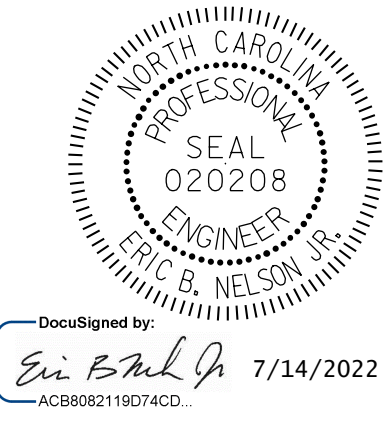
SUMMARY OF QUANTITIES FOR SPAN 289		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	



SUMMARY OF QUANTITIES FOR SPAN 290		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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**SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 287 THRU 290**

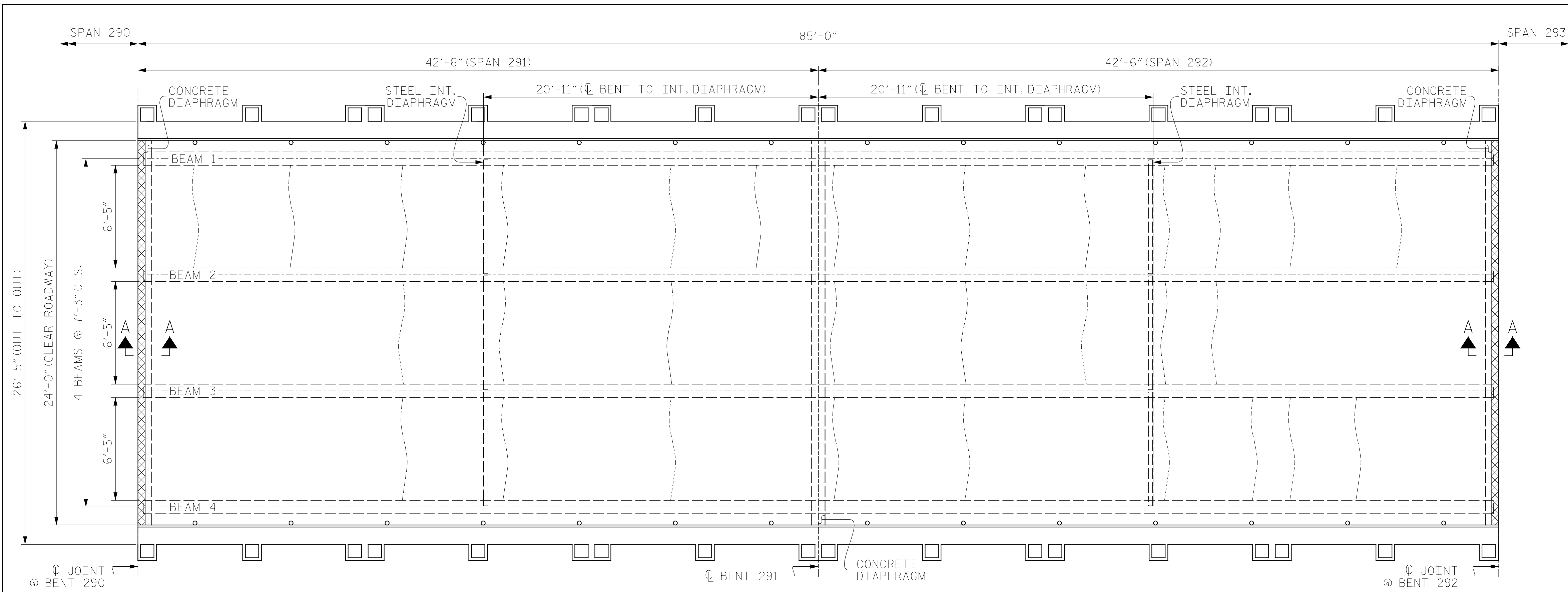
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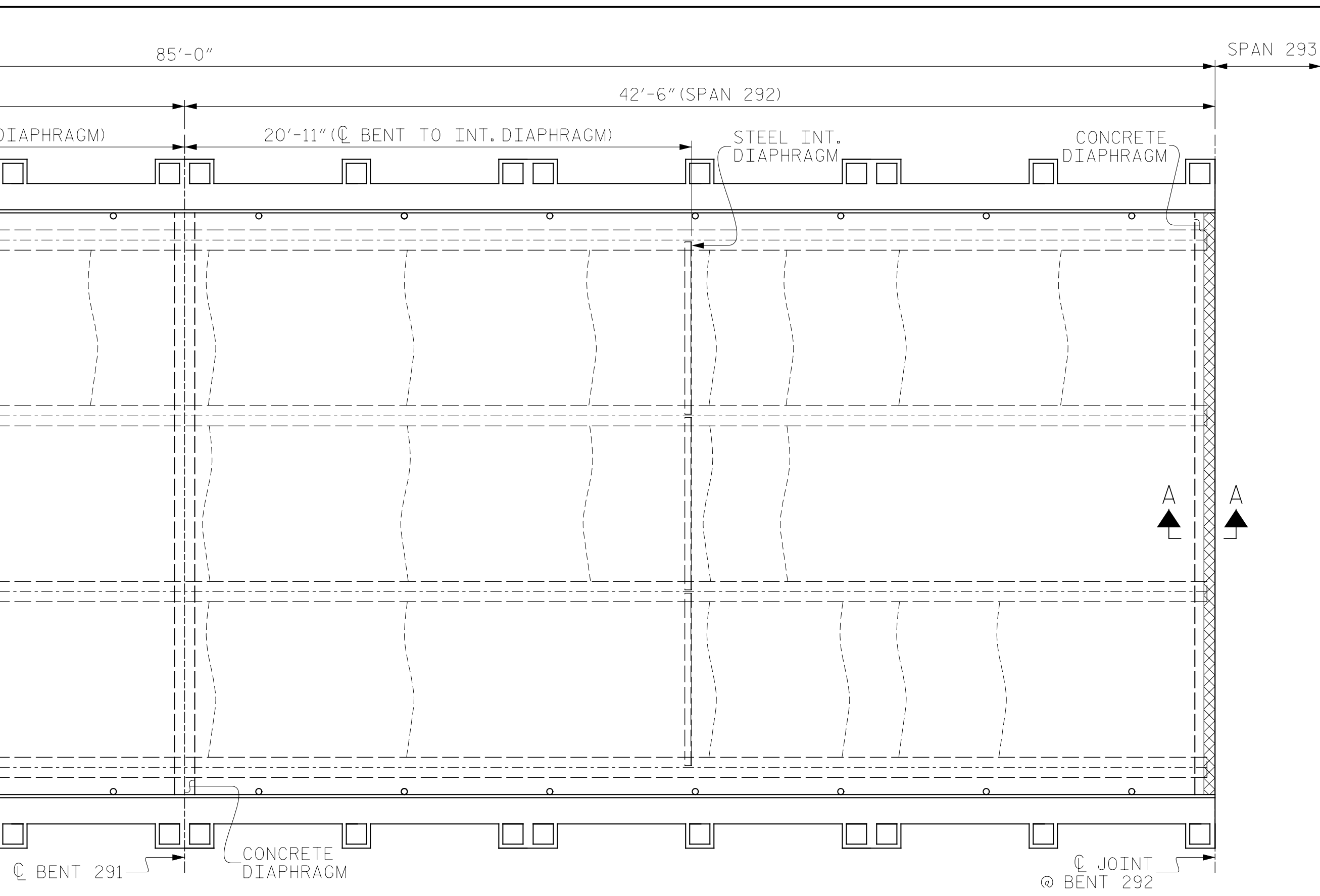


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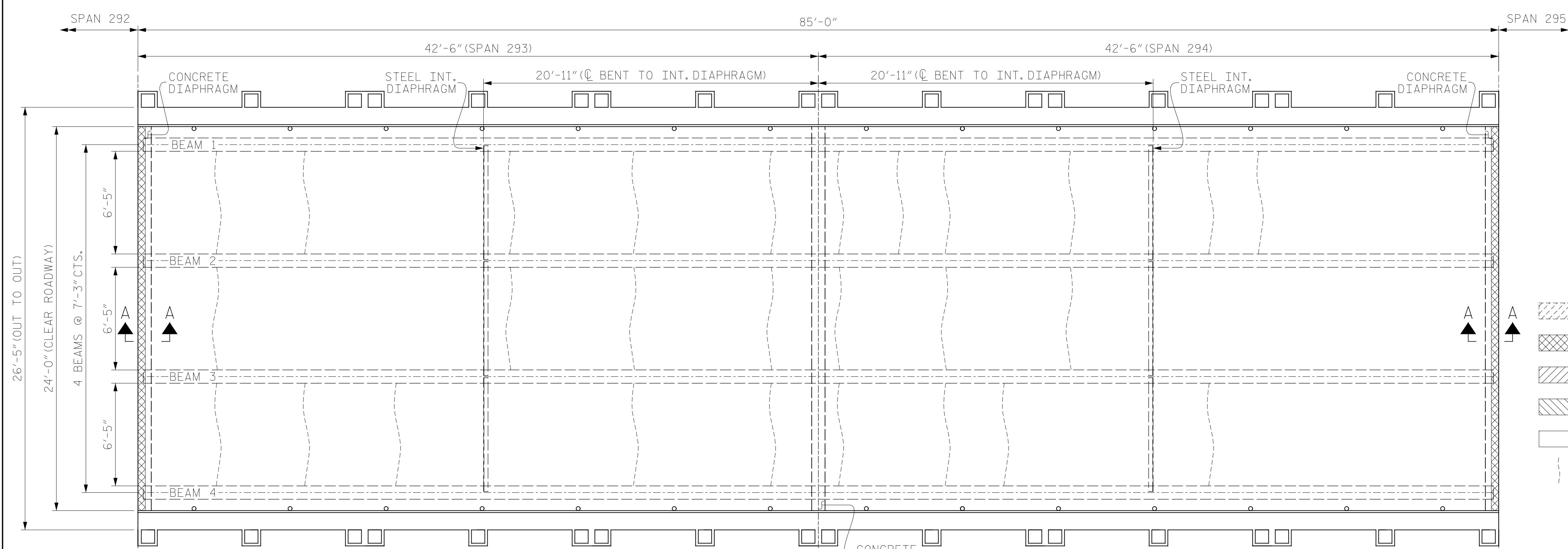
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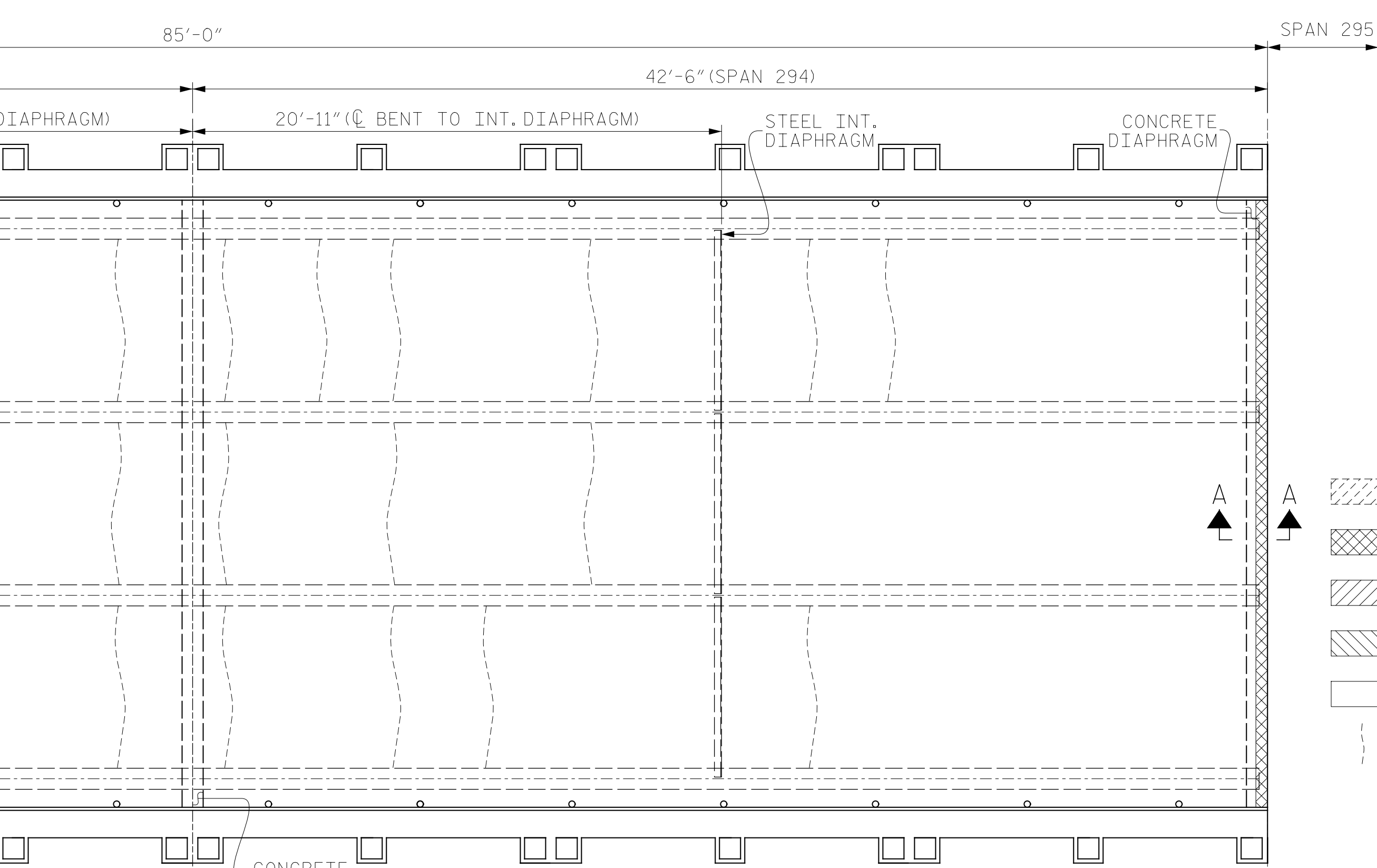
PLAN OF SPAN 291



PLAN OF SPAN 292



PLAN OF SPAN 293



PLAN OF SPAN 294

SUMMARY OF QUANTITIES FOR SPAN 291		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	77.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

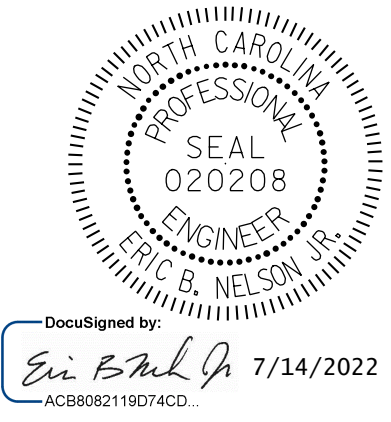
SUMMARY OF QUANTITIES FOR SPAN 292		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	115.5 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 293		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 294		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	83.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 291 THRU 294

NOTE:

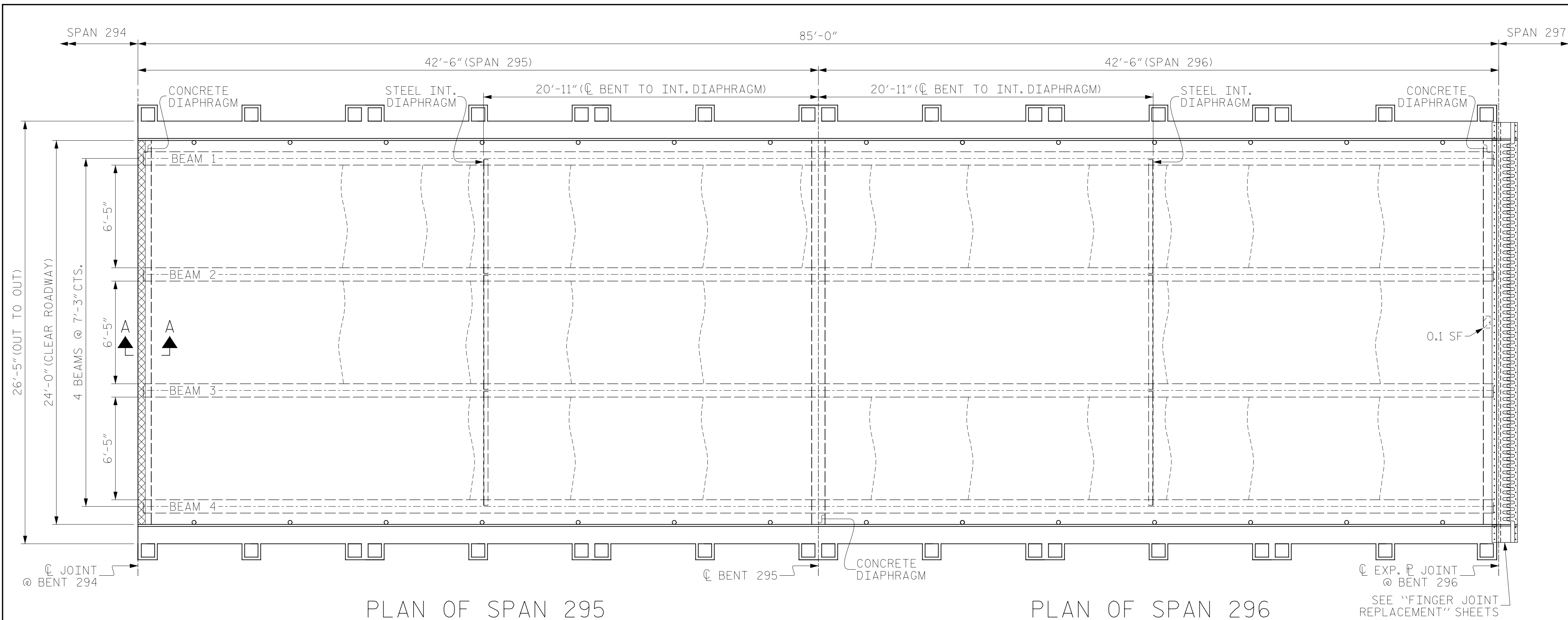
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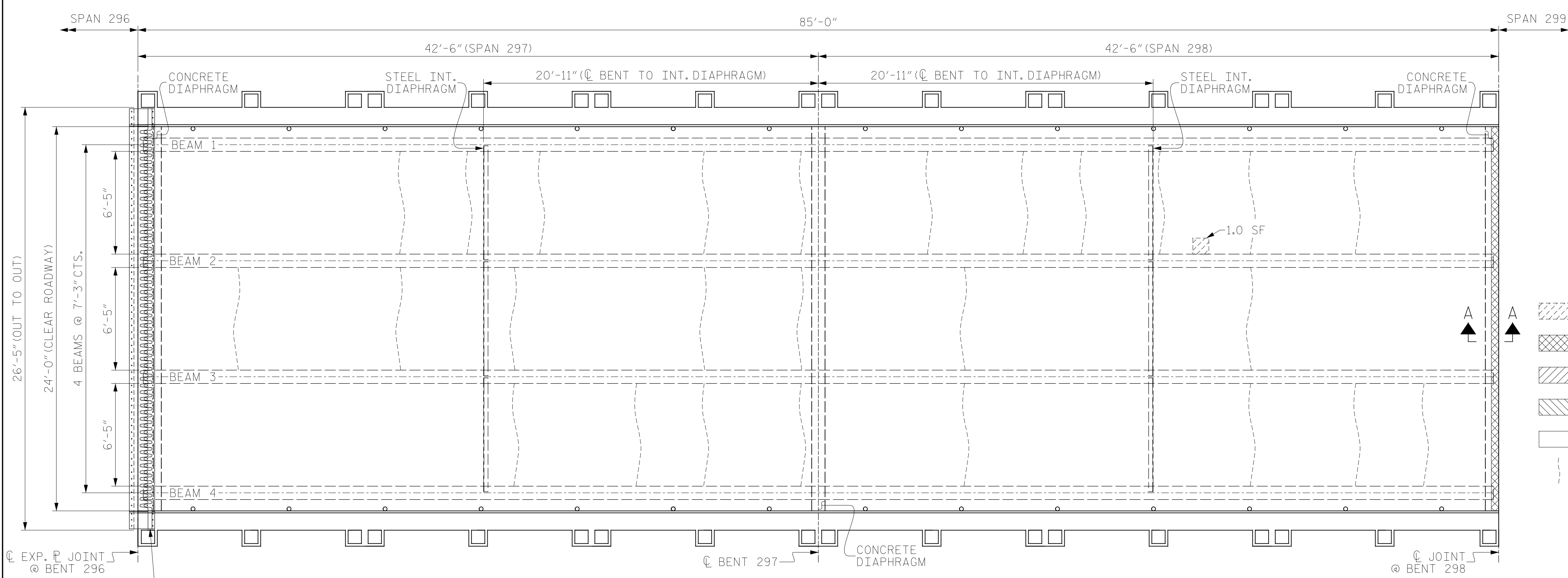
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PLAN OF SPAN 295

PLAN OF SPAN 296



PLAN OF SPAN 297

PLAN OF SPAN 298

SUMMARY OF QUANTITIES FOR SPAN 295		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	83.4 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 296		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.5 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 297		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 298		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	77.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 295 THRU 298

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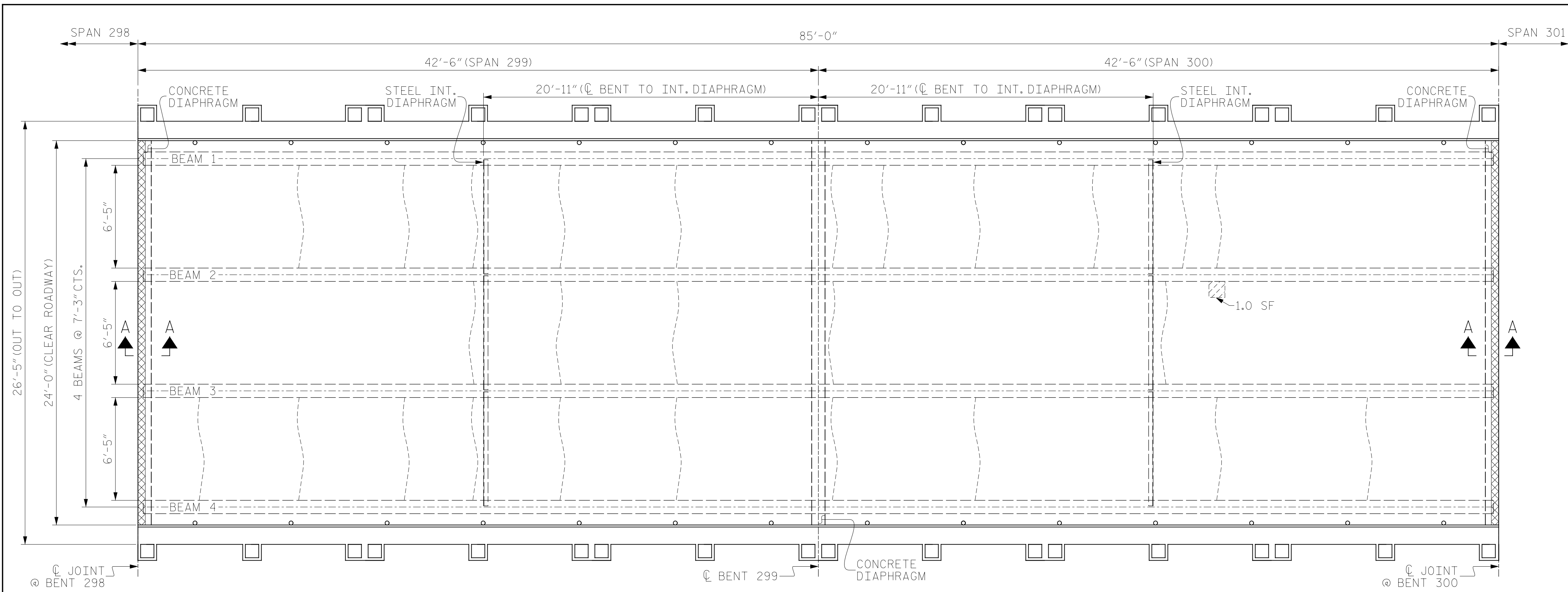
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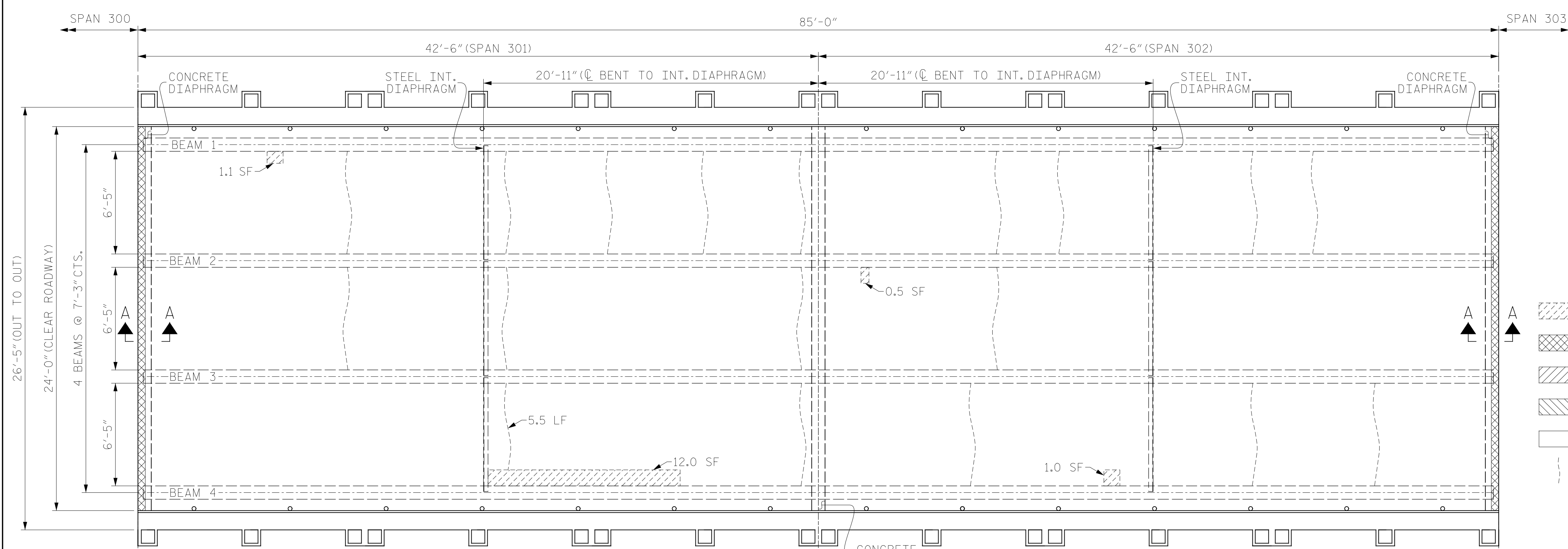
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PLAN OF SPAN 299

PLAN OF SPAN 300



PLAN OF SPAN 301

PLAN OF SPAN 302

SUMMARY OF QUANTITIES FOR SPAN 299		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	89.8 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

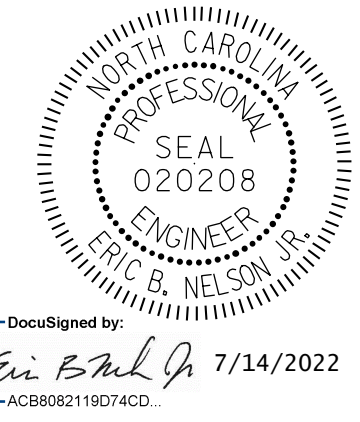
SUMMARY OF QUANTITIES FOR SPAN 300		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	77.0 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 301		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	4.4 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	63.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 302		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.5 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 299 THRU 302

NOTE:

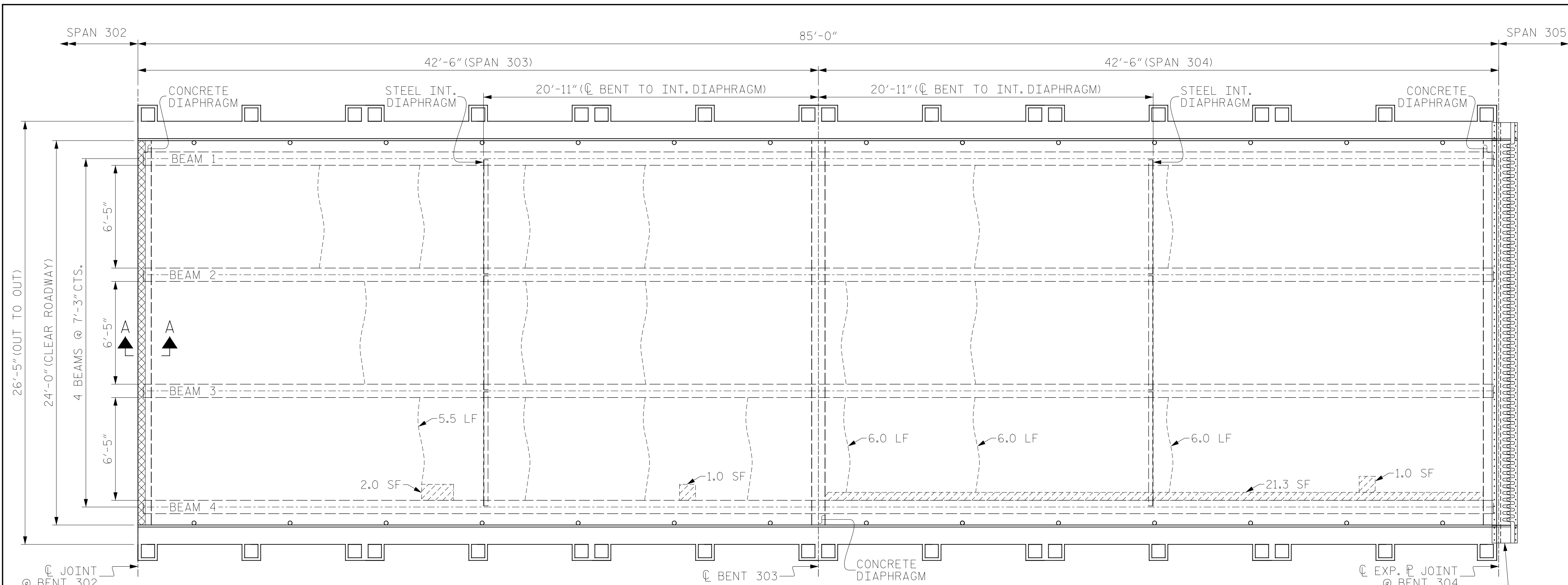
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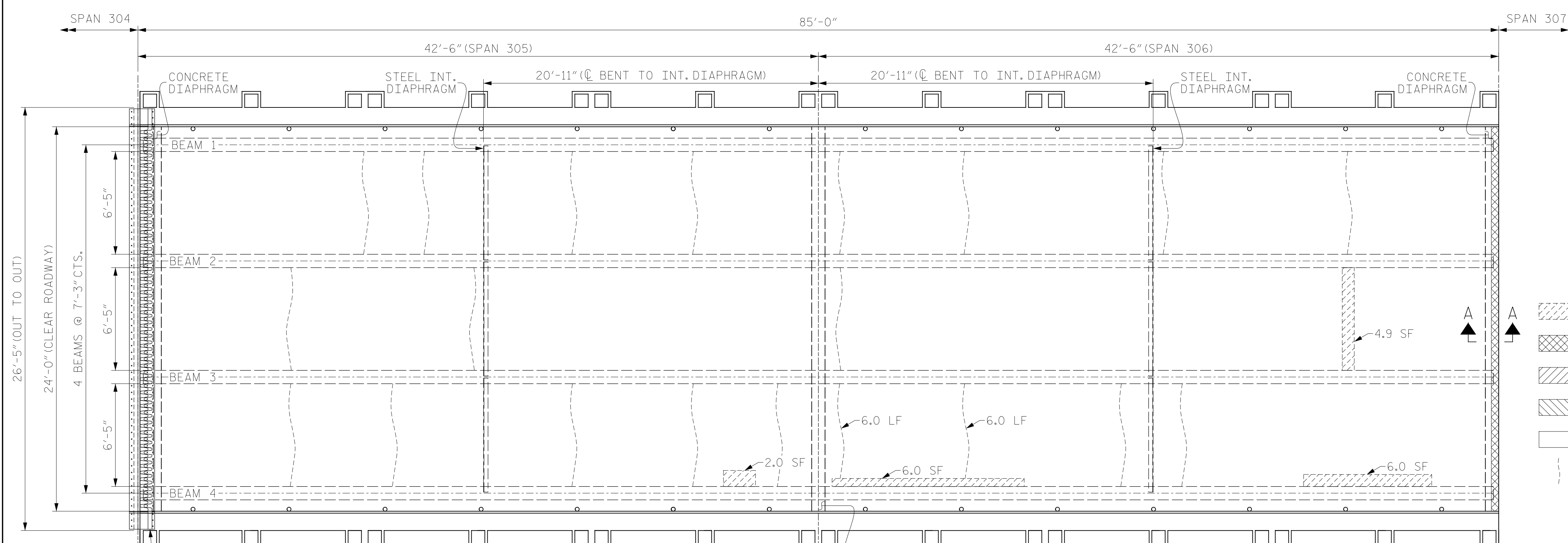
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PLAN OF SPAN 303

PLAN OF SPAN 304



PLAN OF SPAN 305

PLAN OF SPAN 306

SUMMARY OF QUANTITIES FOR SPAN 303		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.0 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	69.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

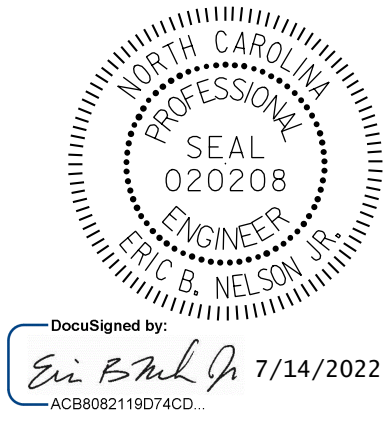
SUMMARY OF QUANTITIES FOR SPAN 304		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	7.5 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	43.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 305		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	0.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	70.6 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 306		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	5.7 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	56.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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 COUNTY DARE
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 303 THRU 306

NOTE:

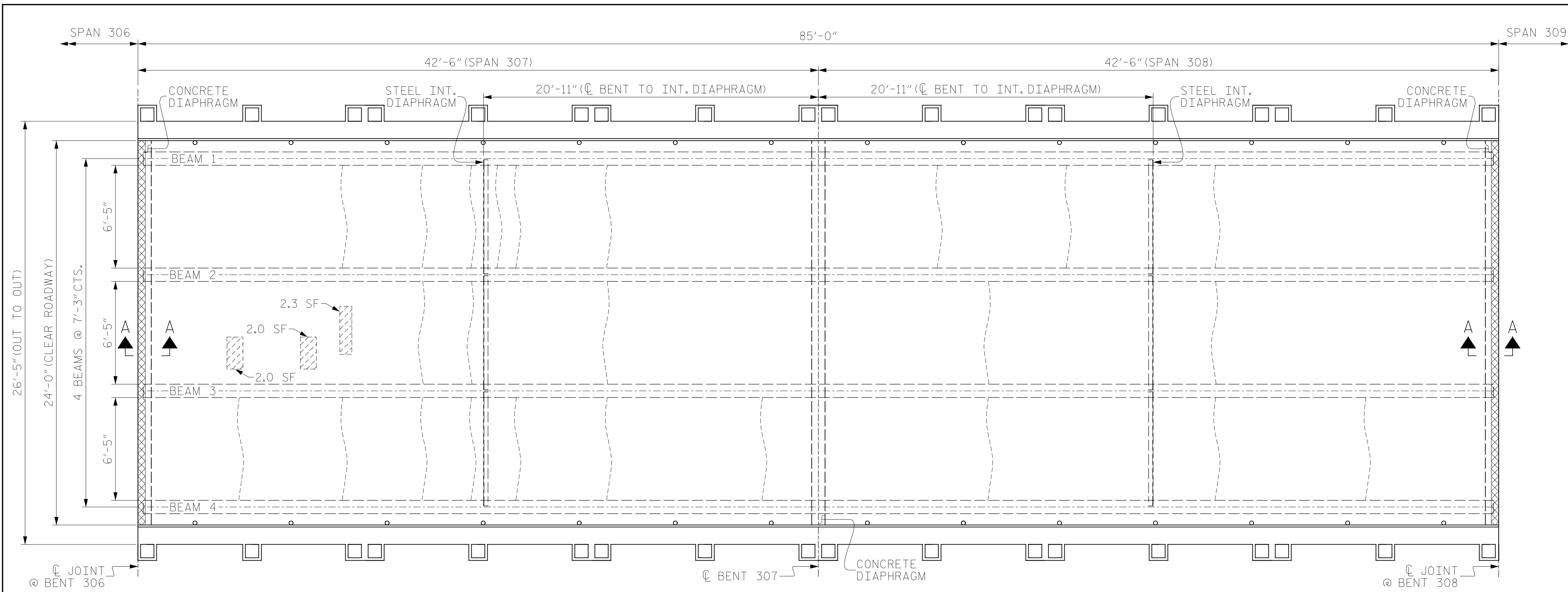
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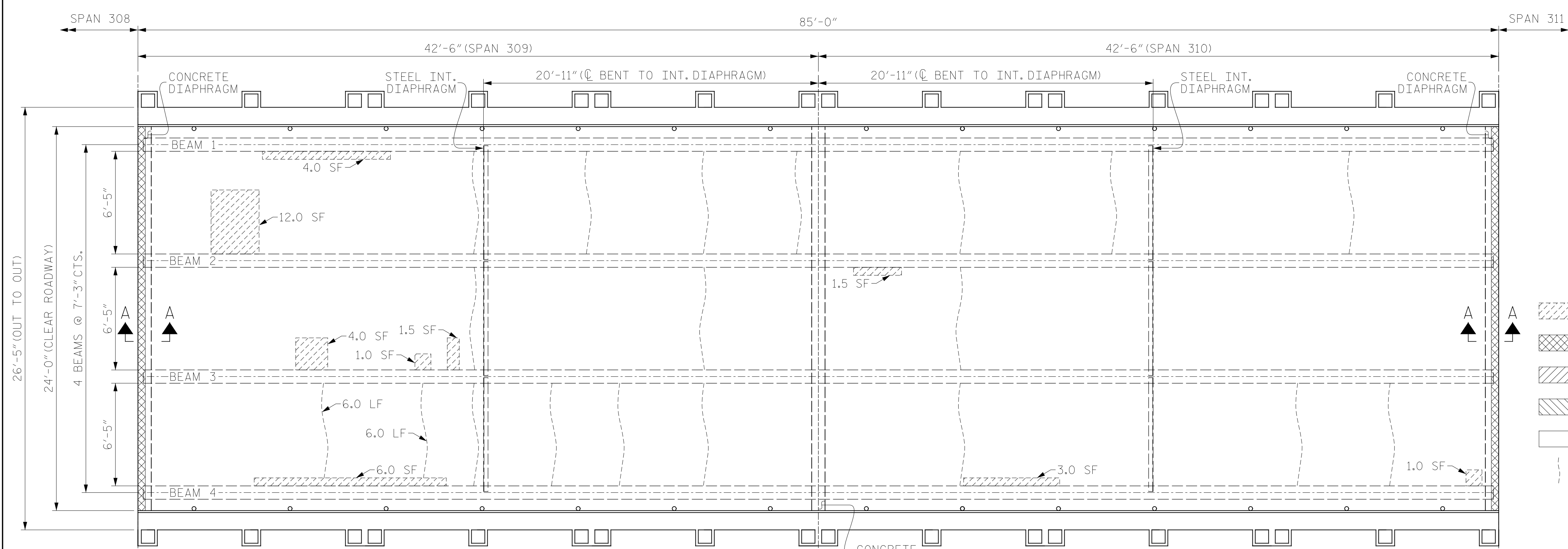
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PLAN OF SPAN 307

PLAN OF SPAN 308



PLAN OF SPAN 309

PLAN OF SPAN 310

SUMMARY OF QUANTITIES FOR SPAN 307		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	2.1 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	102.7 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

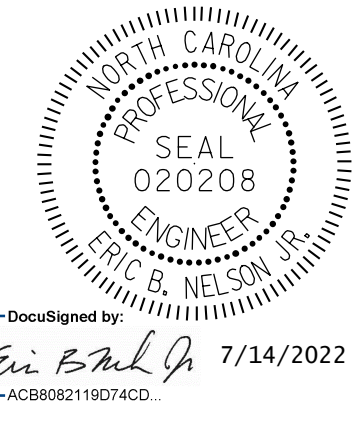
SUMMARY OF QUANTITIES FOR SPAN 308		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	-	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	51.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 309		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	9.5 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	76.2 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 310		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	1.9 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	44.9 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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STATE OF NORTH CAROLINA
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 RALEIGH
 SURFACE PREPARATION & UNDERDECK REPAIRS
 SPANS 307 THRU 310

NOTE:

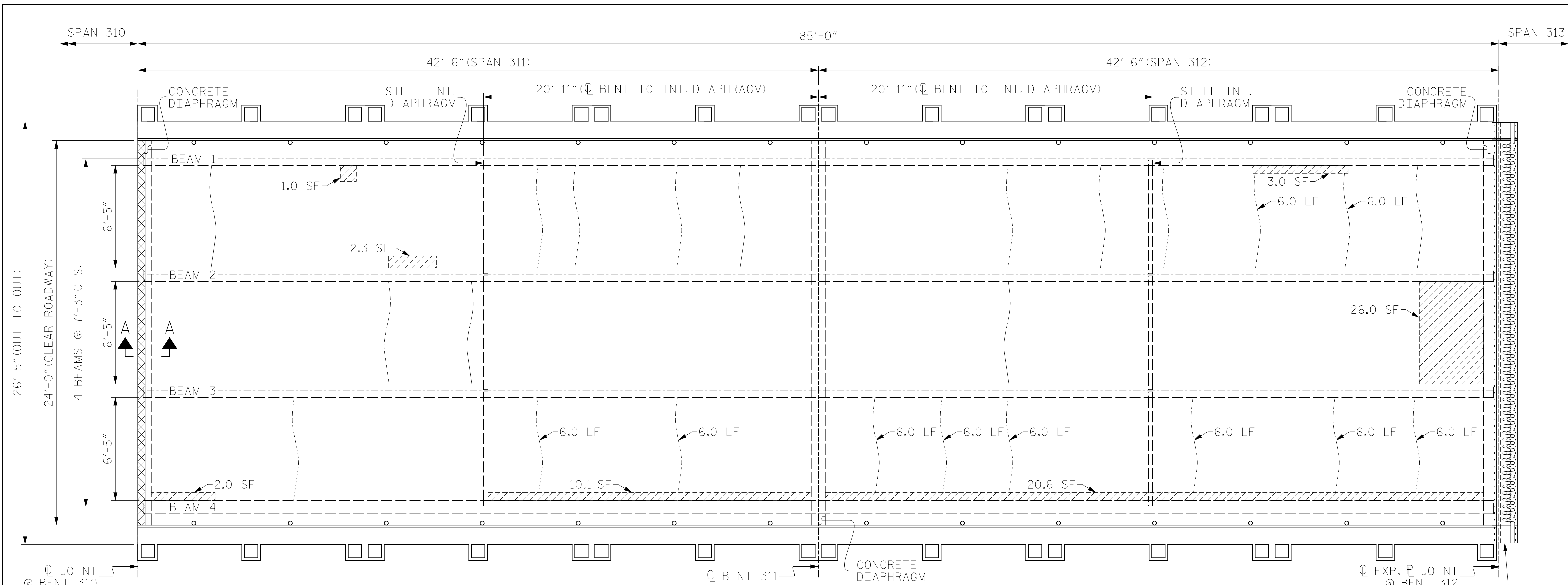
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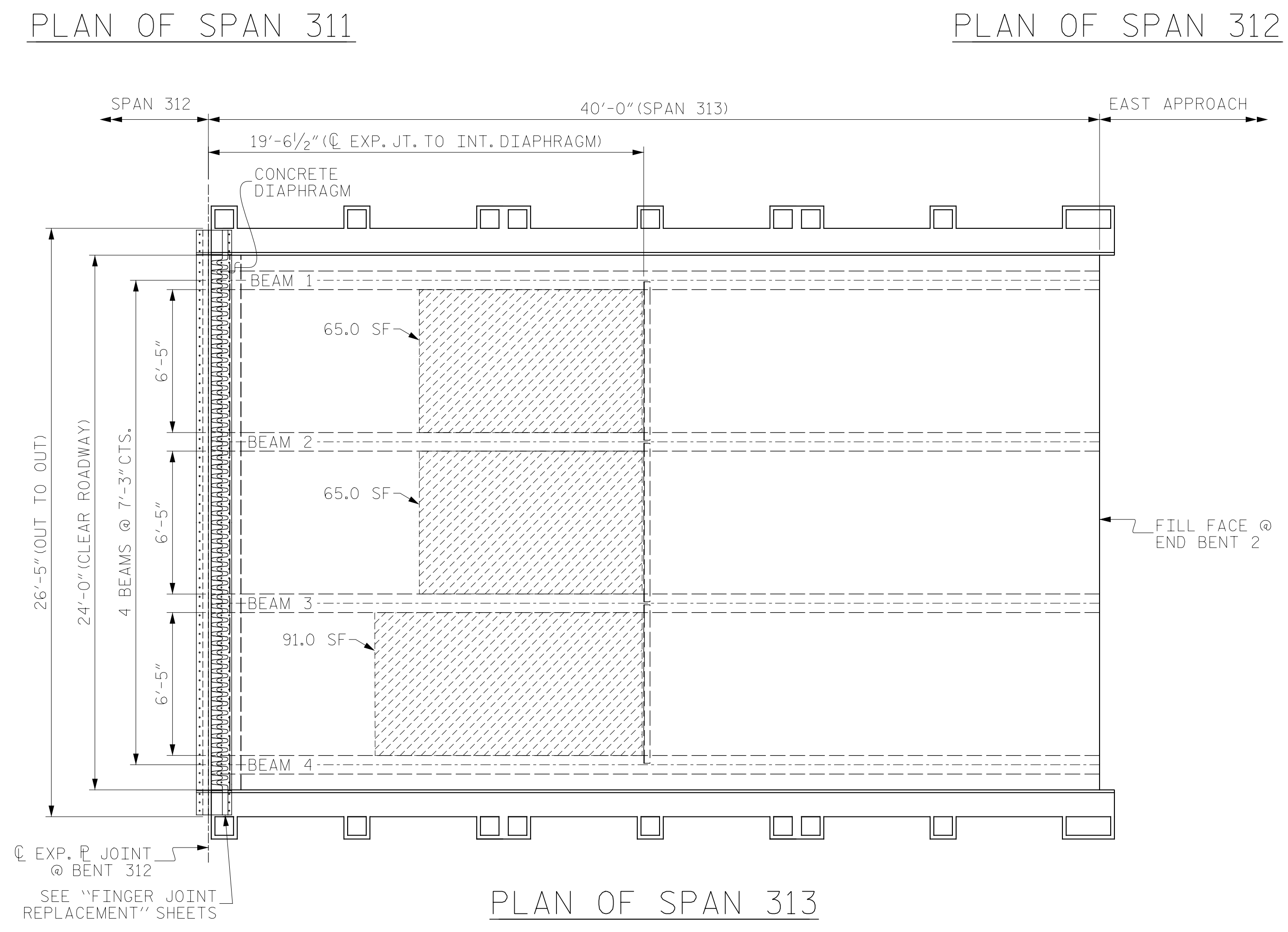
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SUMMARY OF QUANTITIES FOR SPAN 311		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	5.2 CF	
BRIDGE JOINT DEMOLITION	11.0 SF	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	63.3 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 312		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	16.6 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	80.1 LF	
CONCRETE BRIDGE DECK CRACK SEALING	112.0 SY	
MMA OVERLAY SYSTEM	1008.0 SF	

SUMMARY OF QUANTITIES FOR SPAN 313		
	ESTIMATE	ACTUAL
SHOTCRETE REPAIRS (UNDERDECK)	73.7 CF	
BRIDGE JOINT DEMOLITION	-	
CLASS II SURFACE PREPARATION	-	
CLASS III SURFACE PREPARATION	-	
CONCRETE DECK REPAIR FOR MMA OVERLAY	-	
CRACK PRETREATMENT	-	
CONCRETE BRIDGE DECK CRACK SEALING	105.5 SY	
MMA OVERLAY SYSTEM	949.0 SF	



- SHOTCRETE REPAIRS (UNDERDECK)
- BRIDGE JOINT DEMOLITION
- CLASS II DECK REPAIR
- CLASS III DECK REPAIR
- MMA OVERLAY SYSTEM
- CRACK PRETREATMENT

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SURFACE PREPARATION & UNDERDECK REPAIRS SPANS 311 THRU 313

NOTE:

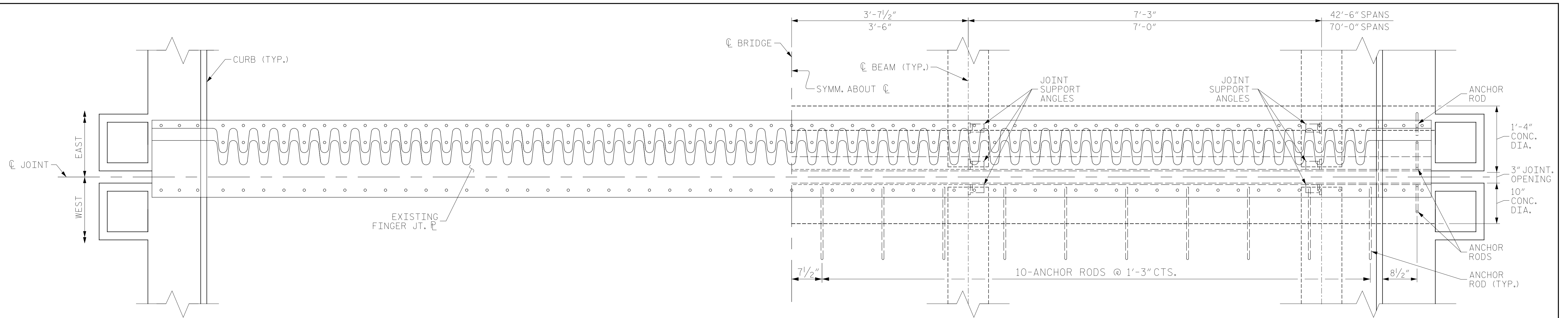
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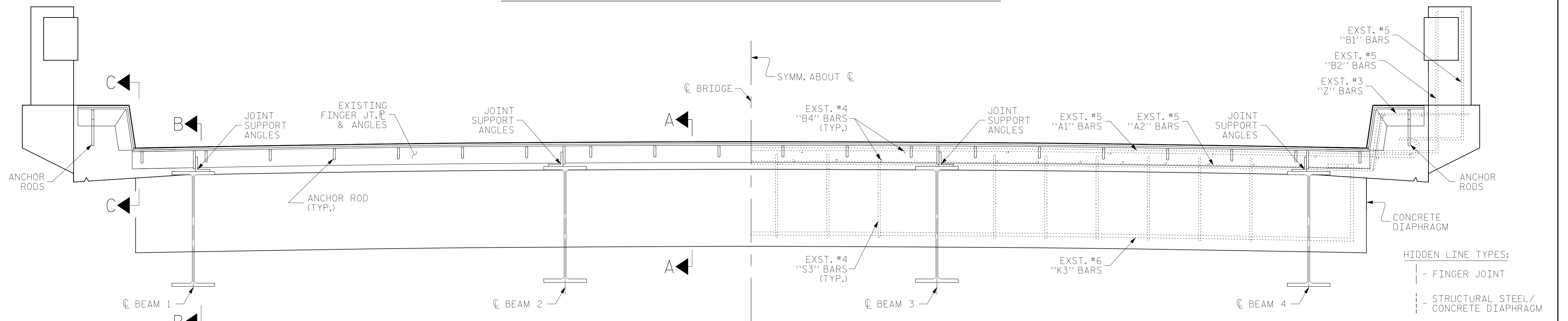


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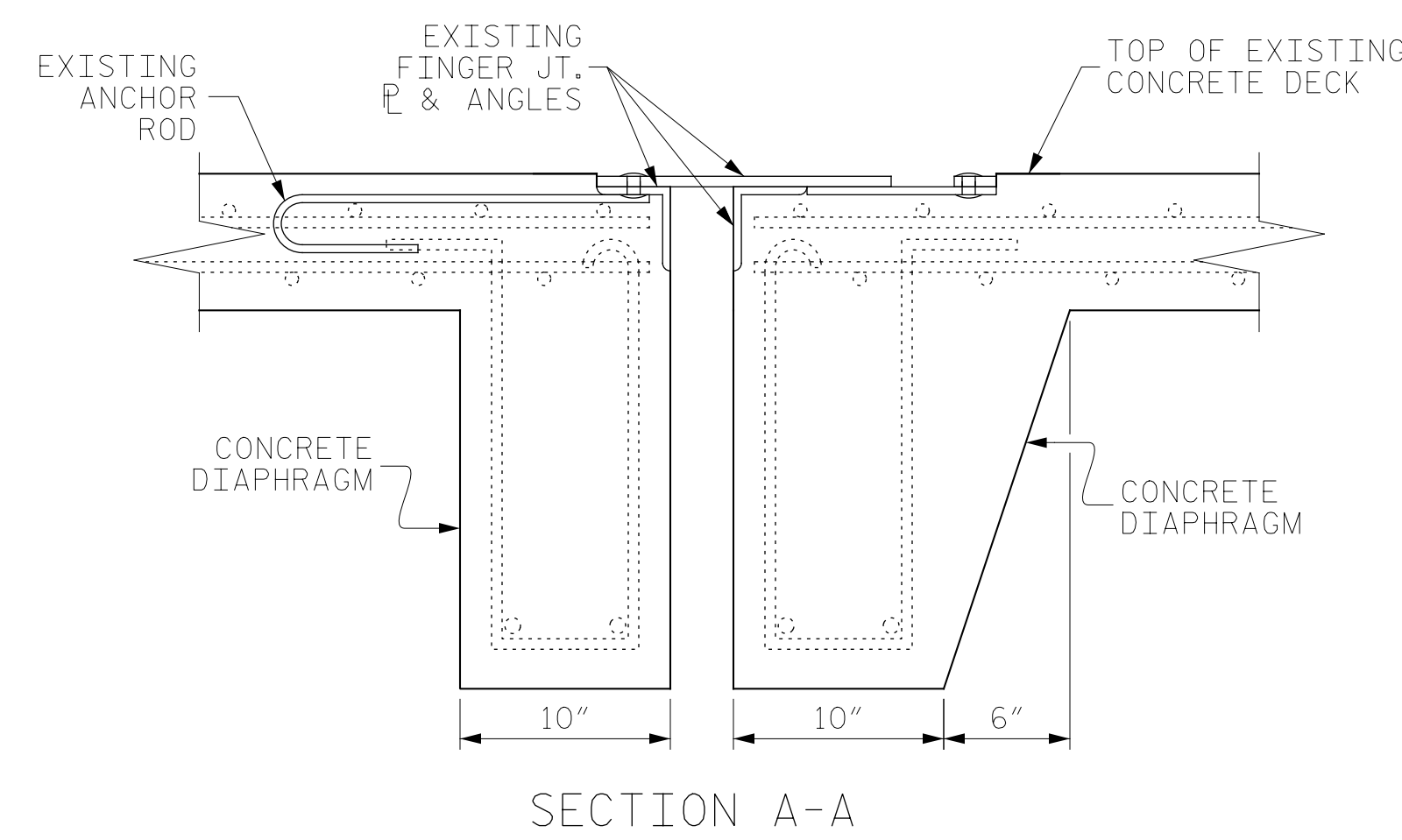
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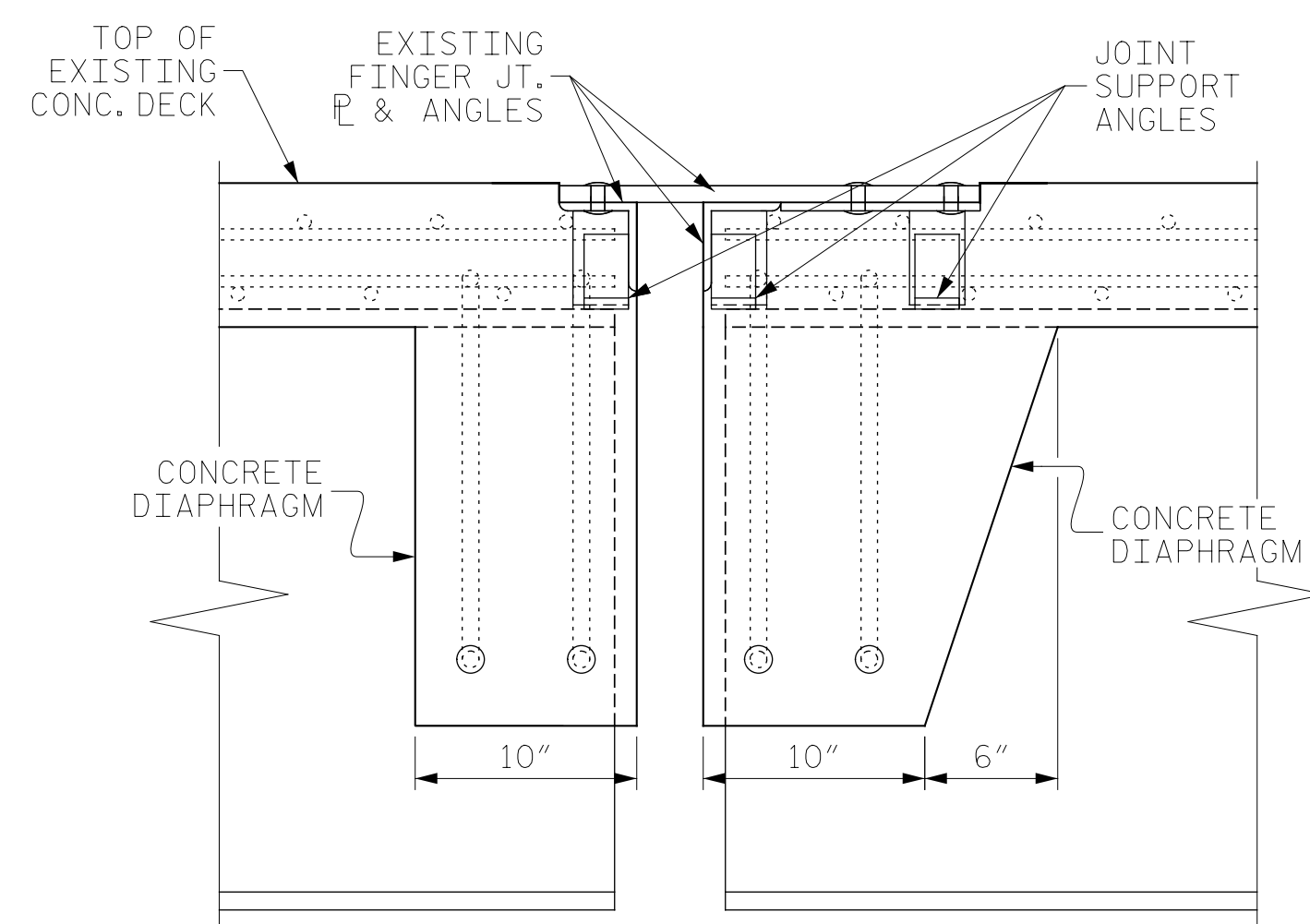
PLAN VIEW OF EXISTING FINGER JOINT



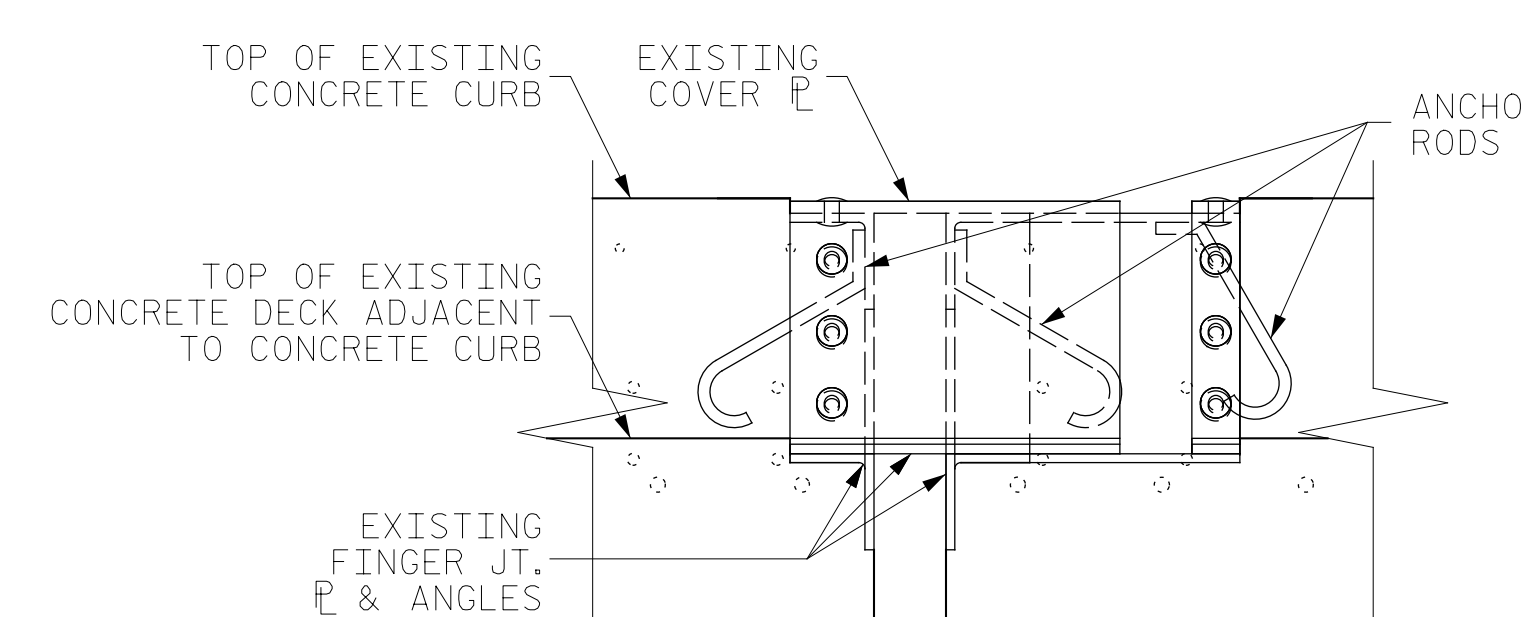
ELEVATION VIEW OF EXISTING FINGER JOINT



SECTION A-A



SECTION B-B



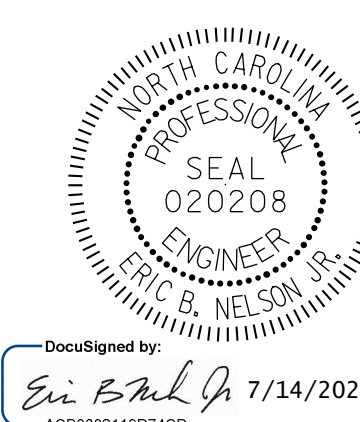
SECTION C-C

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FINGER JOINT
 REPLACEMENT



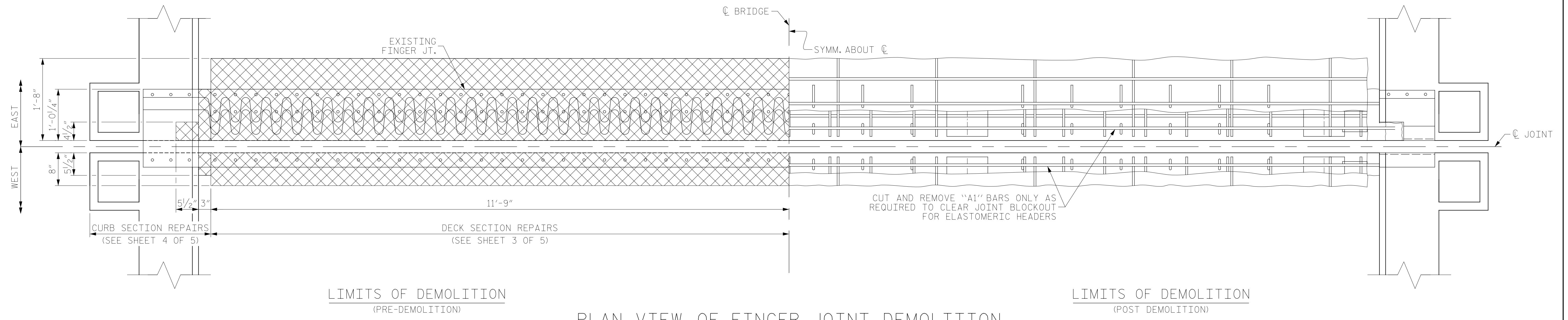
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 Eric B. Nelson 7/14/2022
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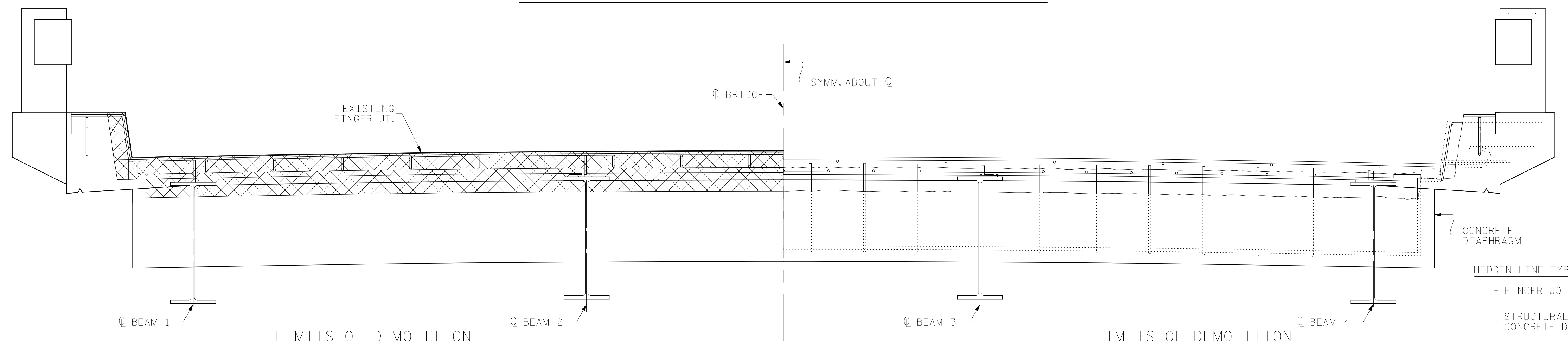


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PLAN VIEW OF FINGER JOINT DEMOLITION



ELEVATION VIEW OF FINGER JOINT DEMOLITION

- HIDDEN LINE TYPES:
- - - FINGER JOINT
 - - - STRUCTURAL STEEL/ CONCRETE DIAPHRAGM
 - - - REBAR
- PATTERNS:
- ⊗ - DEMOLITION LIMITS

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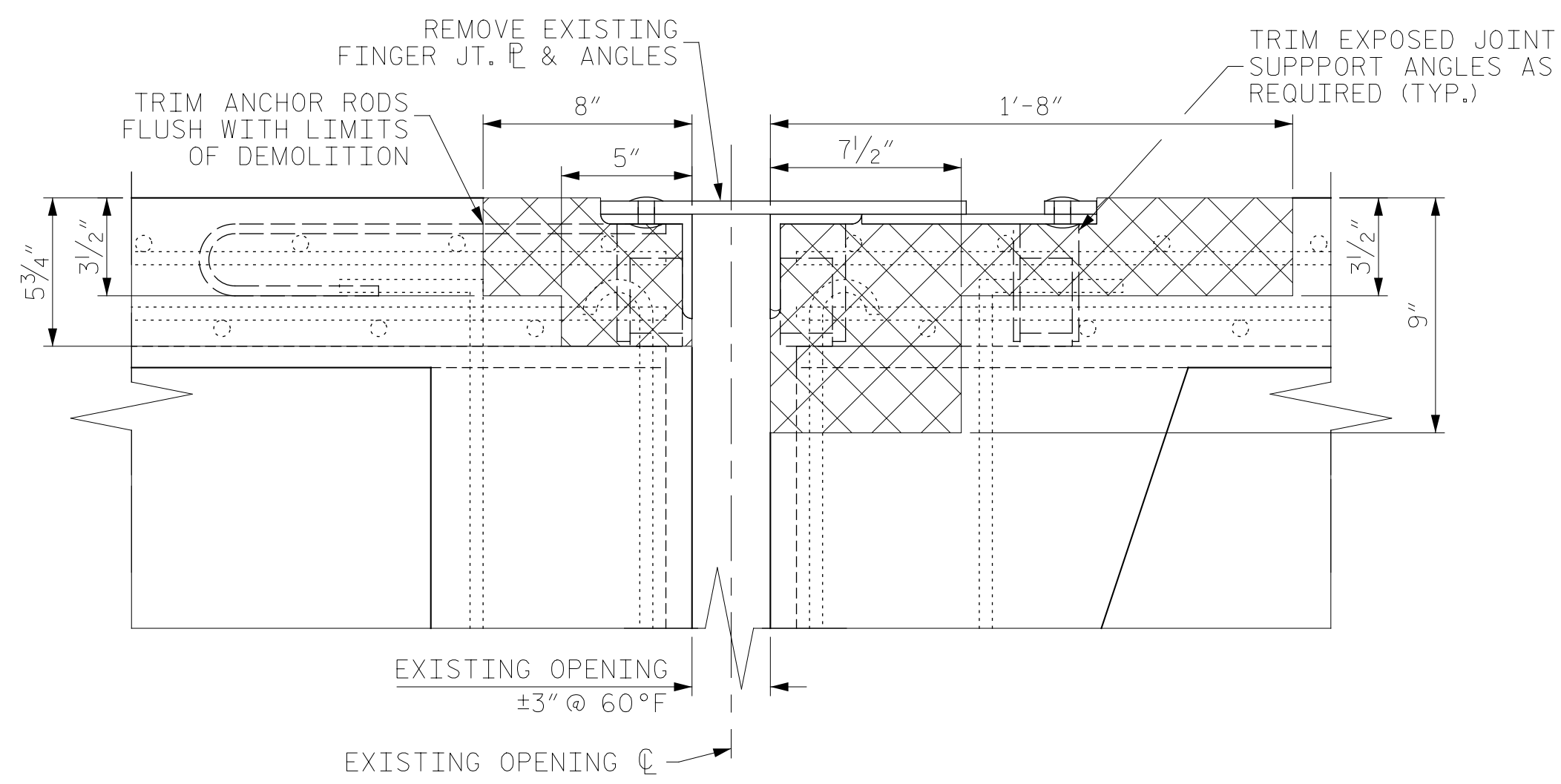
FINGER JOINT
 REPLACEMENT

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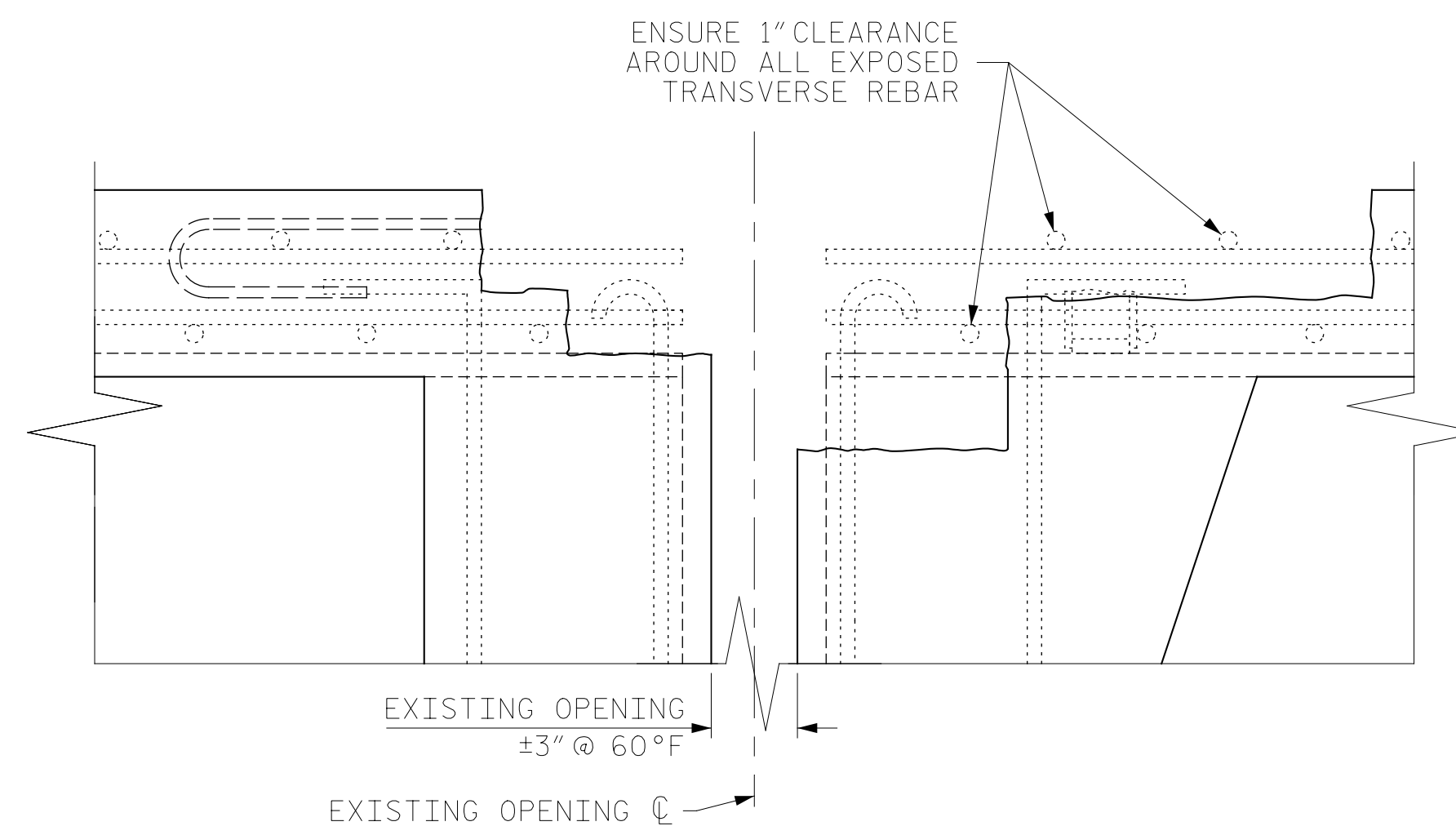


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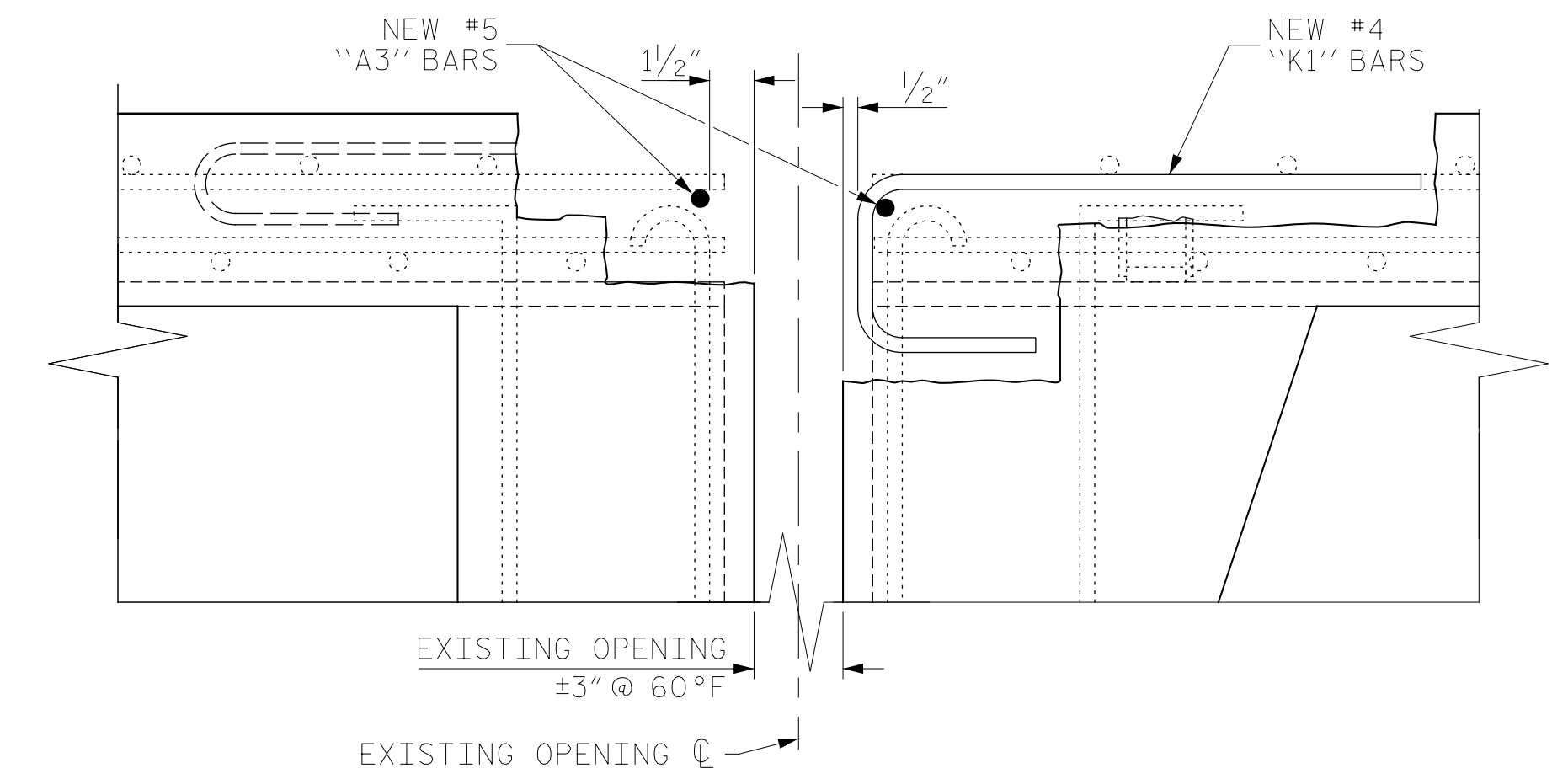
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-108
1			3			TOTAL SHEETS
2			4			355



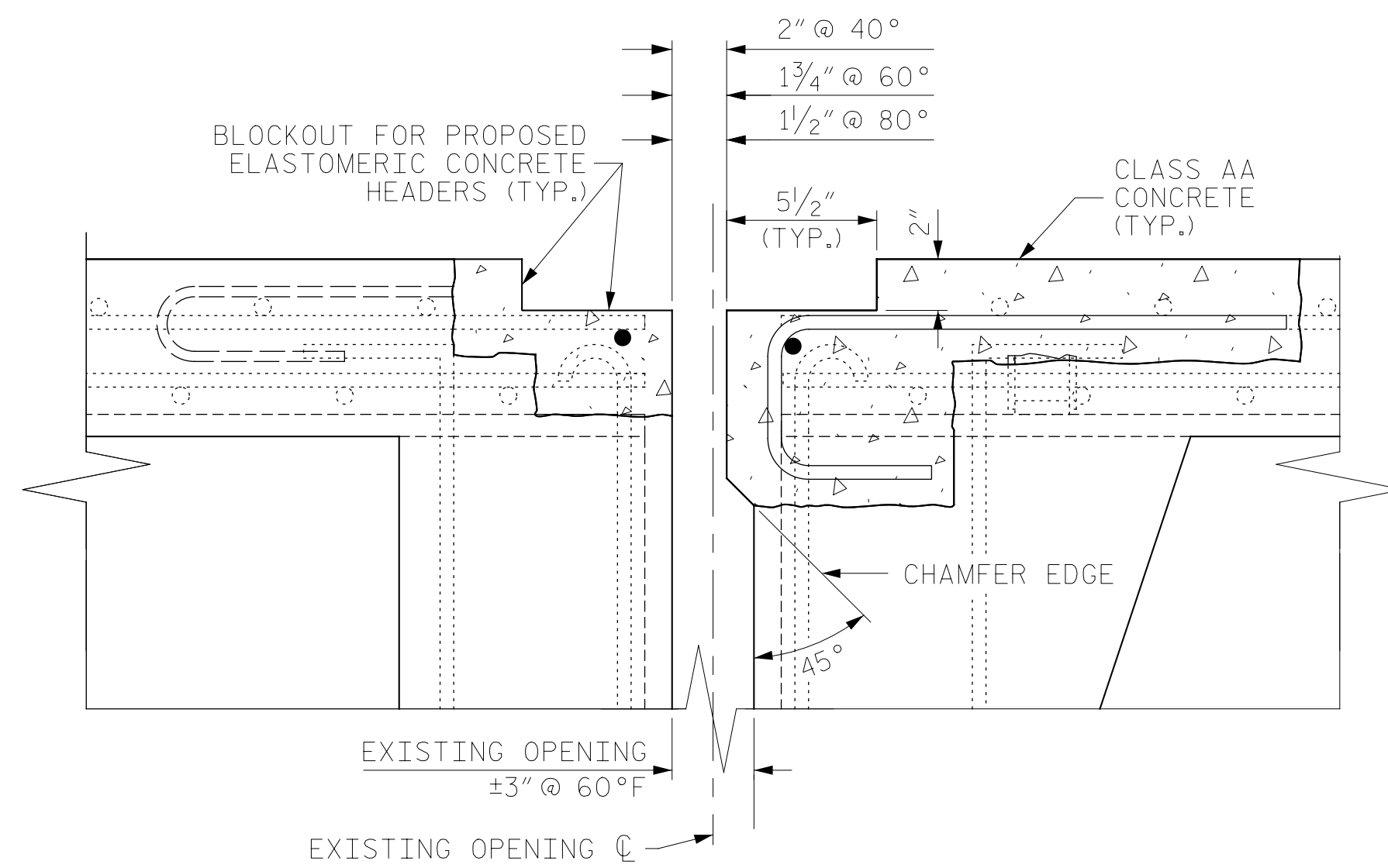
EXISTING SHOWING PROPOSED DEMO



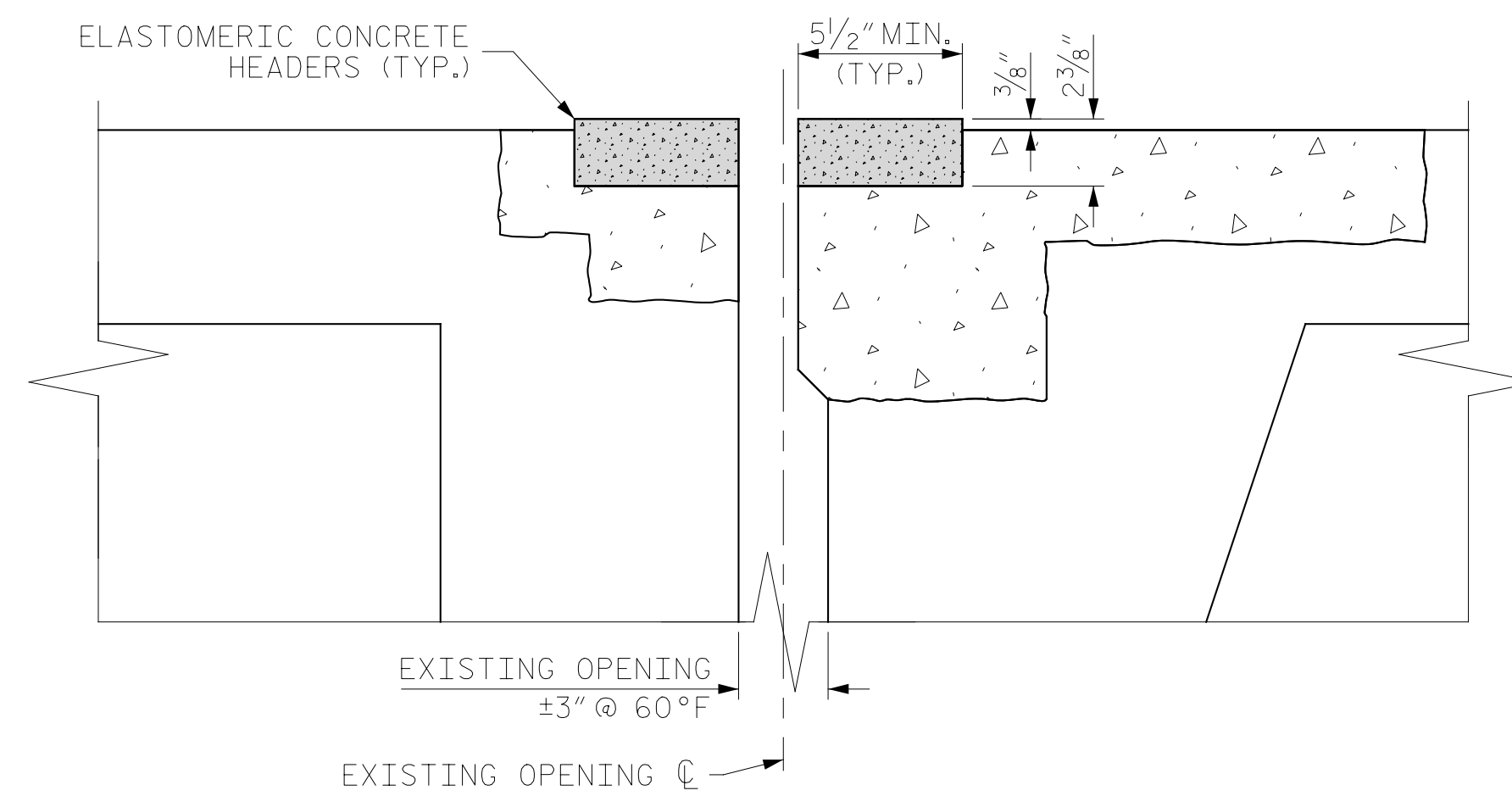
JOINT DEMOLITION



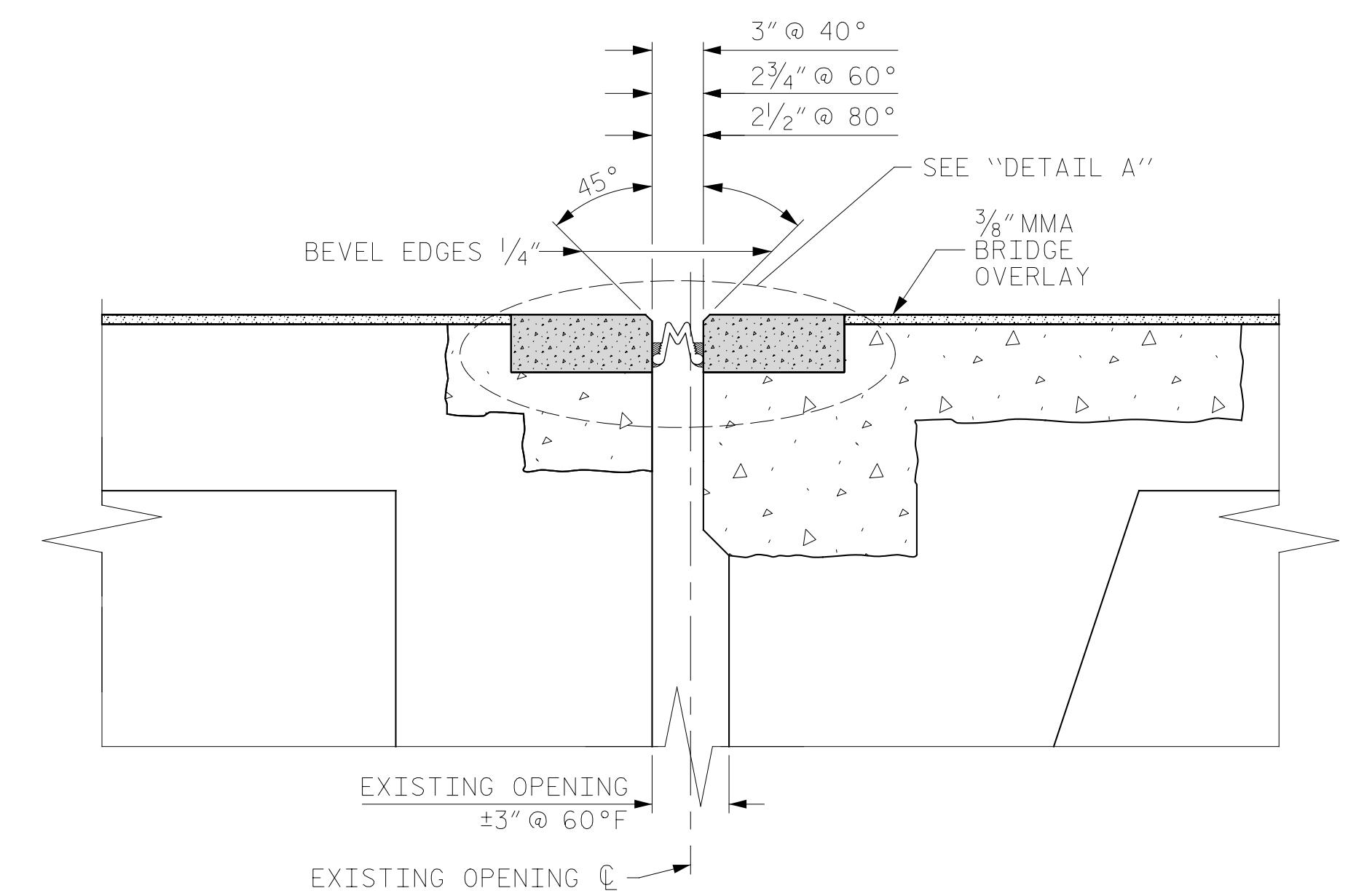
PROPOSED REBAR PLACEMENT



PROPOSED CONCRETE WORK

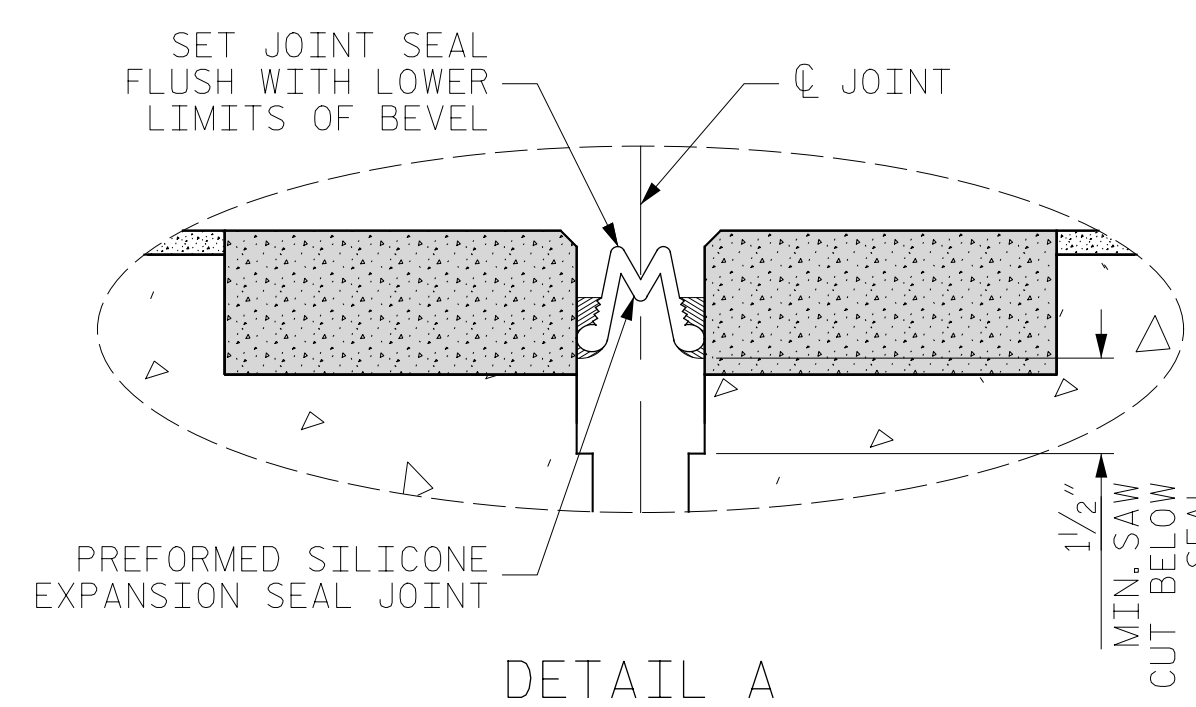


PROPOSED ELASTOMERIC CONCRETE HEADERS



PROPOSED JOINT

DECK SECTION REPAIR DETAILS



DETAIL A

NOTES:

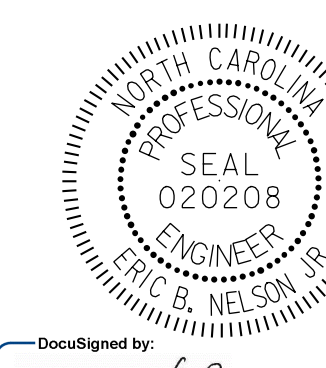
- FOR PREFORMED SILICONE EXPANSION JOINT SEAL, SEE SP.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SP.
- EXISTING JOINT AND ADJACENT CONCRETE REMOVAL SHALL BE IN ACCORDANCE WITH CONCRETE WORK FOR JOINT REPLACEMENT SPECIAL PROVISION.
- CONTRACTOR SHALL FIELD MEASURE JOINTS AND JOINT OPENINGS AND COORDINATE WITH JOINT MANUFACTURER PRIOR TO ORDERING JOINT SEALS OR SAWING JOINT OPENINGS.

PATTERNS:

- CLASS AA CONCRETE
- ELASTOMERIC CONCRETE

PROJECT NO. HB-0017
 DARE COUNTY
 BRIDGE NO. 270009

SHEET 3 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

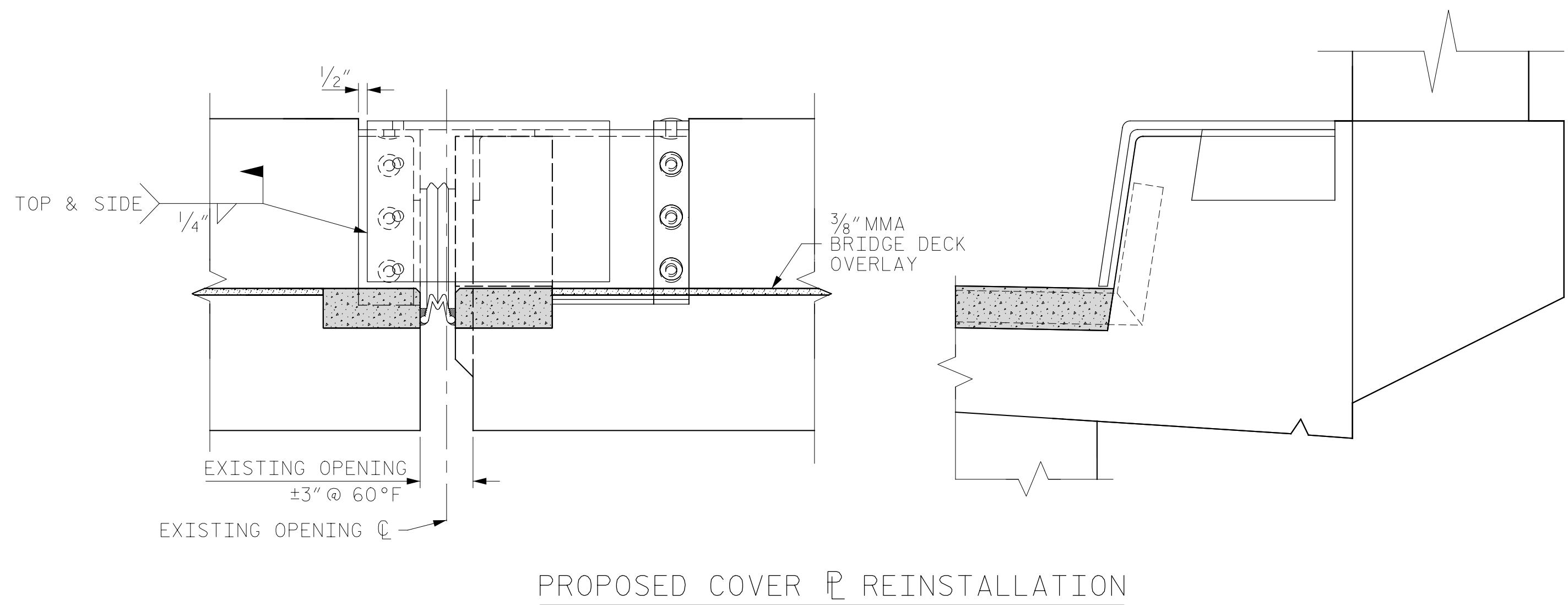
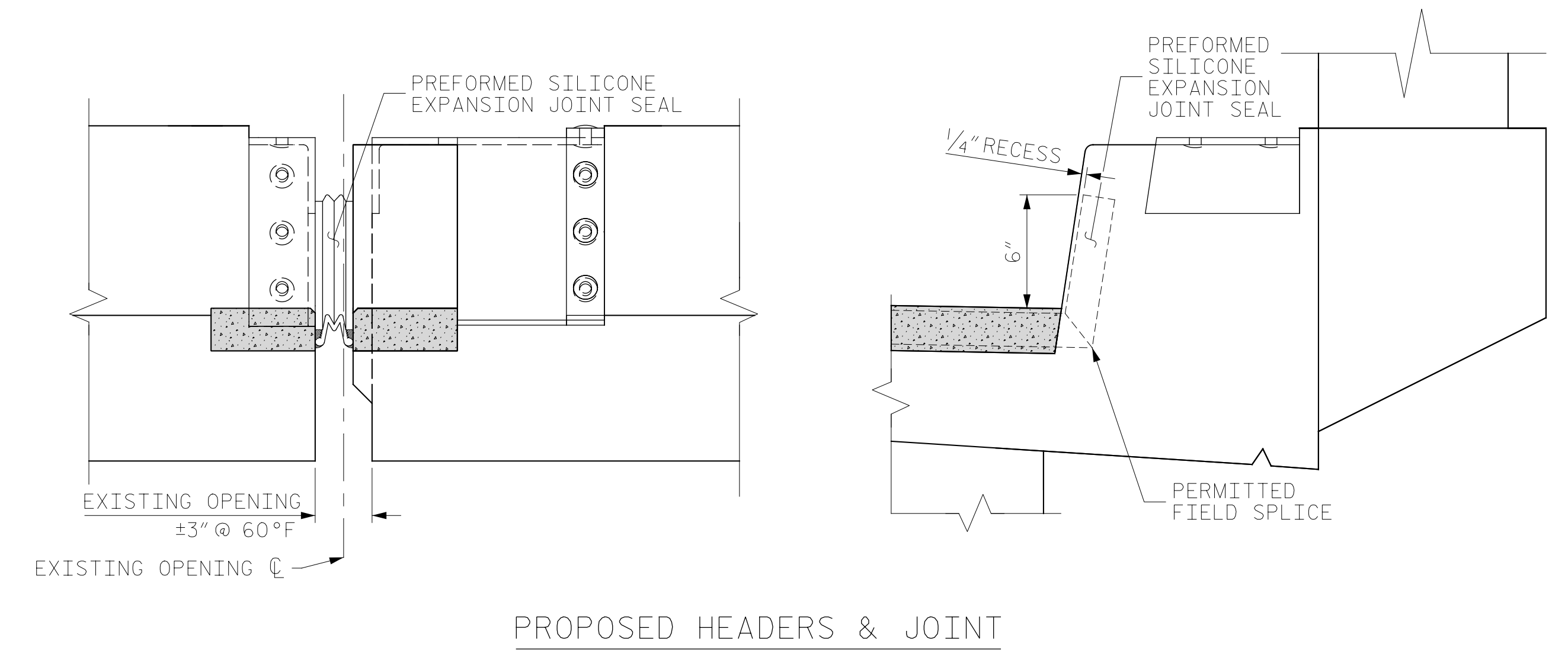
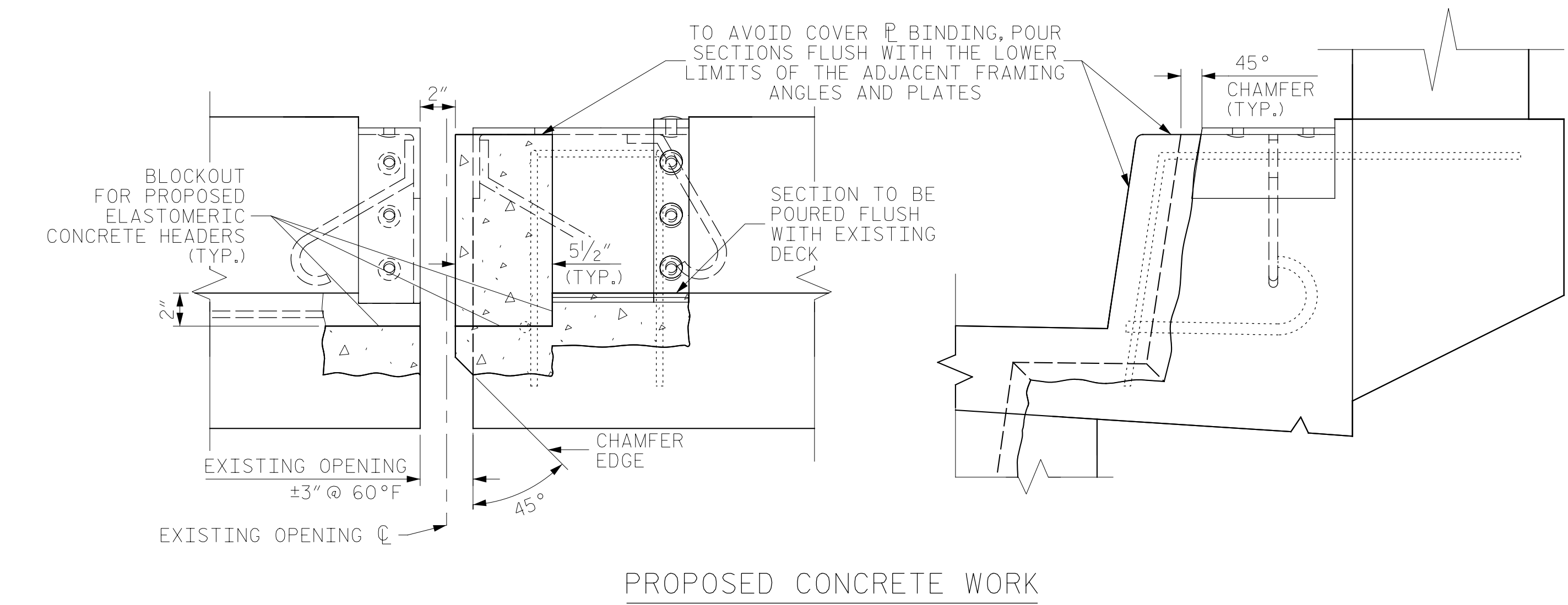
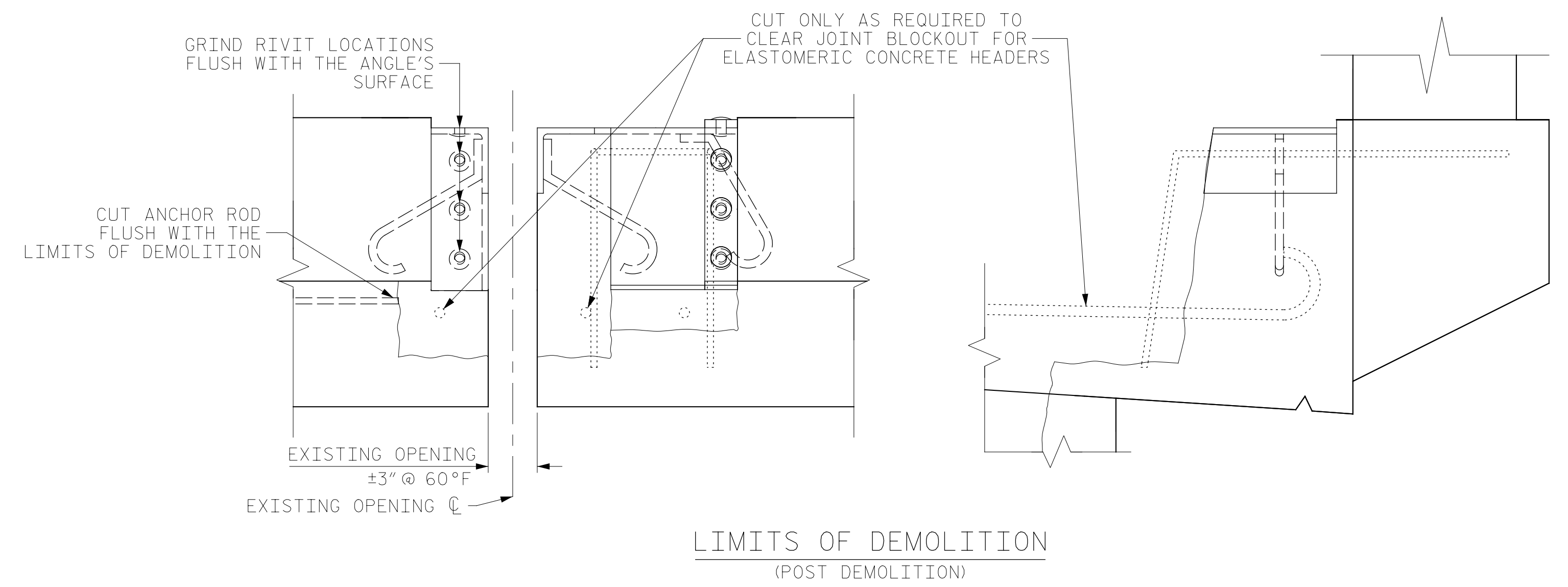
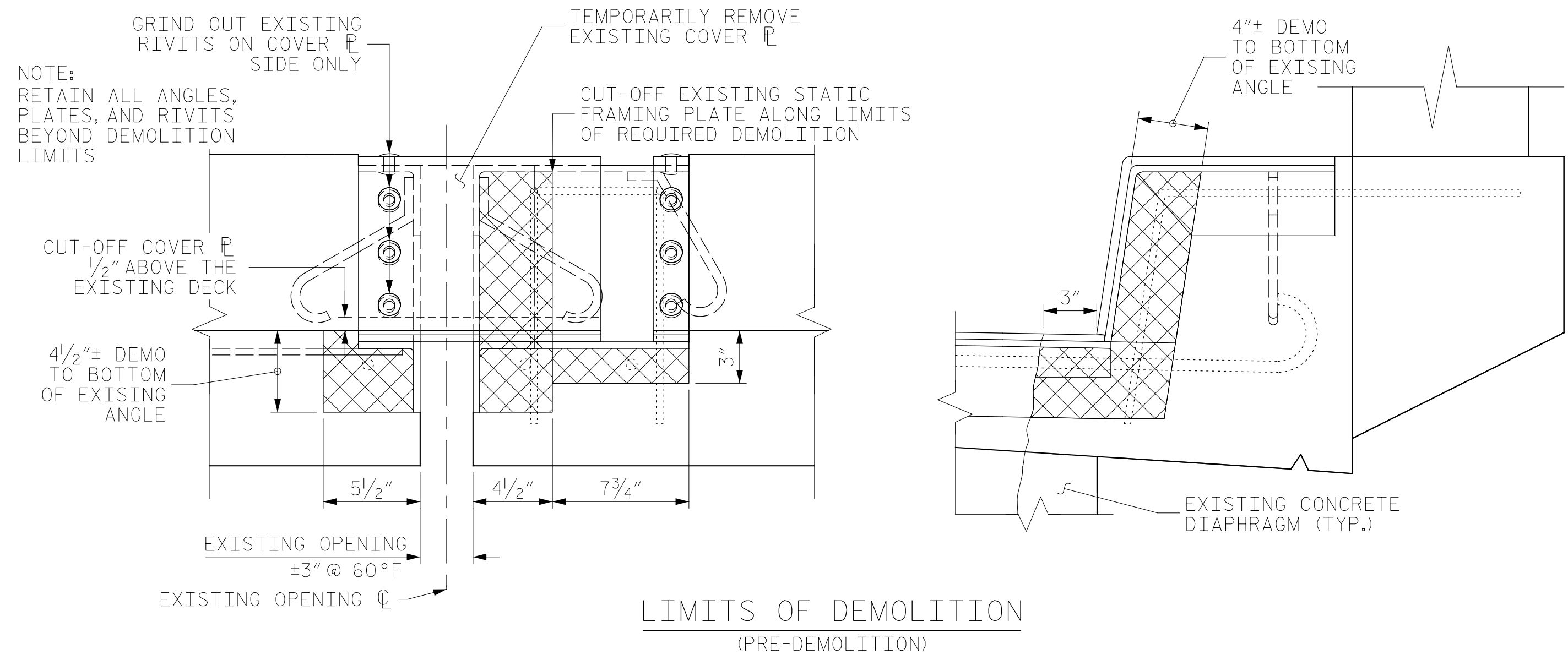
FINGER JOINT REPLACEMENT

DRAWN BY: M. SPENCER DATE: 04/2019
 CHECKED BY: R. NELSON DATE: 04/2019



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2			4			355



CURB SECTION REPAIR DETAILS

- PATTERNS:
- CLASS AA CONCRETE
 - ELASTOMERIC CONCRETE

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

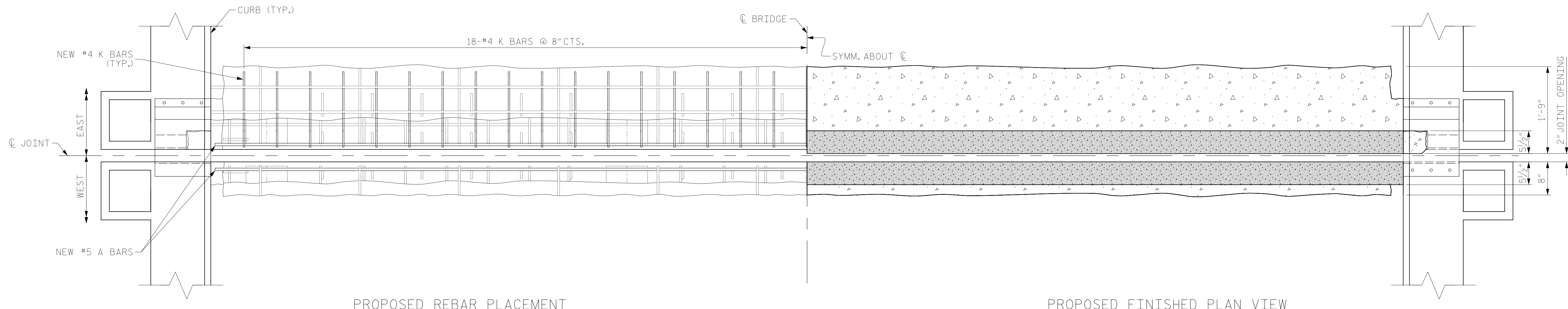
FINGER JOINT REPLACEMENT

DRAWN BY : M. SPENCER DATE : 04/2019
 CHECKED BY : R. NELSON DATE : 04/2019



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1			3			TOTAL SHEETS
2			4			355



PROPOSED REBAR PLACEMENT

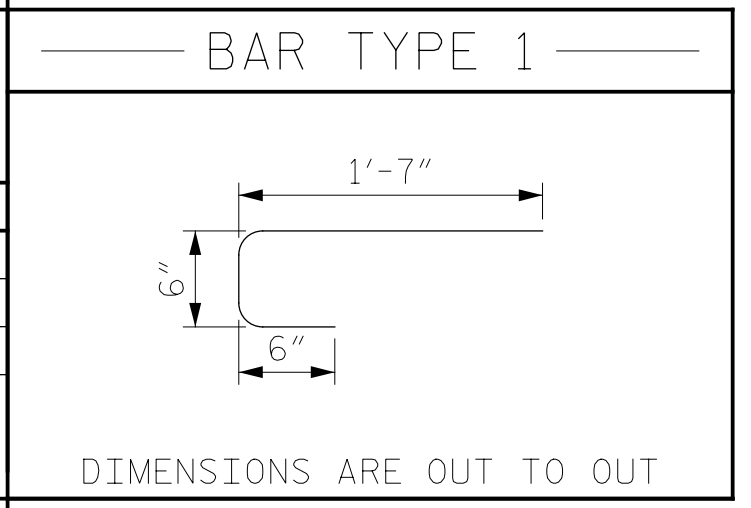
PROPOSED FINISHED PLAN VIEW

PLAN VIEW OF FINGER JOINT REPLACEMENT

**BILL OF MATERIAL
PER FINGER JOINT (36 JOINTS) & TOTAL**

IDENTIFYING BENT LOCATIONS:
1, 9, 17, 25, 33, 41, 49, 57, 65, 73, 81, 89, 97, 105, 113, 121, 154, 162, 170, 178, 186, 194, 200, 208, 216, 224, 232, 240, 248, 256, 272, 280, 288, 296, 304, 312

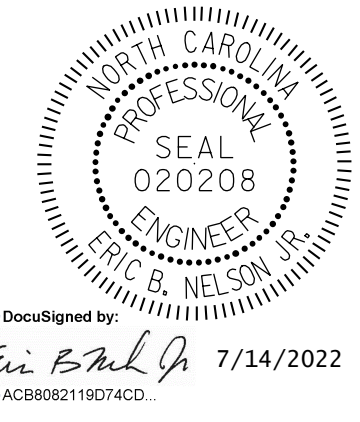
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT PER BENT	TOTAL WEIGHT
A3	2	#5	STR.	23'-9"	50 LBS	1800 LBS
K	35	#4	1	2'-7"	61 LBS	2196 LBS
REINFORCING STEEL					111 LBS PER BENT	TOTAL: 3996 LBS
CONCRETE WORK FOR JOINT REPLACEMENT					56.5 SF PER BENT	TOTAL: 2034.0 SF
CLASS AA CONCRETE					0.9 CY PER BENT	TOTAL: 32.4 CY
ELASTOMERIC CONCRETE FOR PRESERVATION					4.0 CF PER BENT	TOTAL: 144.0 CF
PREFORMED SILICONE EXPANSION JOINT SEAL					25.4 LF PER BENT	TOTAL: 914.4 LF



- PATTERNS:
- CLASS AA CONCRETE
 - ELASTOMERIC CONCRETE

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009

SHEET 5 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

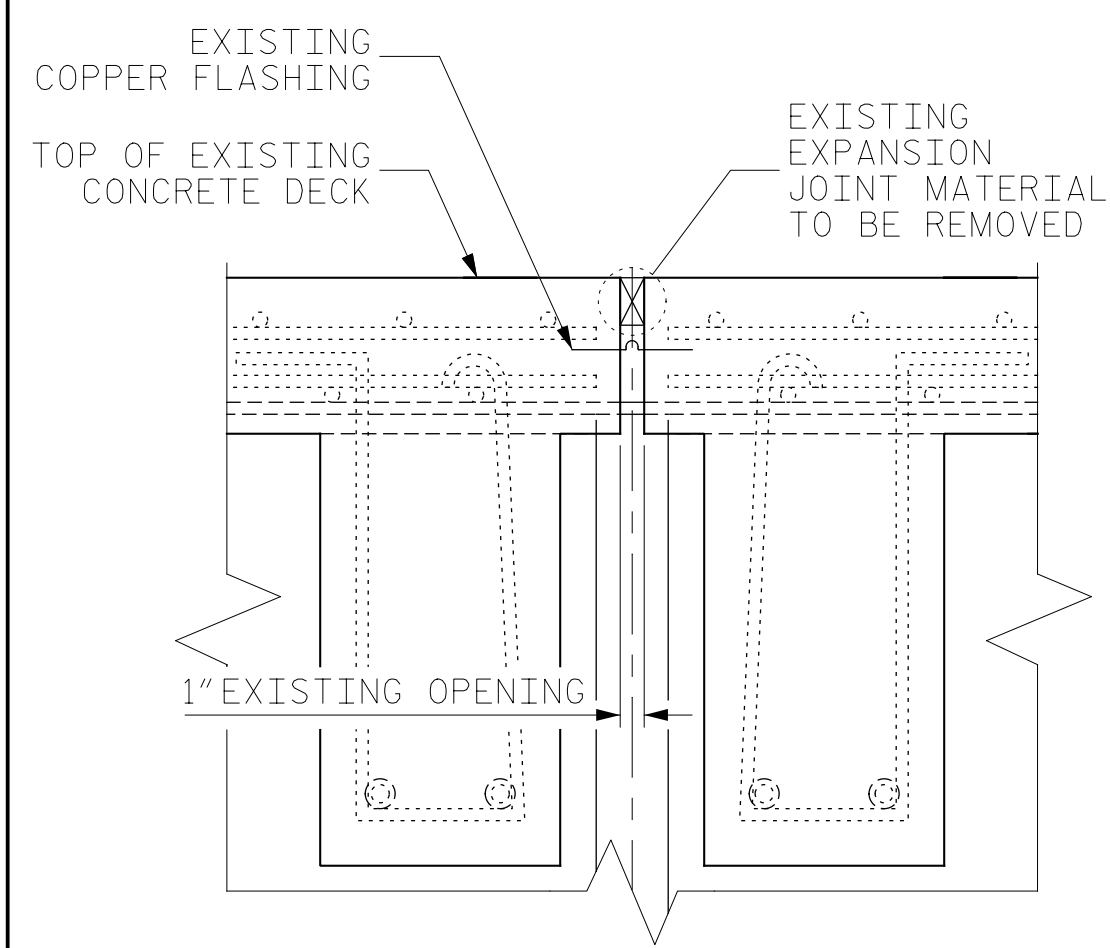
**FINGER JOINT
 REPLACEMENT**

DRAWN BY: M. SPENCER DATE: 04/2019
 CHECKED BY: R. NELSON DATE: 04/2019

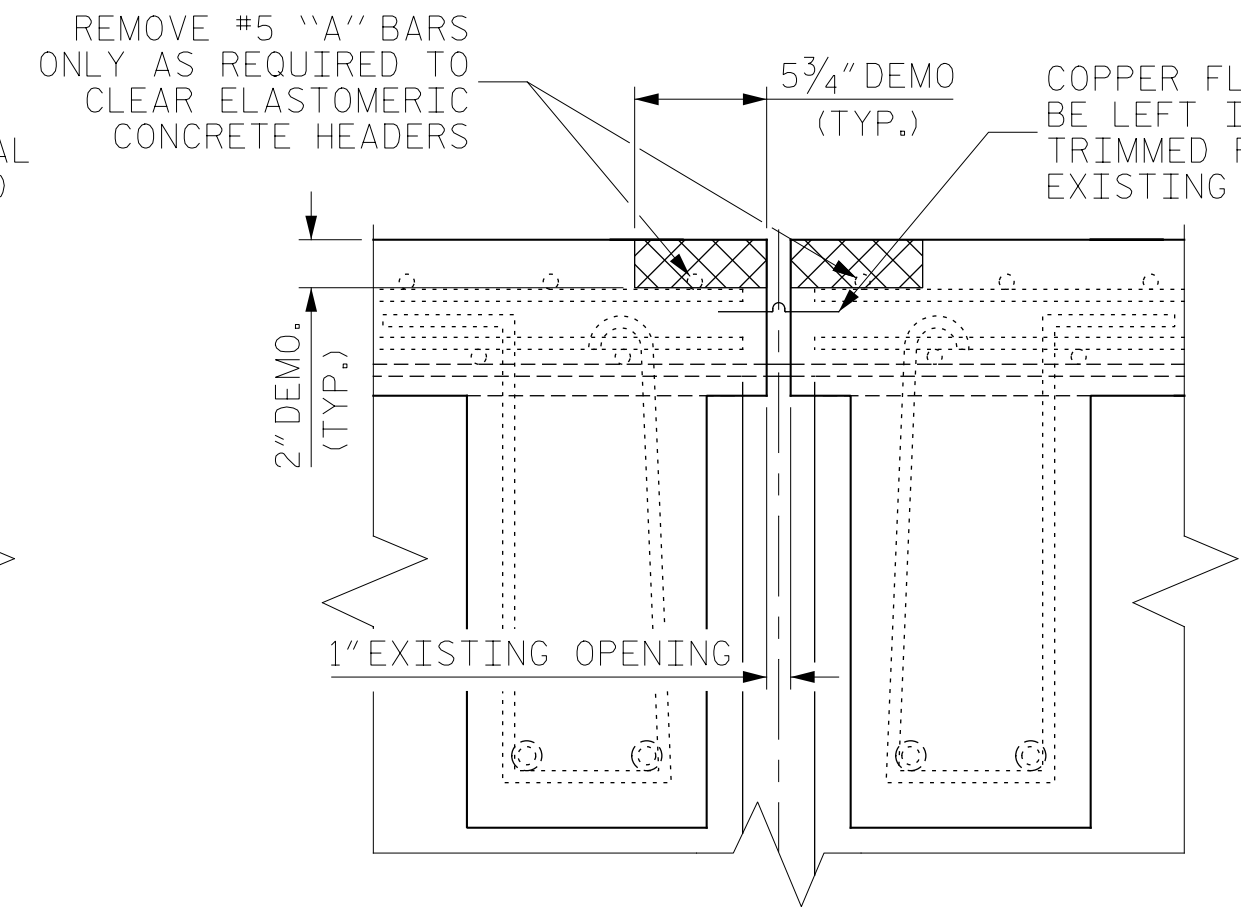


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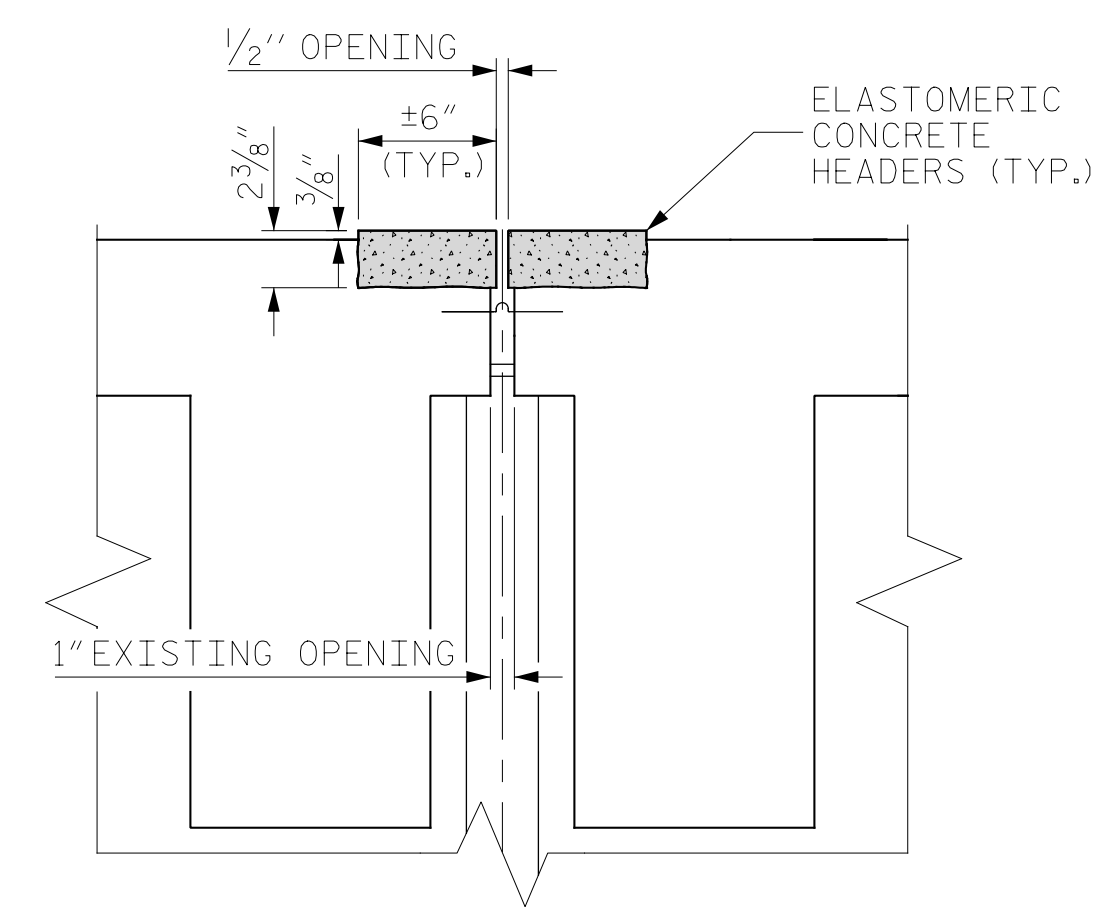
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-111
1			3			TOTAL SHEETS
2			4			355



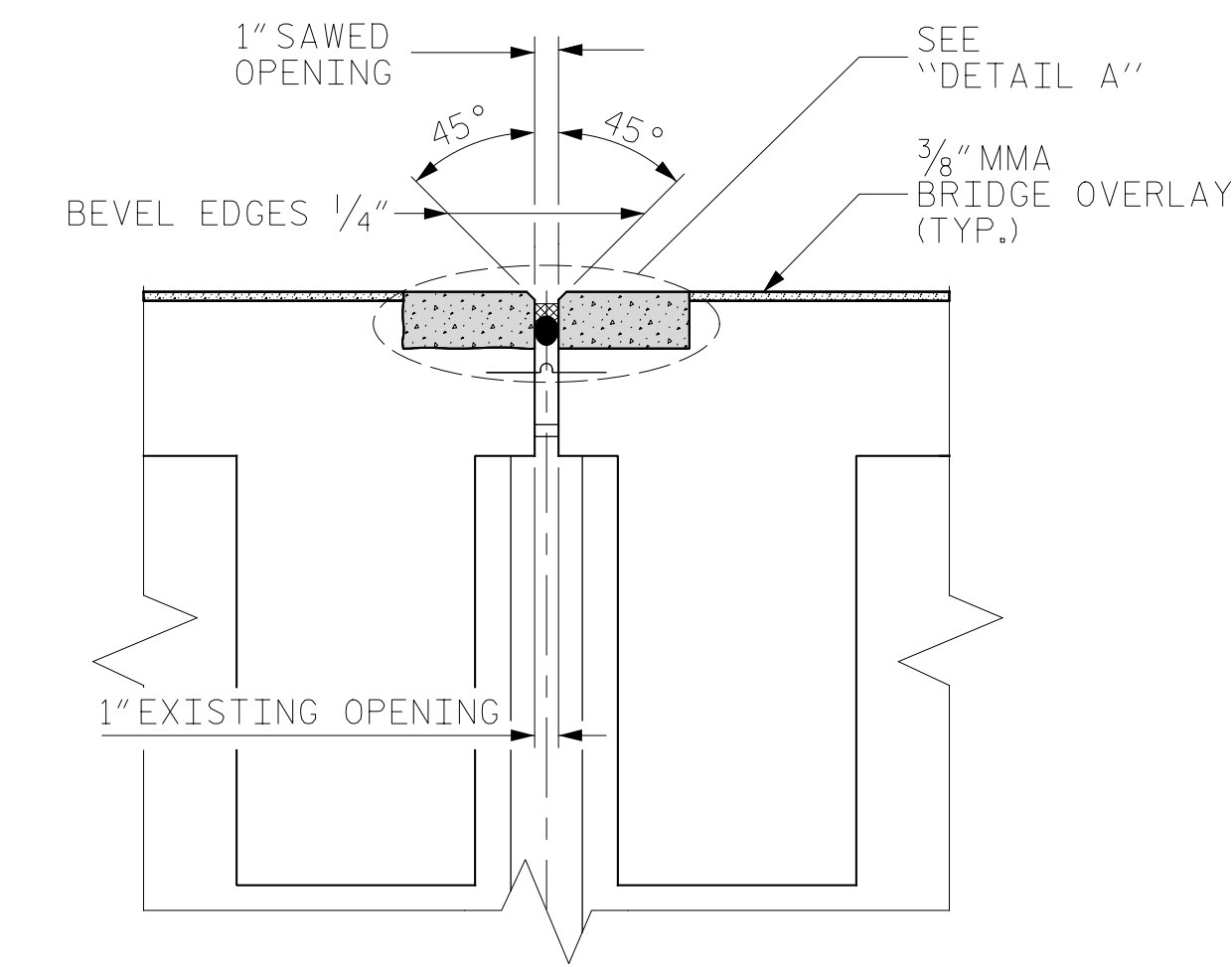
EXISTING



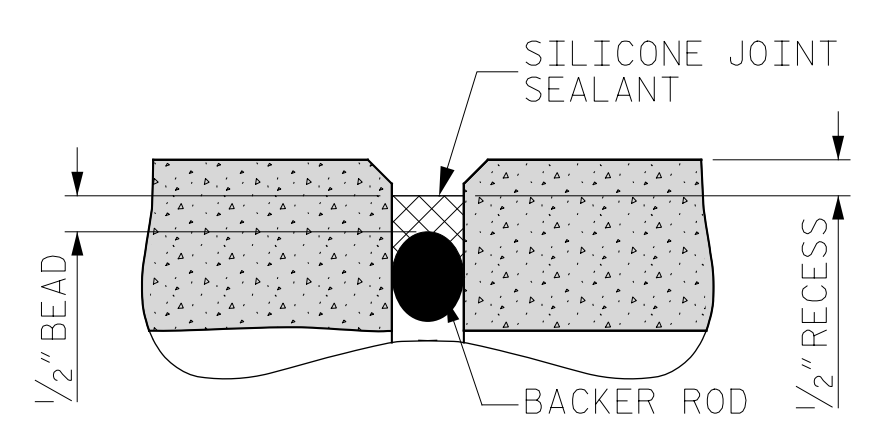
MINIMUM EXISTING JOINT DEMOLITION



PROPOSED PRE-SAWED JOINT



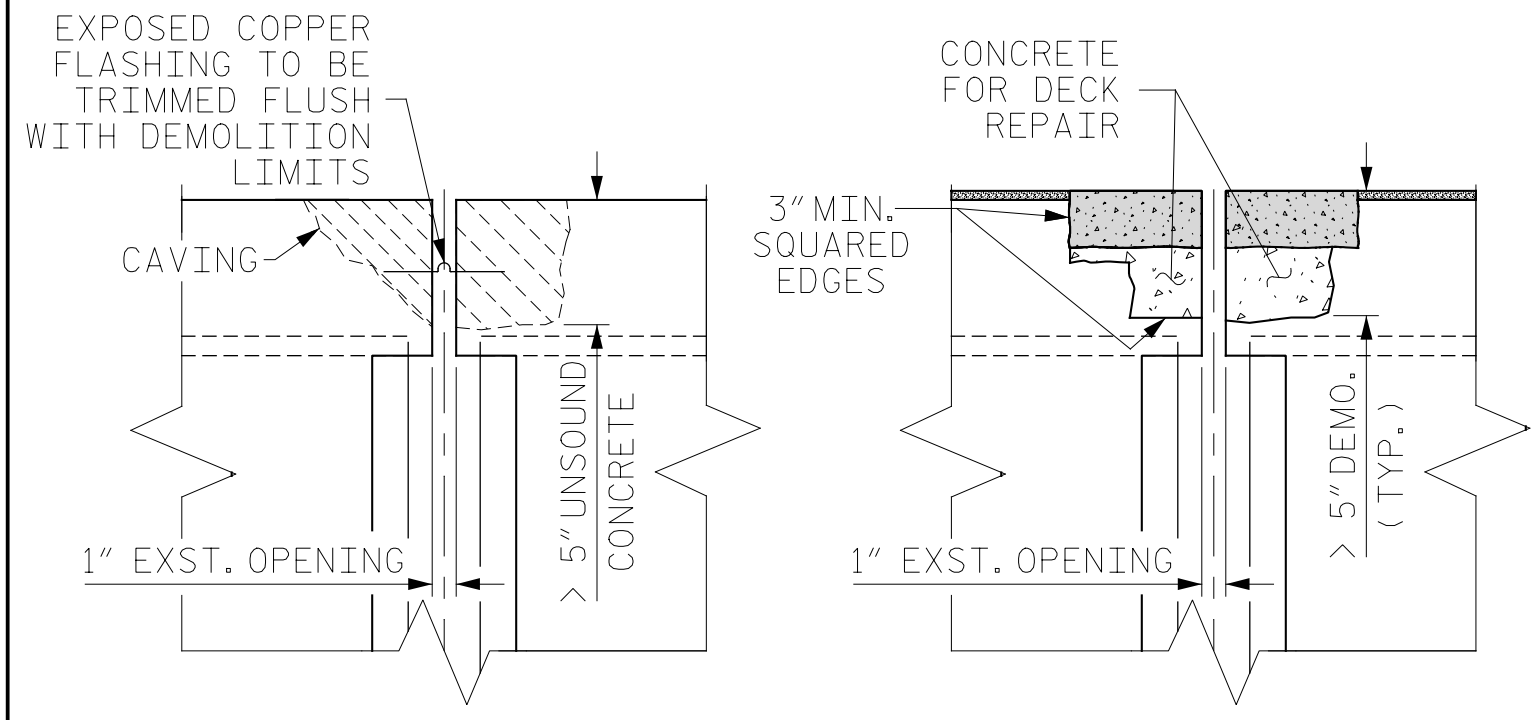
PROPOSED JOINT



DETAIL A

NOTES:
FOR SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.
THE INSTALLED SILICONE JOINT SEALS SHALL BE WATERTIGHT.
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE SILICONE JOINT SEAL IN LIEU OF SAWING THE JOINT.

SECTION A-A



JOINT DEMOLITION FOR CAVING OR UNSOUND CONCRETE
REPAIRED JOINT

CONCRETE FOR DECK REPAIR DETAIL

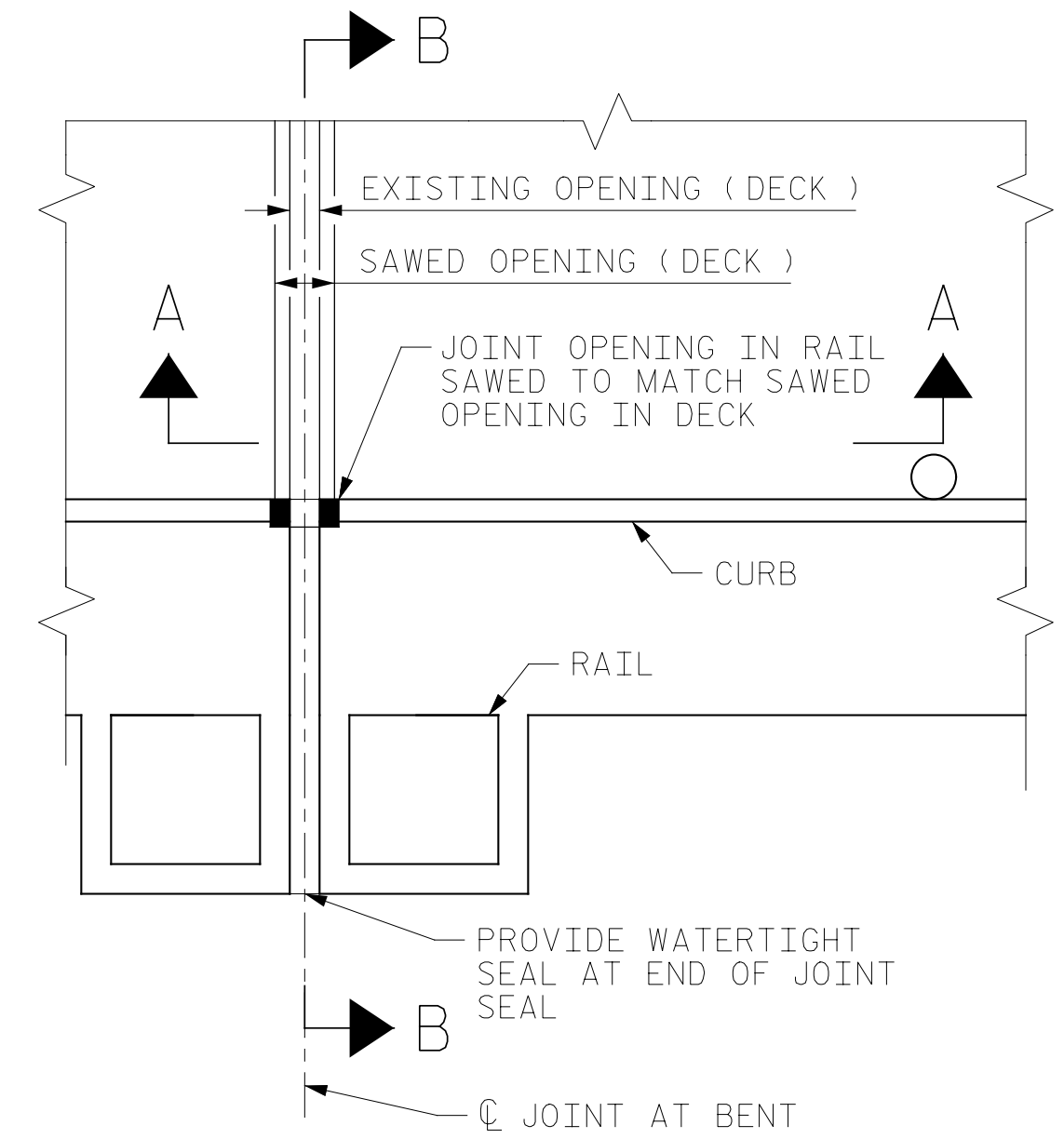
(FOR REPAIR OF JOINTS WITH DEEP EXCAVATION OR SLOPING EDGES)

NOTE: RETAIN ALL EXISTING REINFORCING STEEL BARS CUT OR DAMAGED DURING DEMOLITION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE DEPARTMENT PRIOR TO PLACING REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

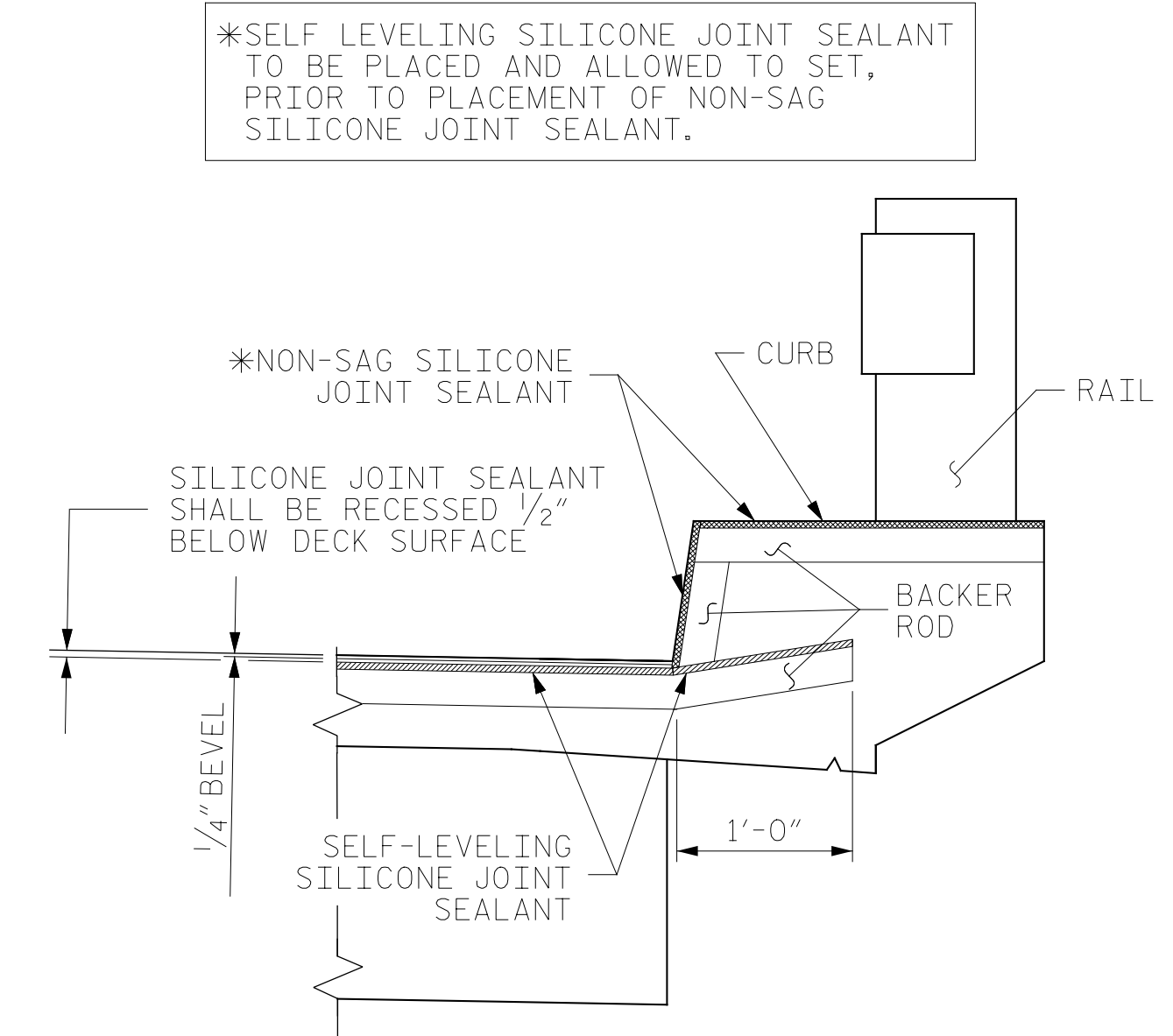
FOR BRIDGE JOINT DEMOLITION EXCAVATE TO SOUND CONCRETE. IF BRIDGE JOINT DEMOLITION EXTENDS MORE THAN 2" BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER OR IF CAVING OF CONCRETE OCCURS SUCH THAT A LEVEL SURFACE CANNOT BE ACHIEVED, AS SHOWN, APPROVED REPAIR CONCRETE SHALL BE PLACED IN THE EXCAVATED AREA TO THE SURFACE OF THE DECK

DO NOT INSTALL ELASTOMERIC CONCRETE HEADER UNTIL THE REPAIR CONCRETE HAS ACHIEVED DESIGN STRENGTH AND IS FULLY CURED (REFER TO MANUFACTURER SPECIFICATIONS FOR STRENGTH AND CURE).

THE CONTRACTOR SHALL HAVE ON HAND REPAIR CONCRETE AND MIXING EQUIPMENT PRIOR TO BEGINNING BRIDGE JOINT DEMOLITION.



PLAN



SECTION B-B

*SELF LEVELING SILICONE JOINT SEALANT TO BE PLACED AND ALLOWED TO SET, PRIOR TO PLACEMENT OF NON-SAG SILICONE JOINT SEALANT.

*NON-SAG SILICONE JOINT SEALANT

SILICONE JOINT SEALANT SHALL BE RECESSED 1/2" BELOW DECK SURFACE

JOINT SEAL DETAILS AT BENT

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

BILL OF MATERIAL PER JOINT (134 JOINTS) & TOTAL		
IDENTIFYING BENT LOCATIONS: 3, 5, 7, 11, 13, 15, 19, 21, 23, 27, 29, 31, 35, 37, 39, 43, 45, 47, 51, 53, 55, 59, 61, 63, 67, 69, 71, 75, 77, 79, 83, 85, 87, 91, 93, 95, 99, 101, 103, 107, 109, 111, 115, 117, 119, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 156, 158, 160, 164, 166, 168, 172, 174, 176, 180, 182, 184, 188, 190, 192, 196, 198, 202, 204, 206, 210, 212, 214, 218, 220, 222, 226, 228, 230, 234, 236, 238, 242, 244, 246, 250, 252, 254, 258, 260, 262, 266, 268, 270, 274, 276, 278, 282, 284, 286, 290, 292, 294, 298, 300, 302, 306, 308, 310		
ELASTOMERIC CONCRETE FOR PRESERVATION	4.6 CF PER BENT	TOTAL: 616.4 CF
SILICONE JOINT SEALANT	29.9 LF PER BENT	TOTAL: 4006.6 LF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS



DRAWN BY: M. SPENCER DATE: 04/2019
CHECKED BY: R. NELSON DATE: 04/2019

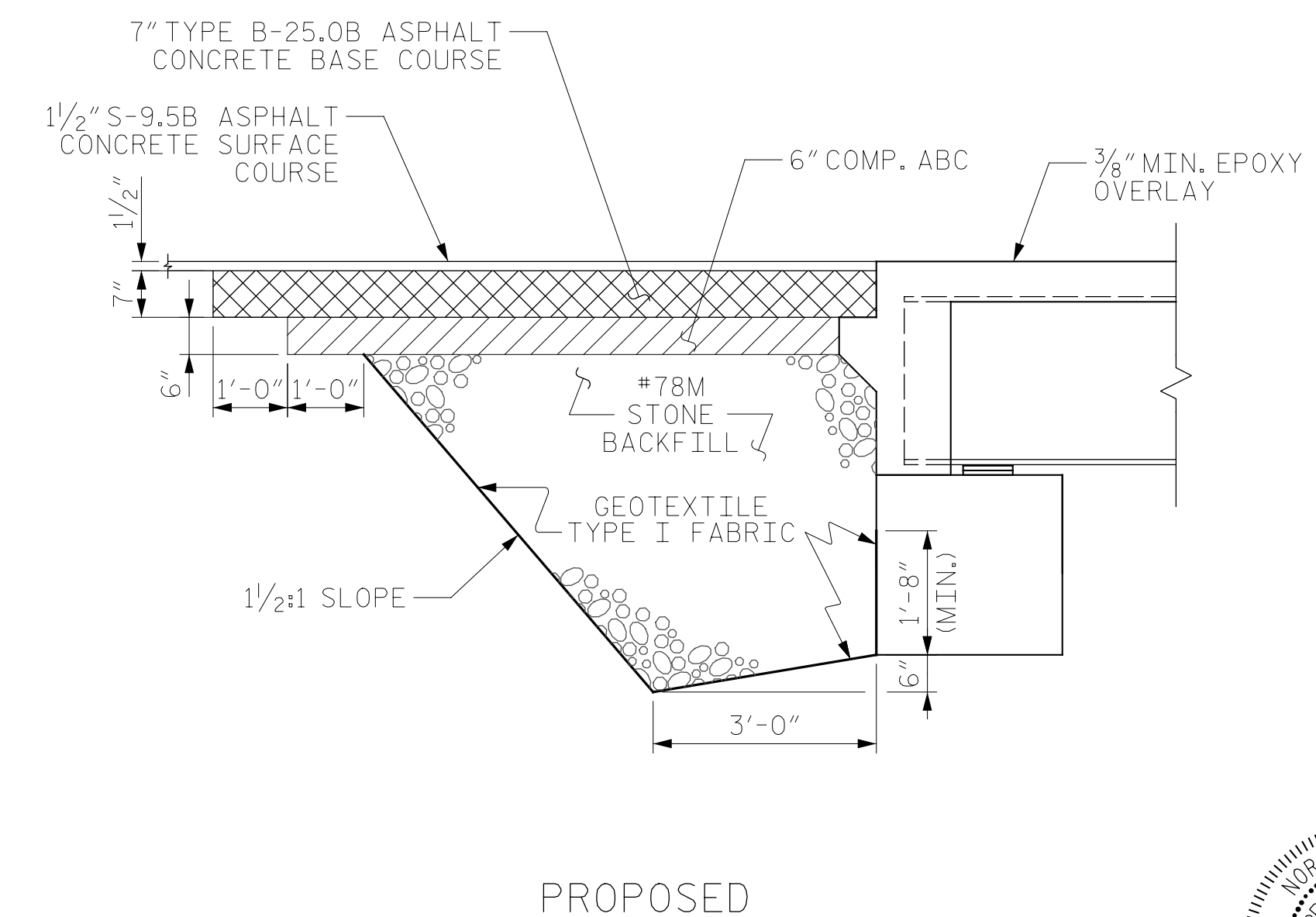
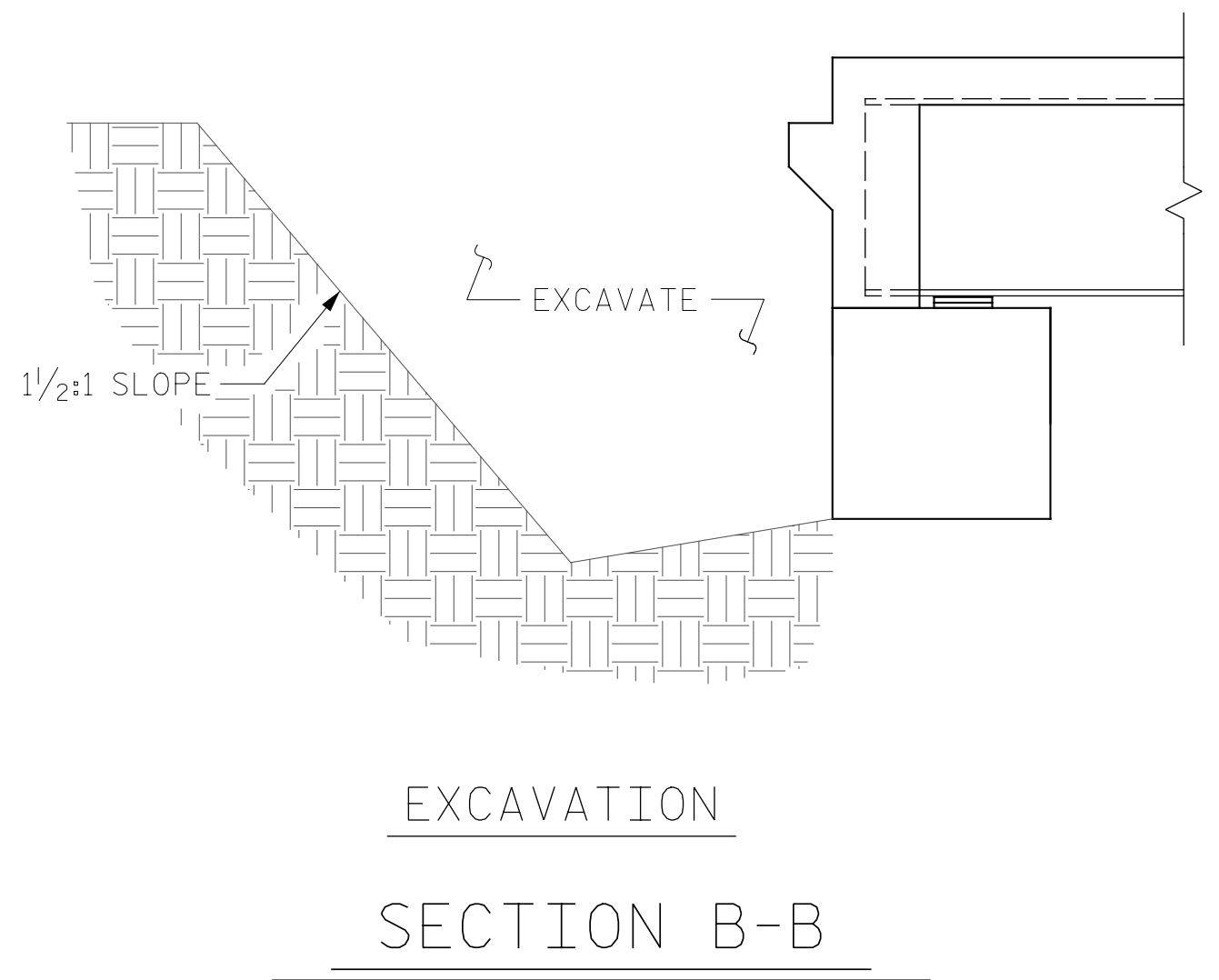
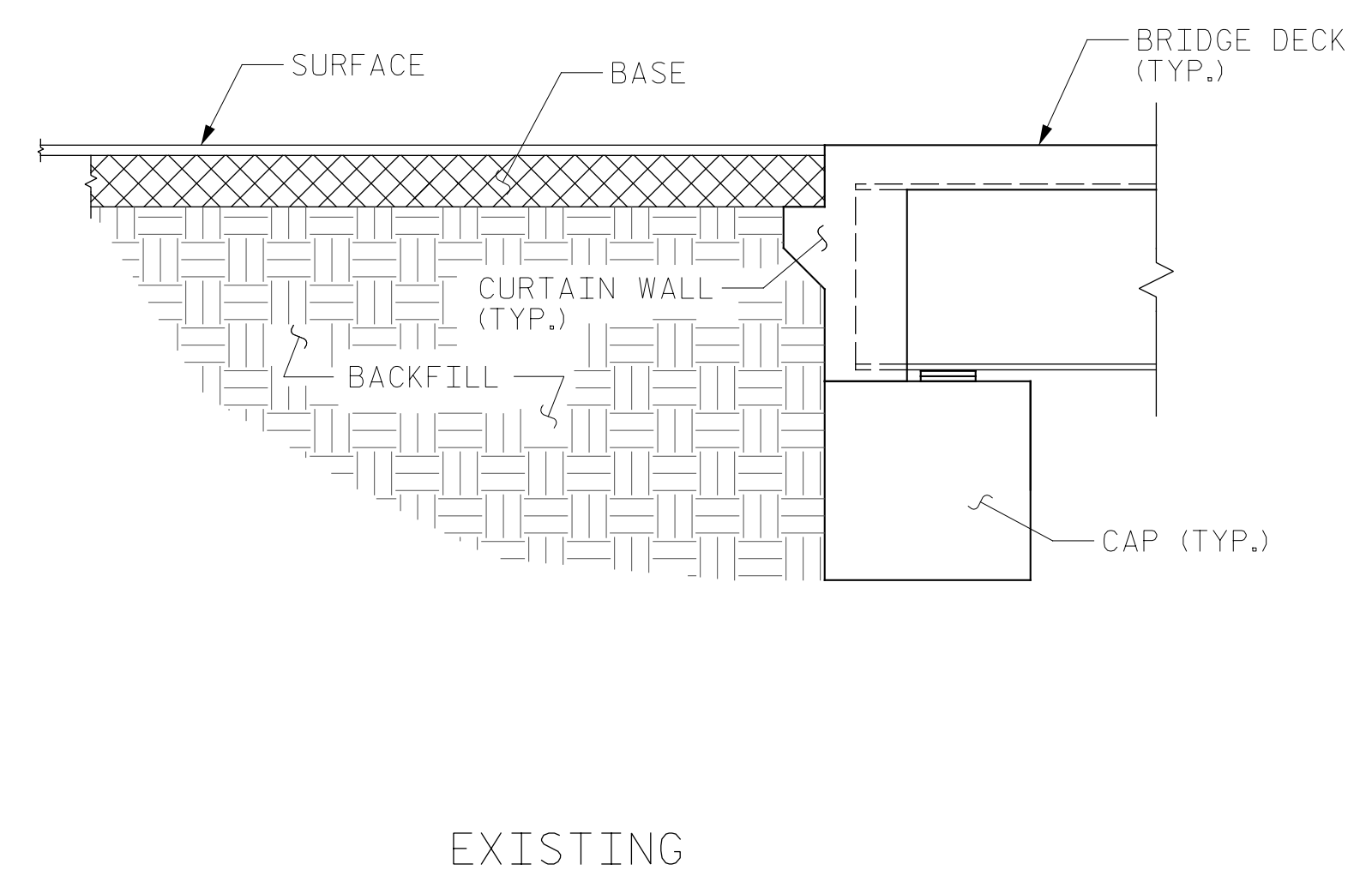
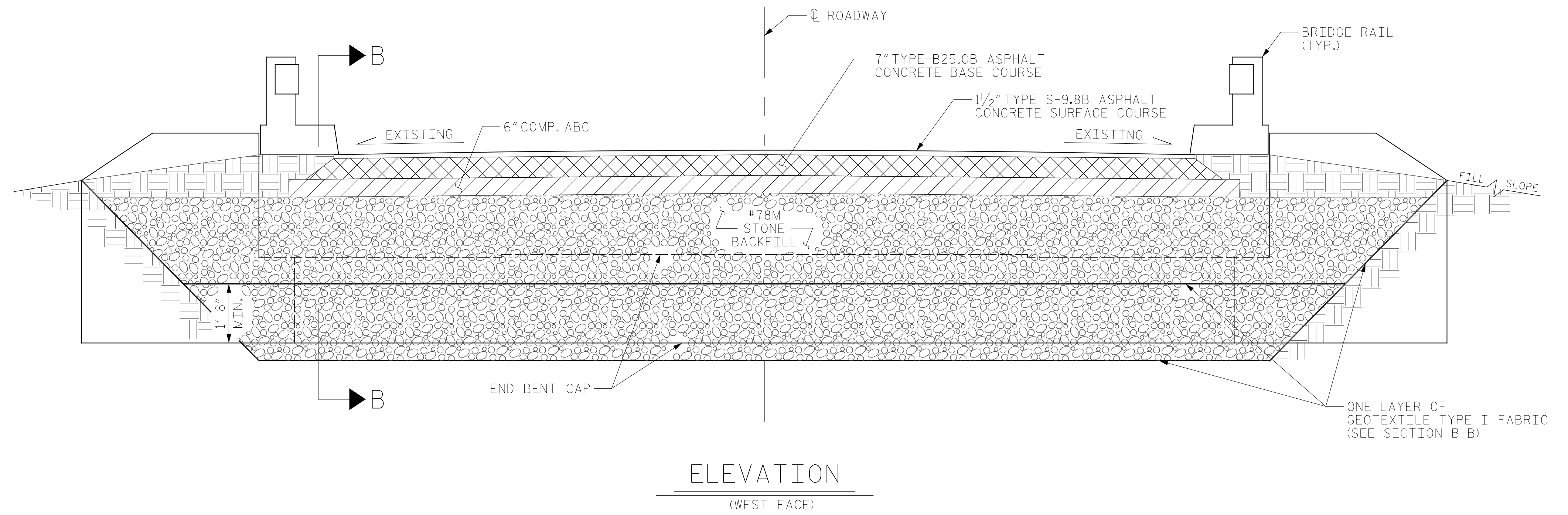
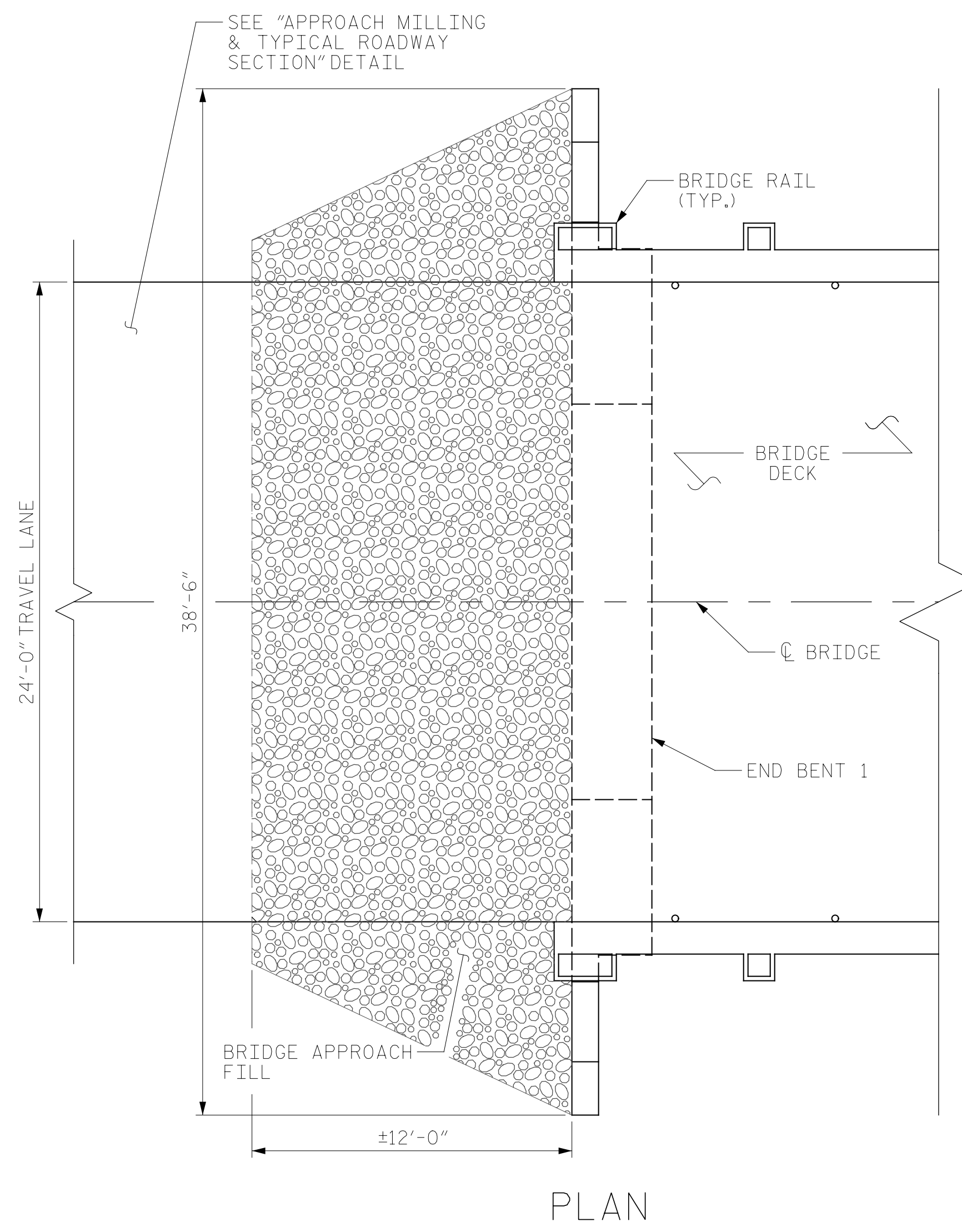


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* BRIDGE APPROACH FILL ESTIMATES	
EXCAVATION	56 CU. YDS.
GEOTEXTILES	50 SQ. YDS.
#78M STONE	37 CU. YDS.
ASHPALT BASE COURSE	15 TONS
ABC STONE	8.0 TONS

* QUANTITIES IN THIS TABLE ARE FOR INFORMATION PURPOSES ONLY.



PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 REINFORCED
 APPROACH FILL
 AT END BENT 1

DRAWN BY : T. HARTLEY DATE : 12/2018
 CHECKED BY : J. FARNHAM DATE : 03/2019



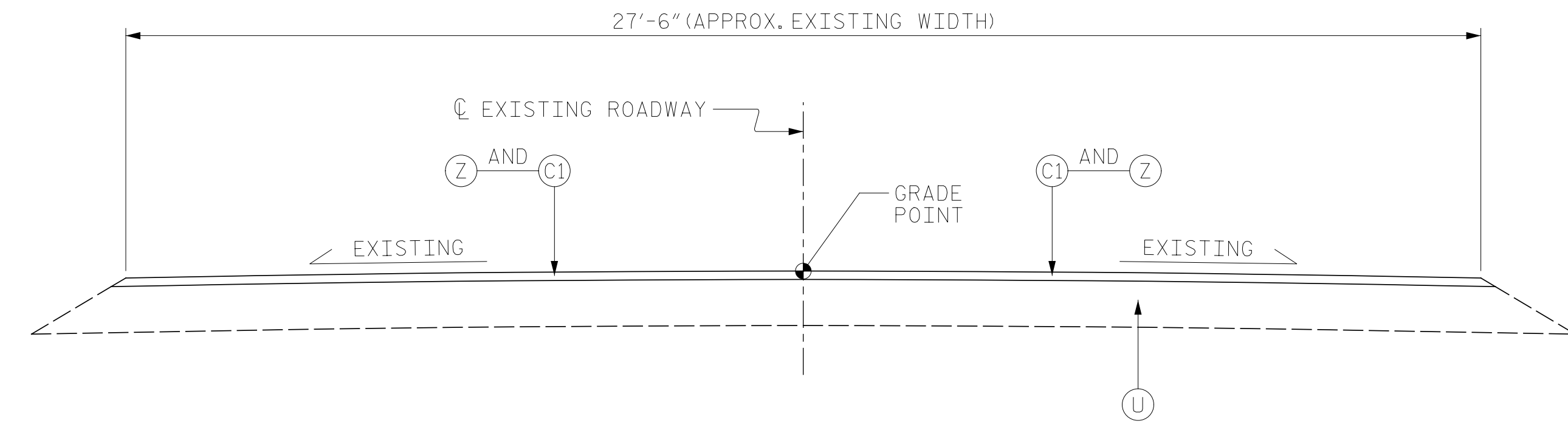
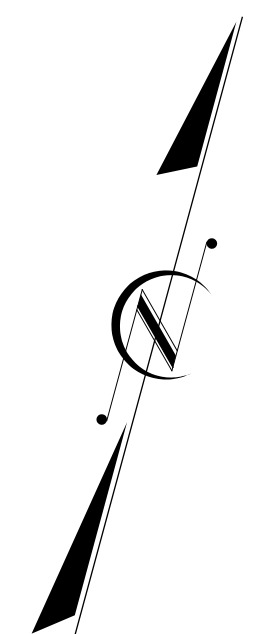
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2			4			

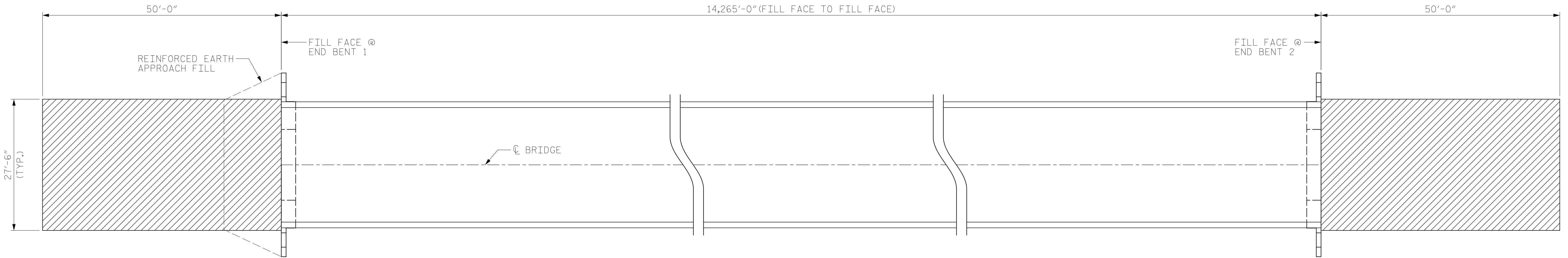
PAVEMENT SCHEDULE	
C1	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH
U	EXISTING ASPHALT
Z	INCIDENTAL MILLING

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	306 SQ. YDS.	
ASPHALT CONCRERTE SURFACE COURSE, TYPE S9.5C	26.0 TONS	
ASPHALT BINDER FOR PLANT MIX	1.6 TONS	

NOTES:
 INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVEMENT TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1 1/2" DEPTH OF NEW ASPHALT PAVEMENT. PROVIDE NEW ASPHALT PAVING THICKNESS TO CREATE A SMOOTH TRANSITION TO THE BRIDGE, AS SHOWN. NEW ASPHALT PAVING THICKNESS MAY EXCEED 1 1/2" DUE TO SETTLEMENT OF THE EXISTING APPROACH ASPHALT PAVEMENT.

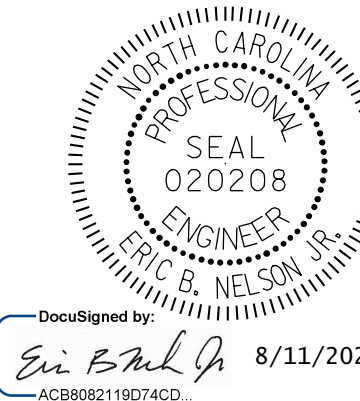


TYPICAL PROPOSED ROADWAY SECTION



PLAN

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



DocuSigned by:
 Eric B. Nelson, Jr.
 AC88082119074CD, 8/11/2022

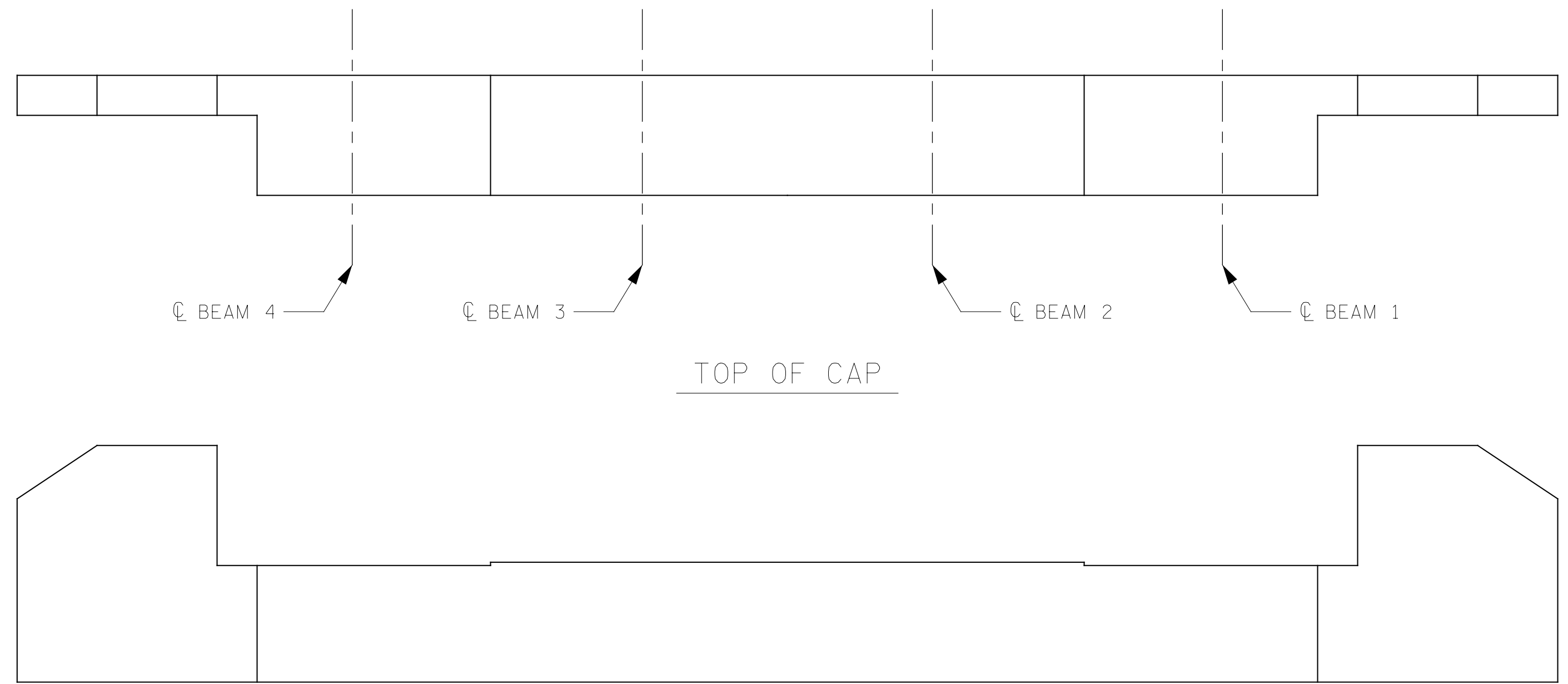
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 APPROACH MILLING
 AND TYPICAL ROADWAY
 SECTIONS

DRAWN BY : T. HARTLEY DATE : 5/19
 CHECKED BY : R. FISHER DATE : 5/19



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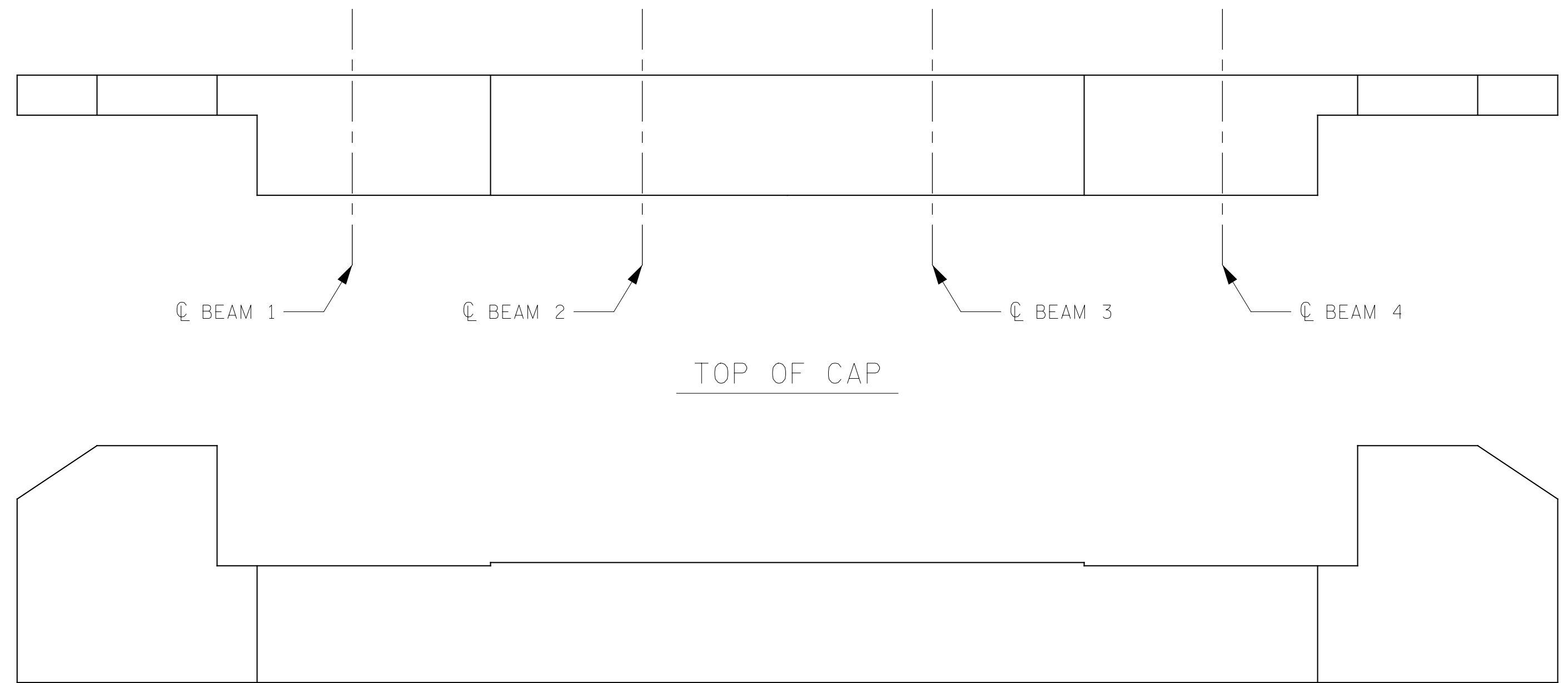
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			114
2			4			355



ELEVATION
(EAST FACE)

END BENT 1

NO REPAIRS NOTED DURING INSPECTION.
THE CONTRACTOR AND ENGINEER SHALL
INSPECT PRIOR TO BEGINNING WORK.



ELEVATION
(WEST FACE)

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

END BENT 1

CAP REPAIRS	ESTIMATE		ACTUAL	
	- SF	- CF	SF	CF
SHOTCRETE REPAIRS				
EPOXY RESIN INJECTION		- LF		LF

END BENT 2

CAP REPAIRS	ESTIMATE		ACTUAL	
	- SF	- CF	SF	CF
SHOTCRETE REPAIRS				
EPOXY RESIN INJECTION		- LF		LF

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

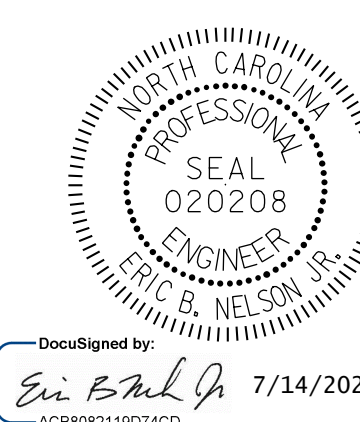
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

- ERI - EPOXY RESIN INJECTION
- SHOTCRETE REPAIR

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1
 &
 END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			

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 CHECKED BY : J. FARNHAM DATE : 4/2019



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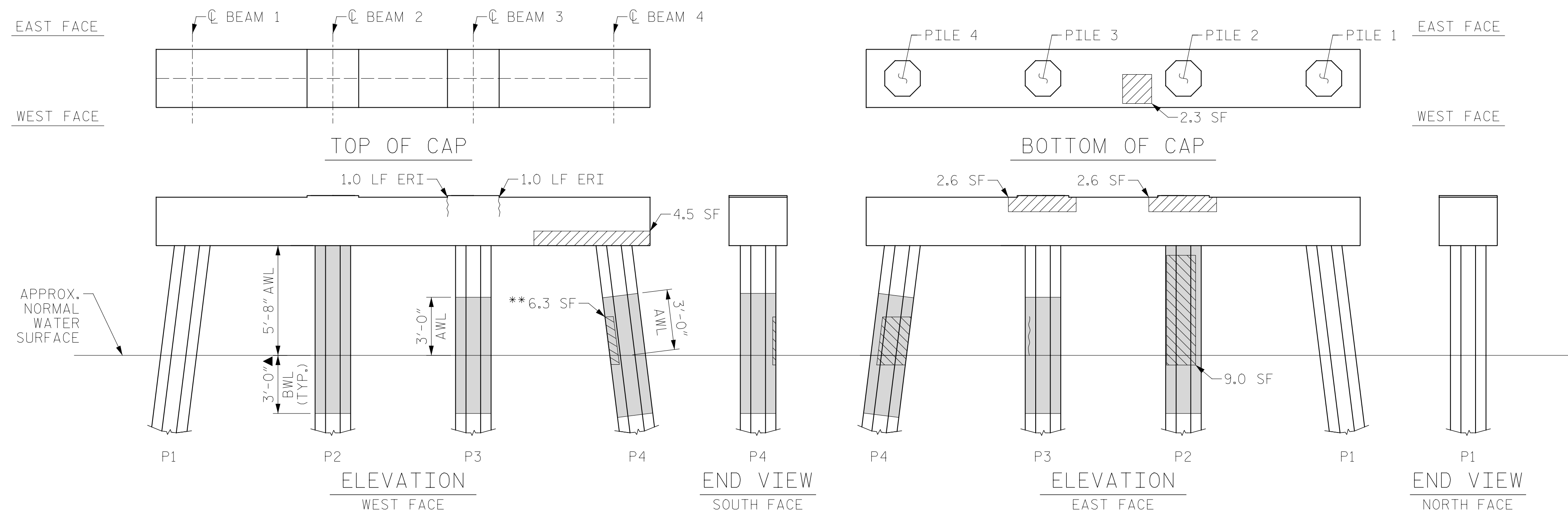
AS-BUILT REPAIR QUANTITY TABLE

BENT 1					
CAP REPAIRS					
SHOTCRETE REPAIRS	12.0 SF	6.0 CF	SF	CF	
EPOXY RESIN INJECTION	2.0 LF				LF
PILE REPAIRS					
PILE CONCRETE RESTORATION	15.3 SF	6.3 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	64.2 SF				
FRP PROTECTIVE SYSTEM BWL	49.5 SF				
BENT 2					
CAP REPAIRS					
SHOTCRETE REPAIRS	16.4 SF	8.2 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS					
PILE CONCRETE RESTORATION	36.0 SF	14.4 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	140.3 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

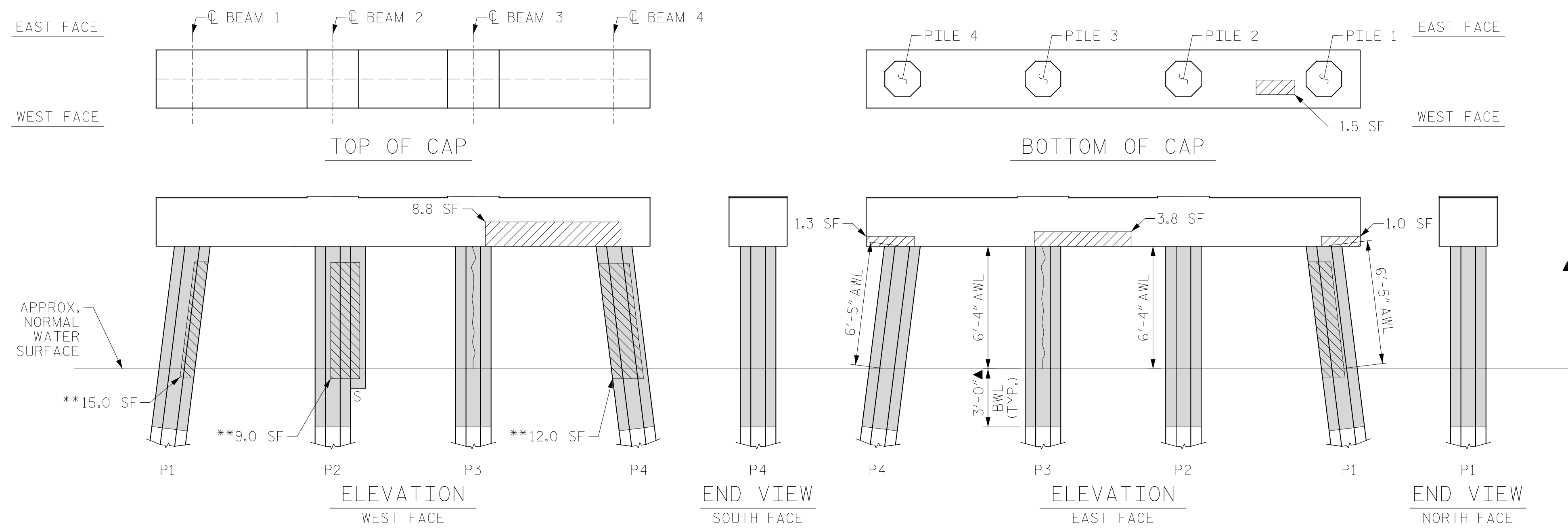
FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

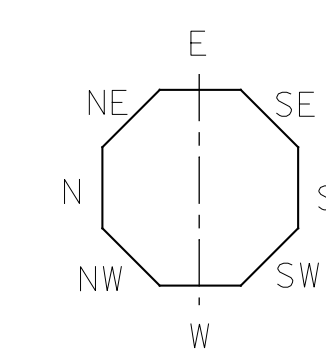
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 1
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 2
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 1	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	-	-	-	2	-	-	-
	PILE 4	-	-	-	-	-	-	-	-
BENT 2	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	6.3	-	-	-	6.3	-	-
	PILE 4	-	-	-	-	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- FRP PROTECTIVE SYSTEM
- PILE CONCRETE RESTORATION
- SHOTCRETE REPAIRS

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1 & BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-116
2			4			355

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

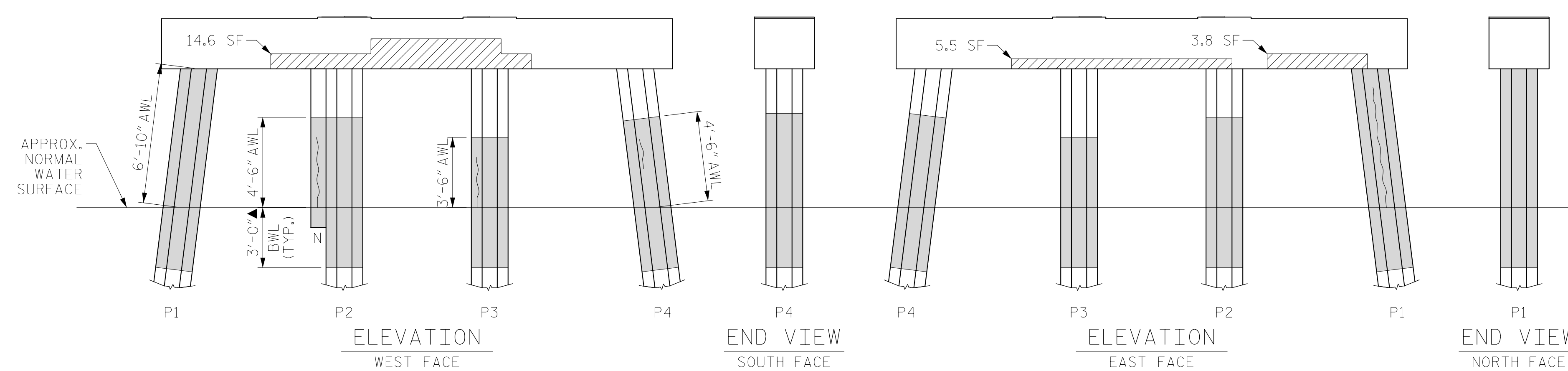
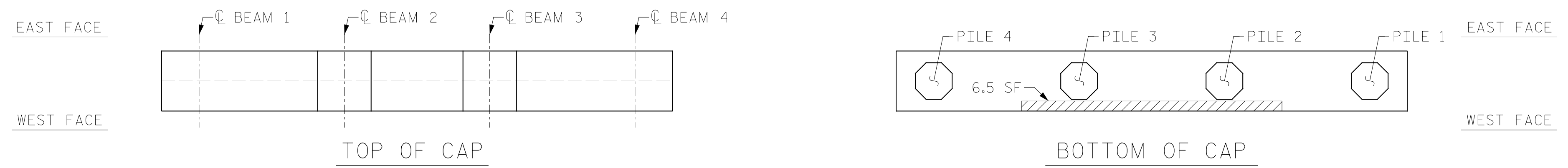
BENT 3				
CAP REPAIRS		ESTIMATE		
SHOTCRETE REPAIRS	30.4 SF	15.2 CF	SF	CF
EPOXY RESIN INJECTION	-	LF		LF
PILE REPAIRS		ESTIMATE		
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	106.8 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

BENT 4				
CAP REPAIRS		ESTIMATE		
SHOTCRETE REPAIRS	18.0 SF	9.0 CF	SF	CF
EPOXY RESIN INJECTION	-	LF		LF
PILE REPAIRS		ESTIMATE		
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	121.9 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

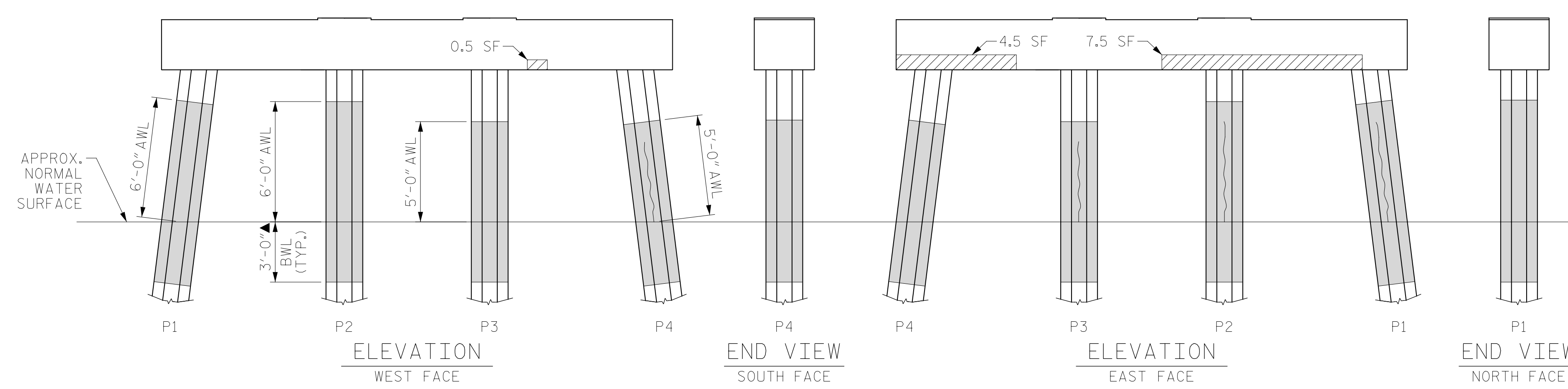
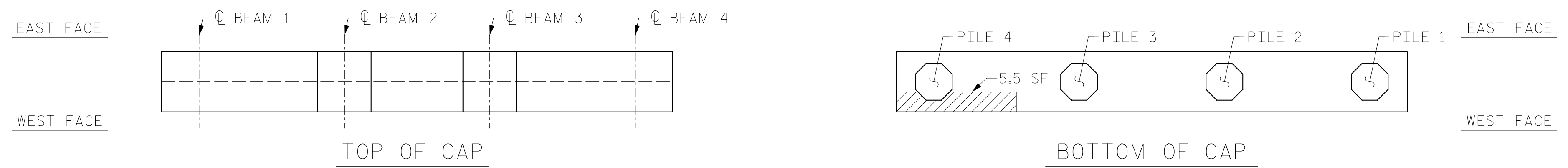
FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

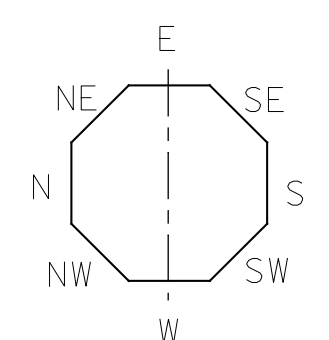
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 3
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 4
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 3	PILE 1	-	-	-	-	-	6	-	-
	PILE 2	-	-	-	-	-	-	-	3.5
	PILE 3	2.5	-	-	-	-	-	-	-
	PILE 4	1.5	2	-	-	-	2.5	-	-
BENT 4	PILE 1	-	-	-	-	-	5	-	2.5
	PILE 2	-	-	-	3	-	5	-	-
	PILE 3	-	-	-	2	-	4	-	-
	PILE 4	-	4	-	-	1.5	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.
PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3 & BENT 4

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			117
2			4			355

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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AS-BUILT REPAIR QUANTITY TABLE

BENT 5

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	8.3 SF	4.2 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	41.3 SF	17.5 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	173.7 SF				
FRP PROTECTIVE SYSTEM BWL	99.0 SF				

BENT 6

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	11.8 SF	5.9 SF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	25.0 SF	10.1 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	137.0 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

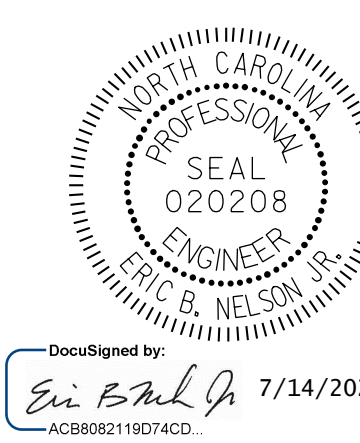
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

		NW	W	SW	S	SE	E	NE	N
BENT 5	PILE 1	-	-	5	-	-	5	-	-
	PILE 2	-	-	-	3	-	-	-	-
	PILE 3	-	-	-	-	-	-	-	-
	PILE 4	-	-	-	-	-	-	-	7.5
	PILE 6	-	2	-	-	-	-	-	-
BENT 6	PILE 1	-	-	-	-	-	-	-	4
	PILE 2	9	-	-	-	-	-	-	-
	PILE 3	-	-	-	-	-	1	-	-
	PILE 4	4	-	-	-	-	-	-	9

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

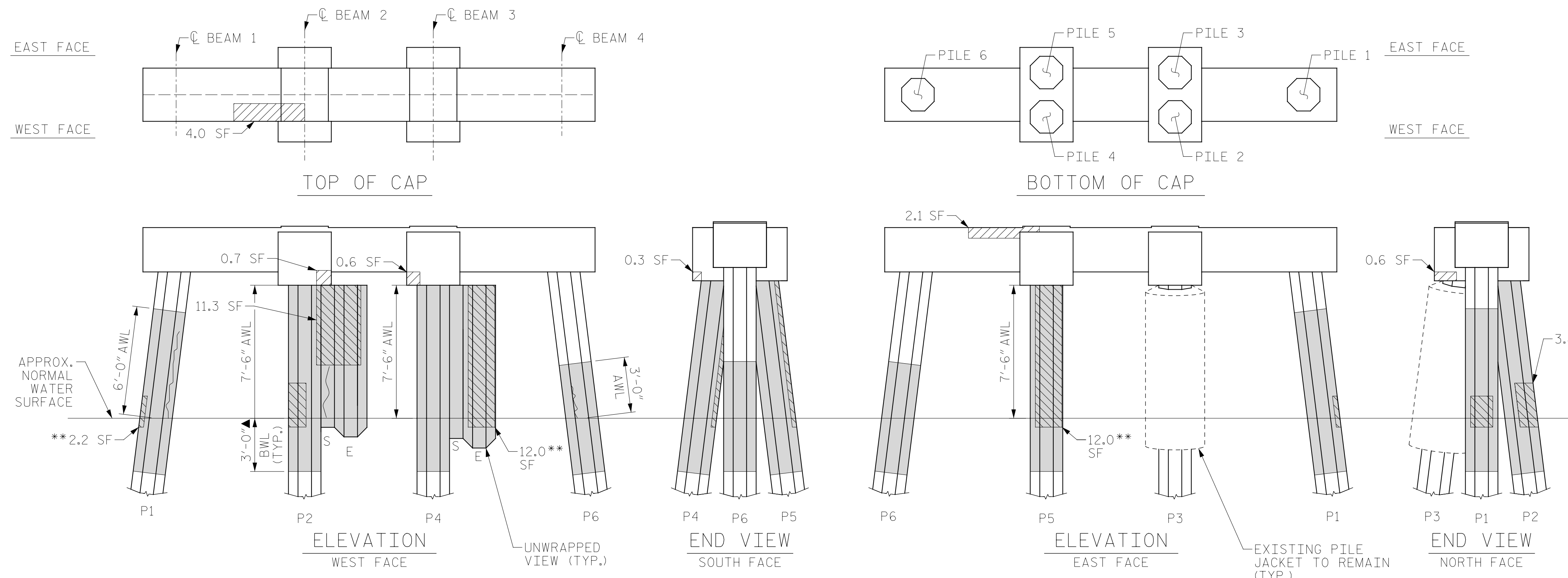
PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BENT 5 & BENT 6

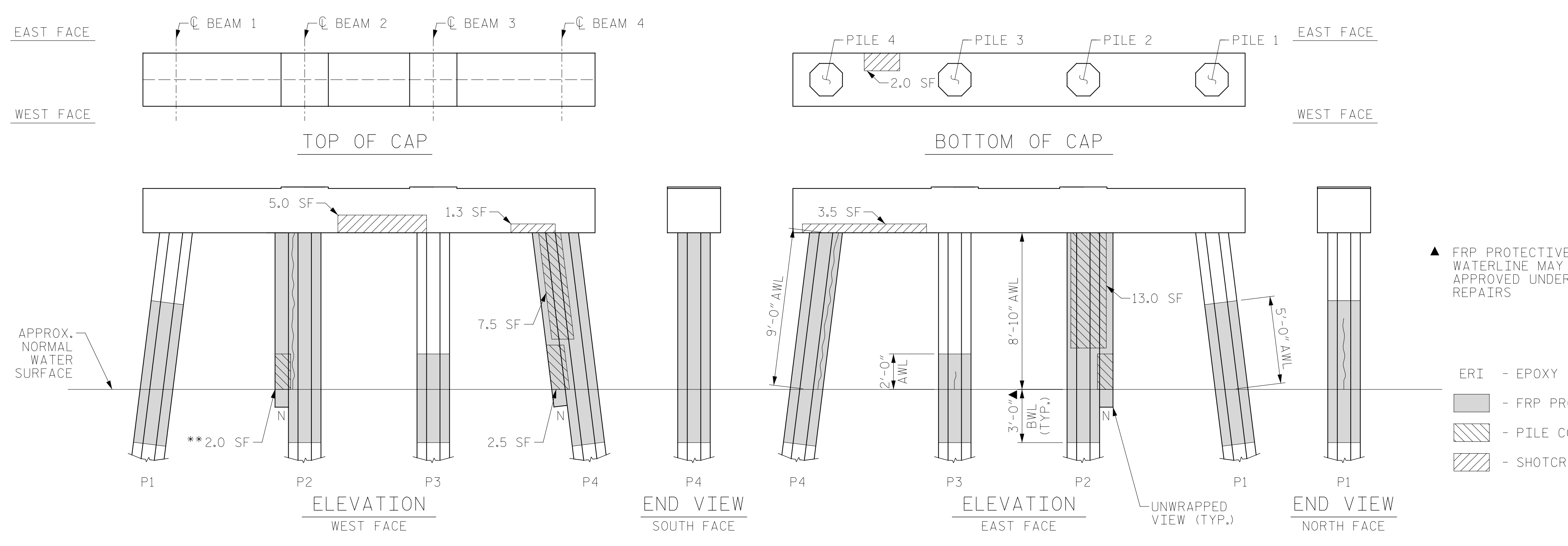
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-118
1			3			TOTAL SHEETS
2			4			355

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



BENT 5

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 6

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019

DocuSigned by: Eric B. Nelson 7/14/2022

AS-BUILT REPAIR QUANTITY TABLE

BENT 7

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	18.1 SF	9.1 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	26.5 SF	11.0 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	163.2 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

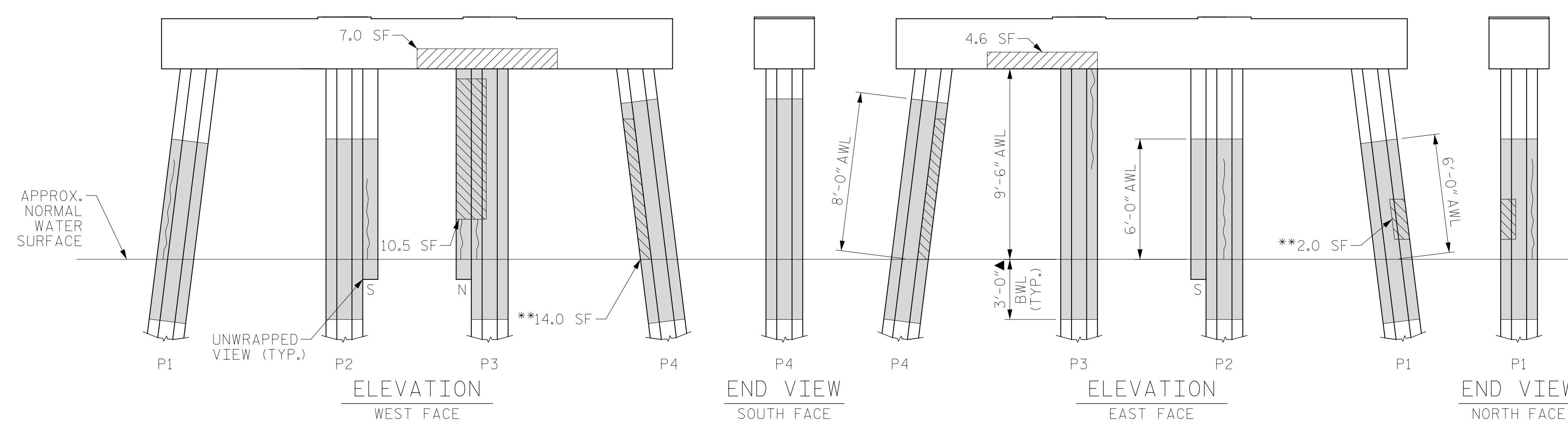
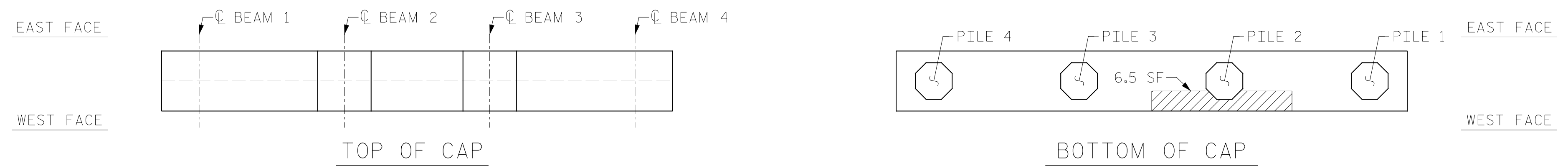
BENT 8

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	5.4 SF	2.7 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	11.9 SF	5.1 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	121.9 SF				
FRP PROTECTIVE SYSTEM BWL	49.5 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

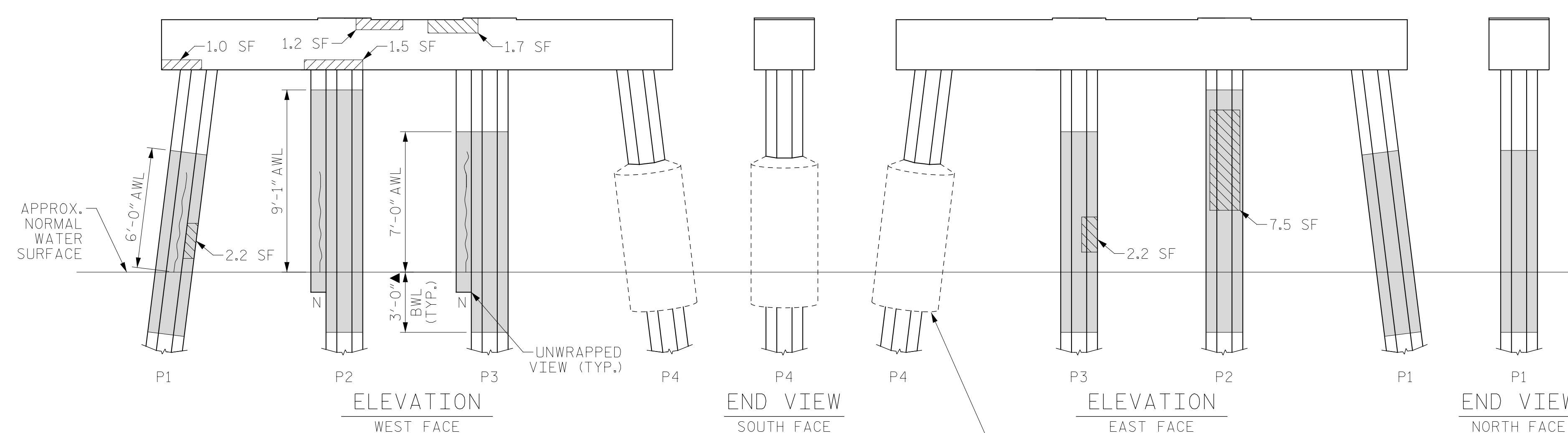
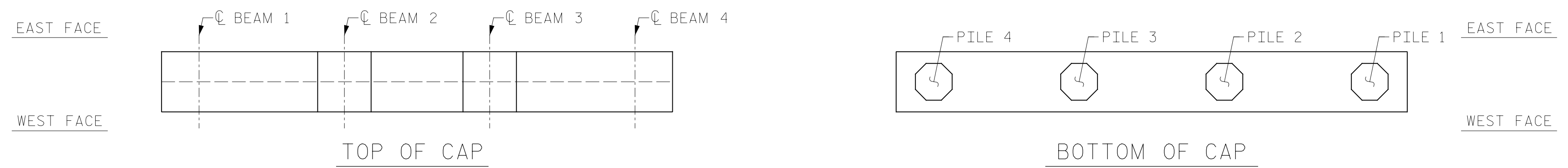
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



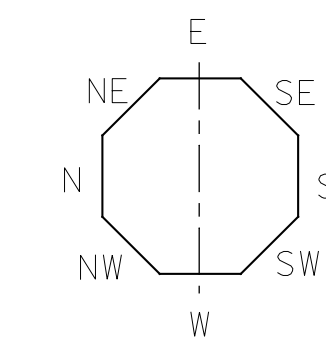
BENT 7

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 8

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)

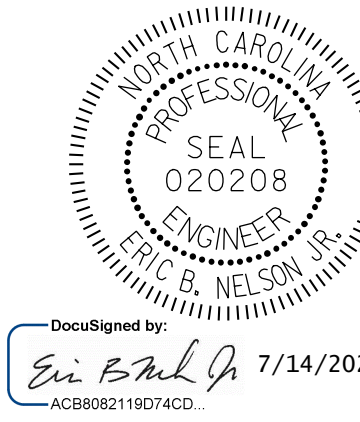


ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 7	PILE 1	5	-	-	-	-	-	-	-
	PILE 2	-	-	-	4	-	5	-	-
	PILE 3	2	-	-	-	-	-	5	2
	PILE 4	-	-	-	-	-	-	-	-
BENT 8	PILE 1	-	5	-	-	-	-	-	-
	PILE 2	-	-	-	-	-	-	-	5
	PILE 3	-	-	-	-	-	-	-	6
	PILE 4	-	-	-	-	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- - FRP PROTECTIVE SYSTEM
- ▨ - PILE CONCRETE RESTORATION
- ▩ - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 7 & BENT 8

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			119
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 9

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	116.0 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

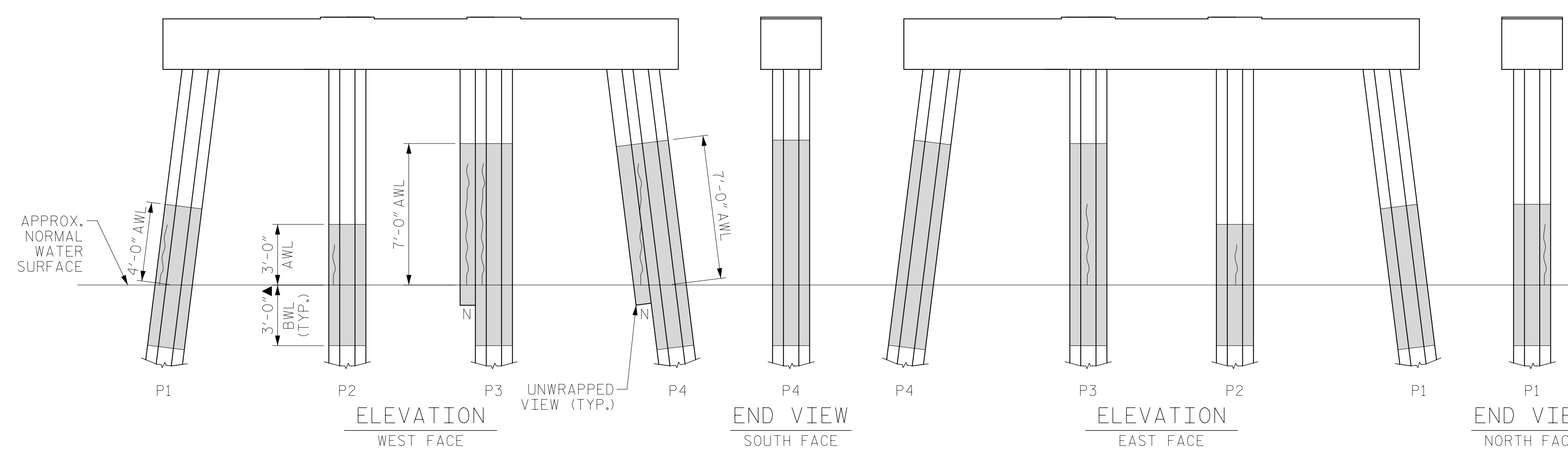
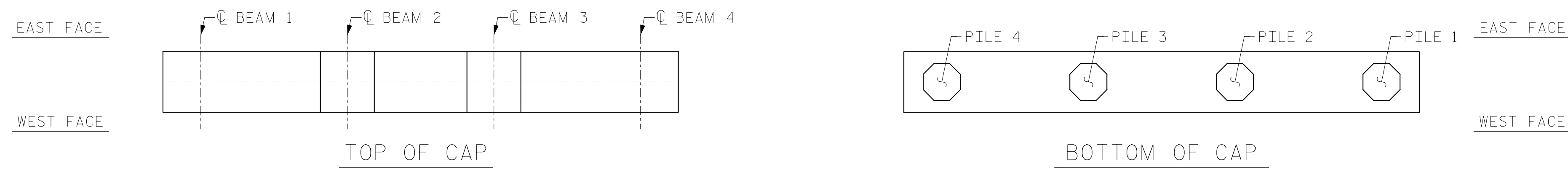
BENT 10

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	2.5 SF	1.0 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	99.0 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

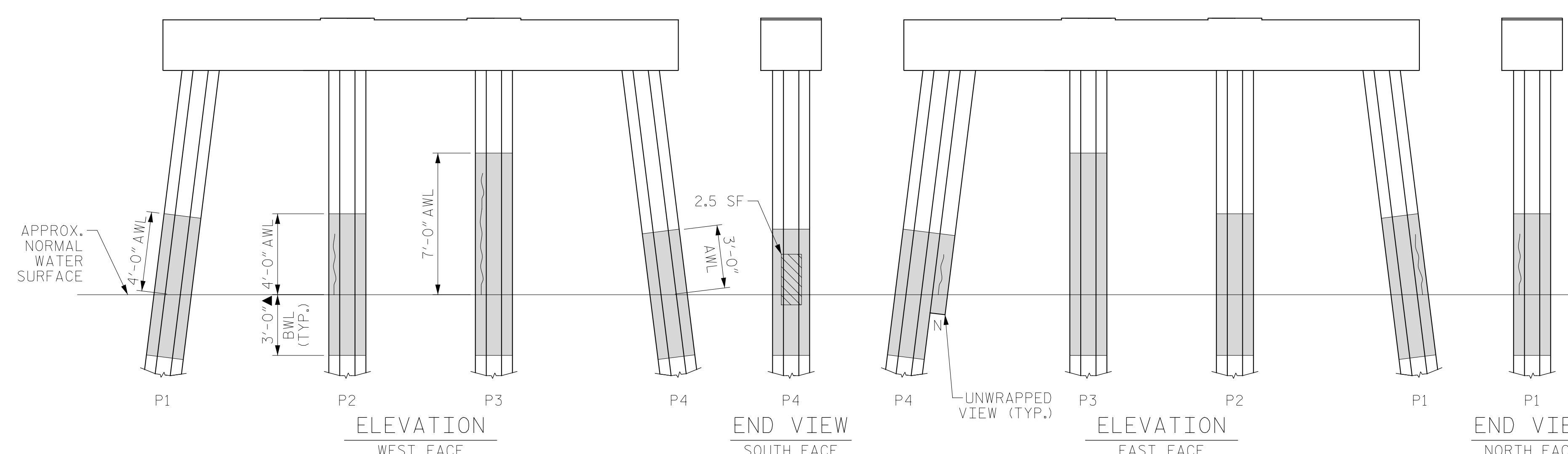
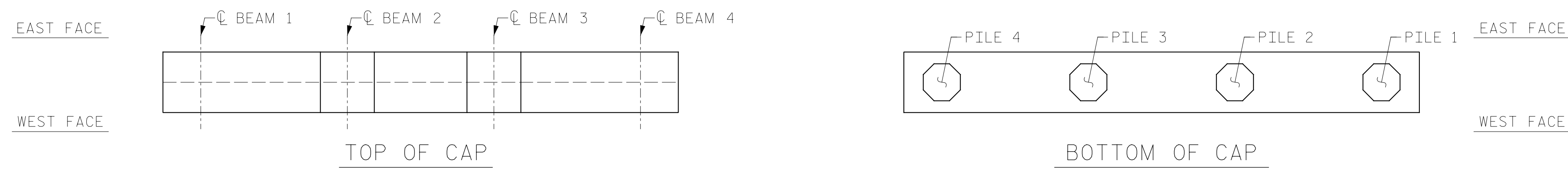
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



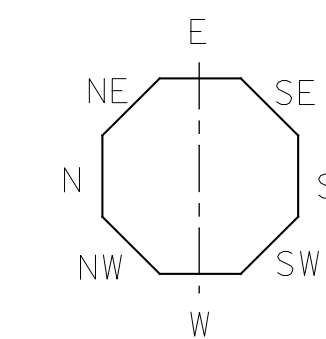
BENT 9

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 10

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.		NW	W	SW	S	SE	E	NE	N
BENT 9	PILE 1	3	-	-	-	-	2	-	-
	PILE 2	2	-	-	-	-	2	-	-
	PILE 3	6	-	-	-	-	4	-	6
	PILE 4	-	-	-	-	-	-	5	6
BENT 10	PILE 1	-	-	-	-	-	-	3	-
	PILE 2	3	-	-	-	-	-	2	-
	PILE 3	6	-	-	-	-	-	2	-
	PILE 4	-	-	-	-	-	-	2	2

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- - FRP PROTECTIVE SYSTEM
- ▨ - PILE CONCRETE RESTORATION
- ▩ - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 9 & BENT 10

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			120
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

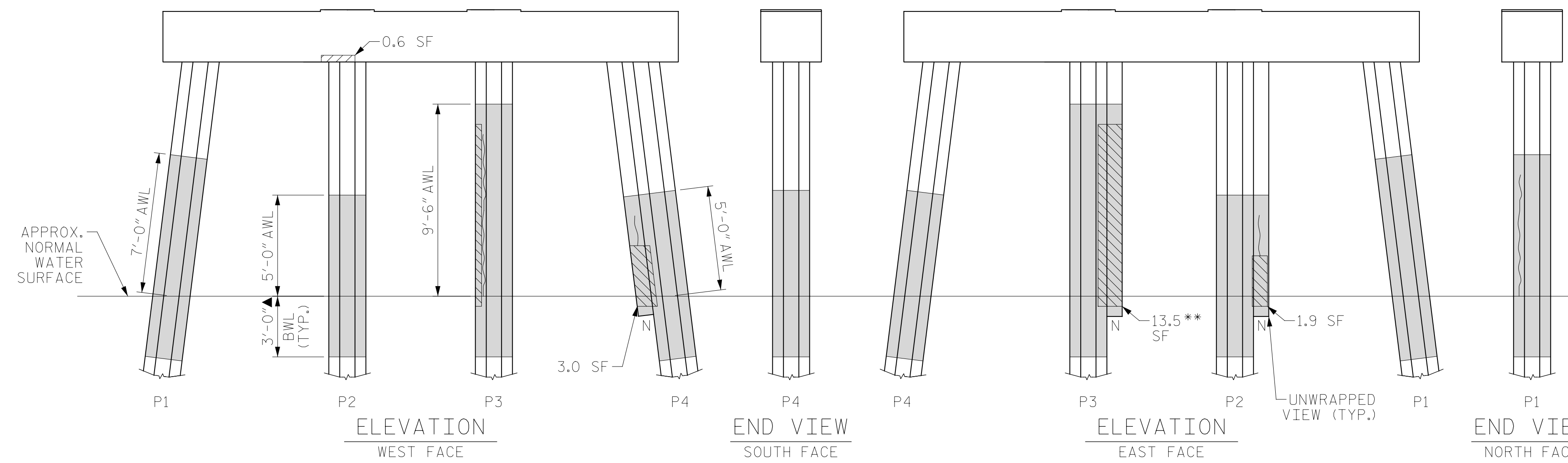
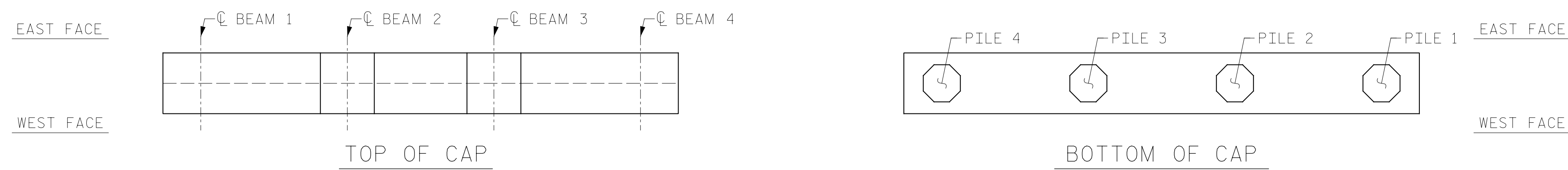
BENT 11			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	0.6 SF	0.3 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	18.4 SF	8.1 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	146.7 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 12			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	10.6 SF	4.0 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	149.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

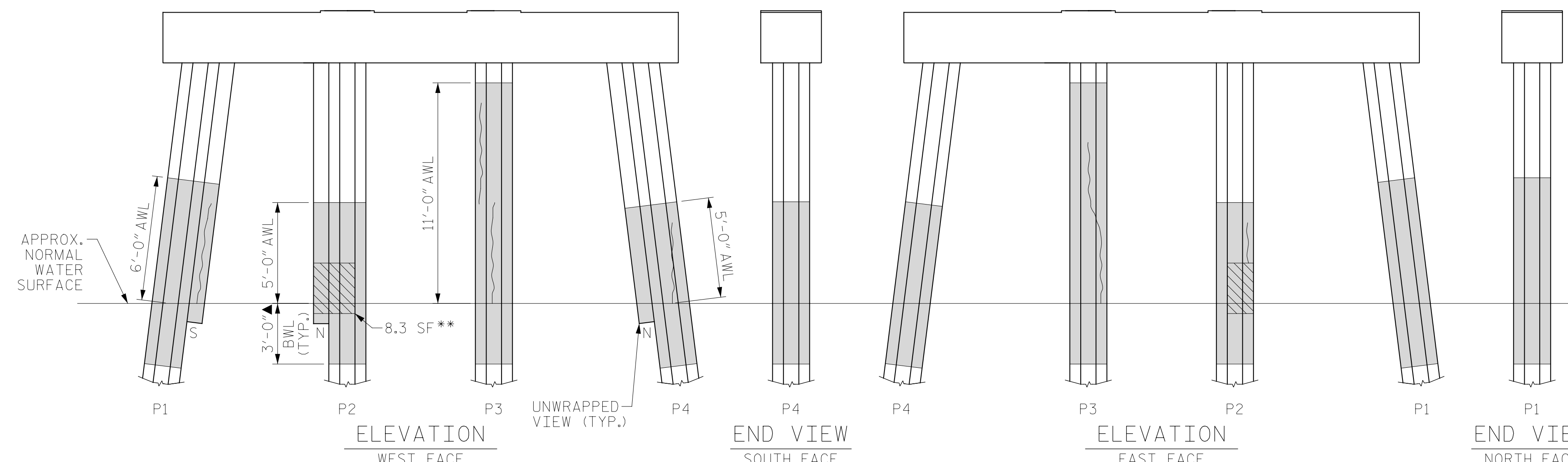
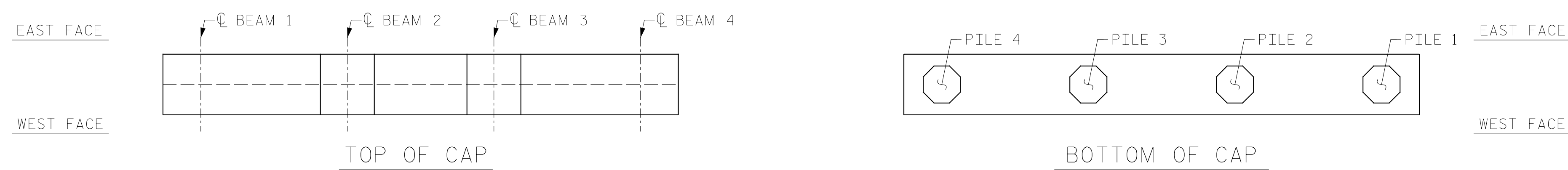
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



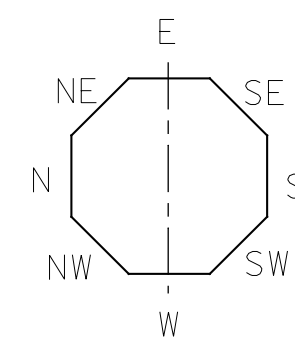
BENT 11

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 12

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



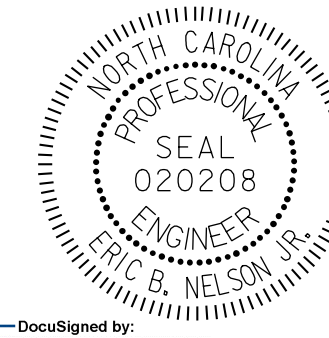
ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 11	PILE 1	-	-	-	-	-	6	6	-
	PILE 2	-	-	-	-	-	-	-	2.5
	PILE 3	8	-	-	-	-	-	-	-
	PILE 4	-	-	-	-	-	-	-	2
BENT 12	PILE 1	-	5	3	5	-	-	-	-
	PILE 2	-	-	-	-	-	-	2	-
	PILE 3	5	5	-	-	-	4	4	-
	PILE 4	2	2	2	-	-	-	-	2

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Shaded Area] - FRP PROTECTIVE SYSTEM
- [Hatched Area] - PILE CONCRETE RESTORATION
- [Cross-hatched Area] - SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson, Jr. 7/14/2022

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 11 & BENT 12

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			121
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

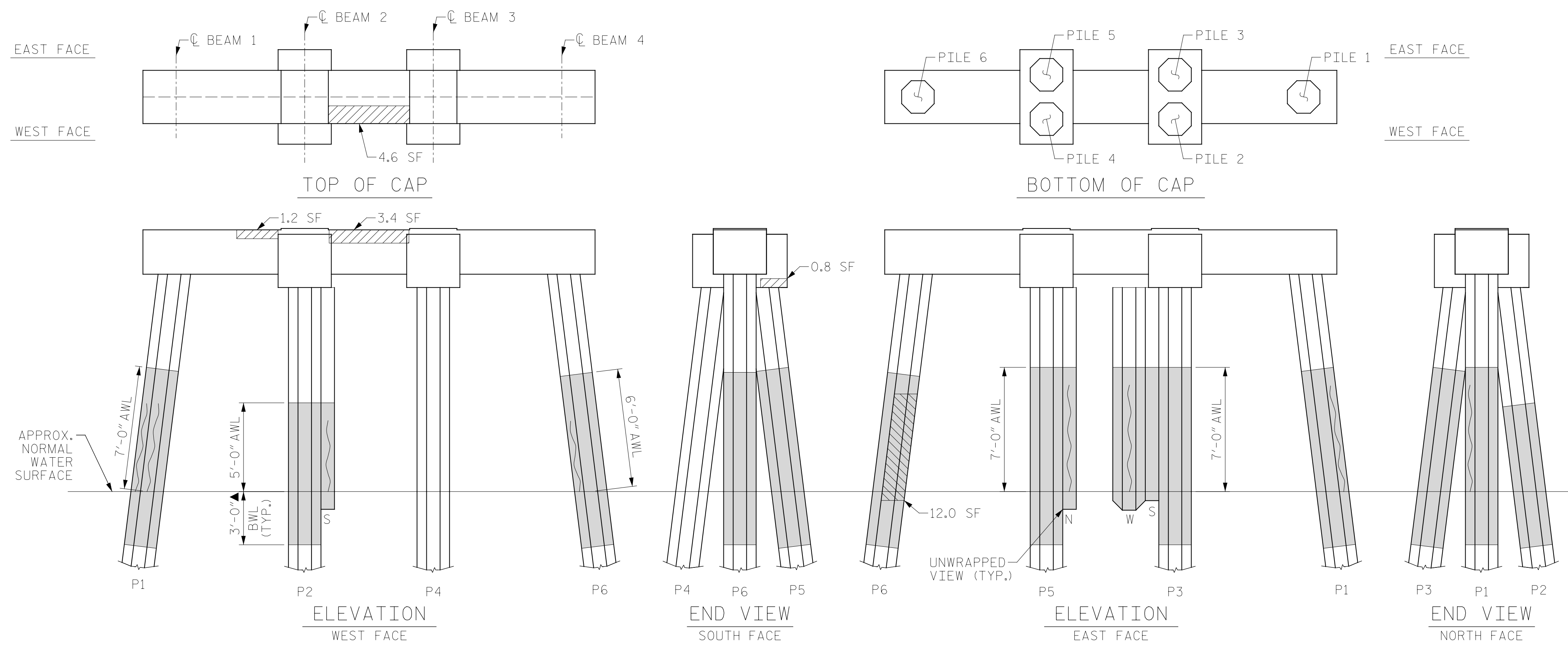
BENT 13			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	10.0 SF	5.0 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	12.0 SF	4.7 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	177.0 SF		
FRP PROTECTIVE SYSTEM BWL	82.5 SF		

BENT 14			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	3.8 SF	1.9 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	9.0 SF	4.0 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	132.5 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

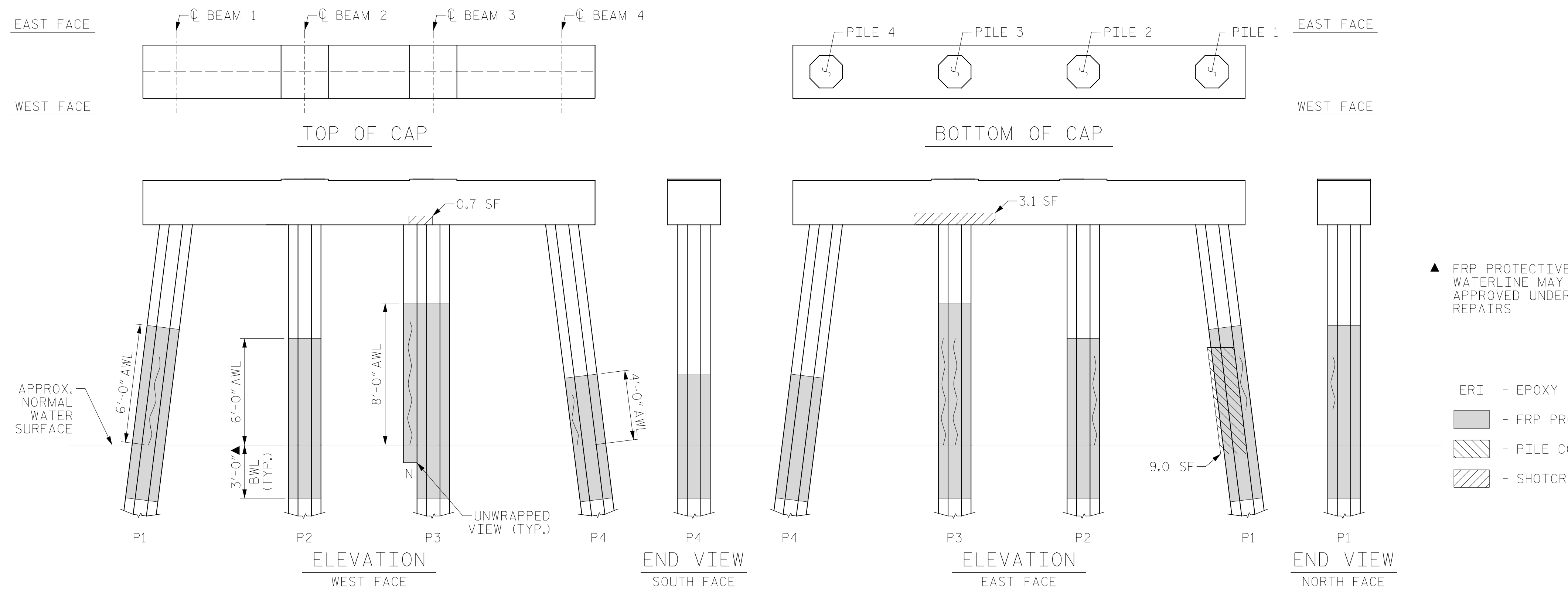
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 13

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



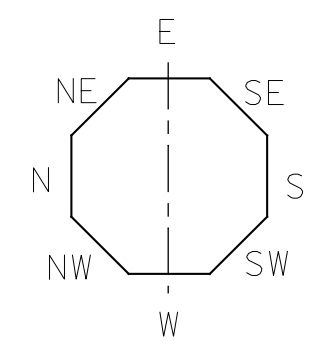
BENT 14

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)

ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 13	PILE 1	5	5	-	-	-	-	6	-
	PILE 2	-	-	-	4	-	-	-	-
	PILE 3	-	6	-	-	-	-	4	-
	PILE 4	-	-	-	-	-	-	-	-
	PILE 6	-	-	-	-	-	-	-	6
BENT 14	PILE 1	-	5	-	-	-	-	3	-
	PILE 2	-	-	-	-	-	-	5	-
	PILE 3	-	-	4	-	6	6	-	7
	PILE 4	3	-	-	-	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Shaded Area] - FRP PROTECTIVE SYSTEM
- [Hatched Area] - PILE CONCRETE RESTORATION
- [Diagonal Lines] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 13 & BENT 14

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 355
2			4			

AS-BUILT REPAIR QUANTITY TABLE

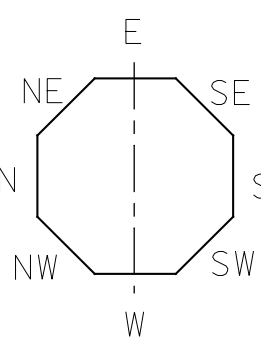
BENT 15			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	6.4 SF	3.2 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	4.2 SF	2.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	165.9 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 16			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	3.8 SF	2.7 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	6.4 SF	3.0 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	93.5 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

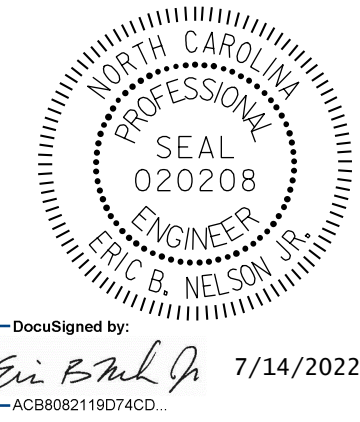
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 15	PILE 1	-	-	-	-	4	-	-	-
	PILE 2	2	-	4	-	-	4	4	-
	PILE 3	4	-	-	7	-	10	-	7
	PILE 4	-	5	-	-	-	5	5	6
BENT 16	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	5	6	-	-	-	-	-	-
	PILE 3	-	-	-	-	-	-	-	-
	PILE 4	3	-	-	-	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

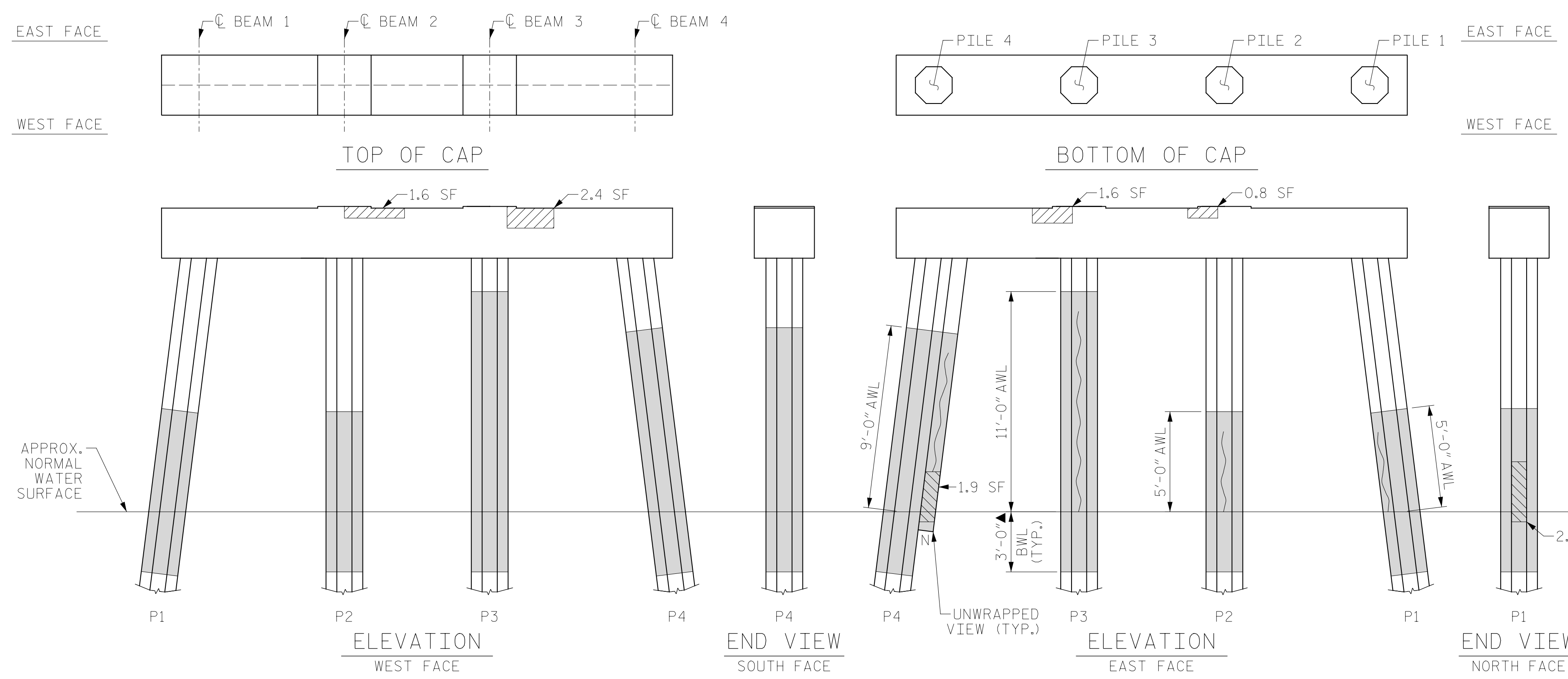
PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



DocuSigned by:
Eric B. Nelson, Jr. 7/14/2022
 AC889211974CD

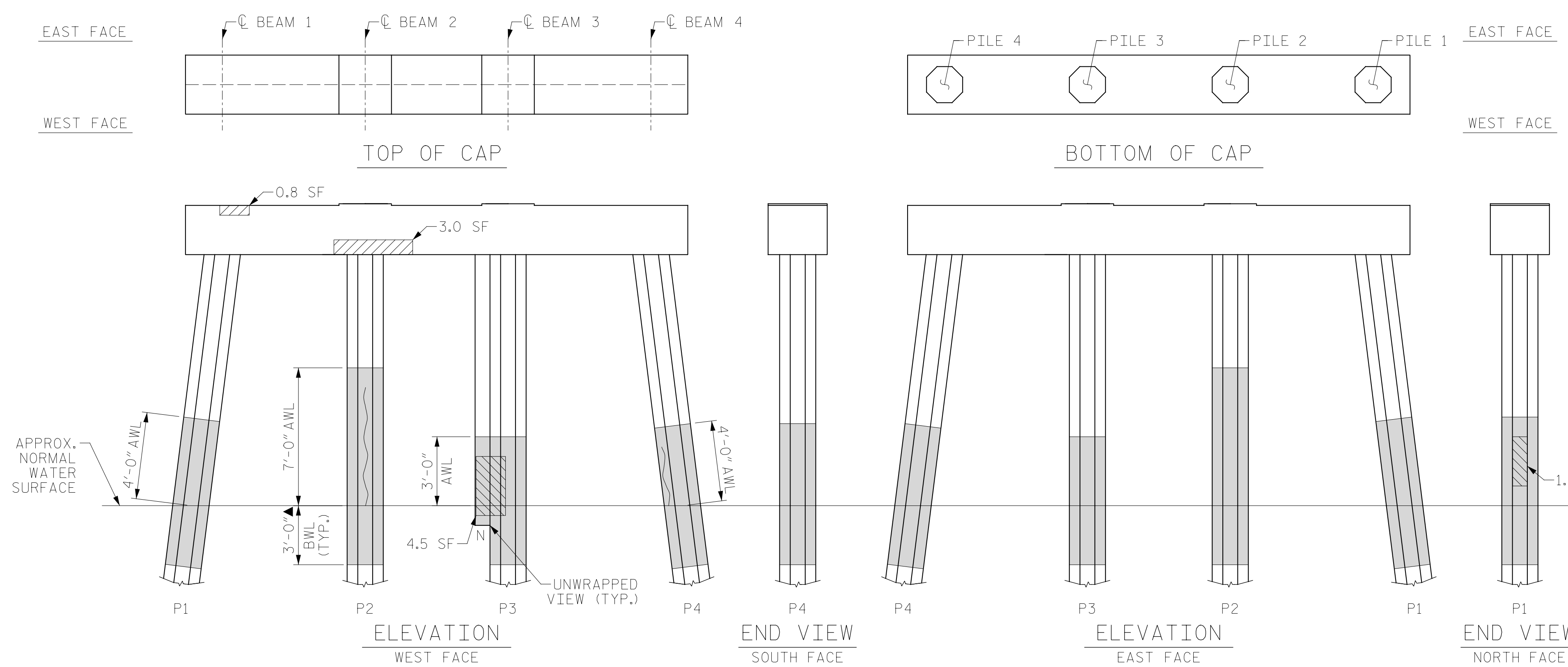
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BENT 15 & BENT 16					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					355

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



BENT 15

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 16

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019

AS-BUILT REPAIR QUANTITY TABLE

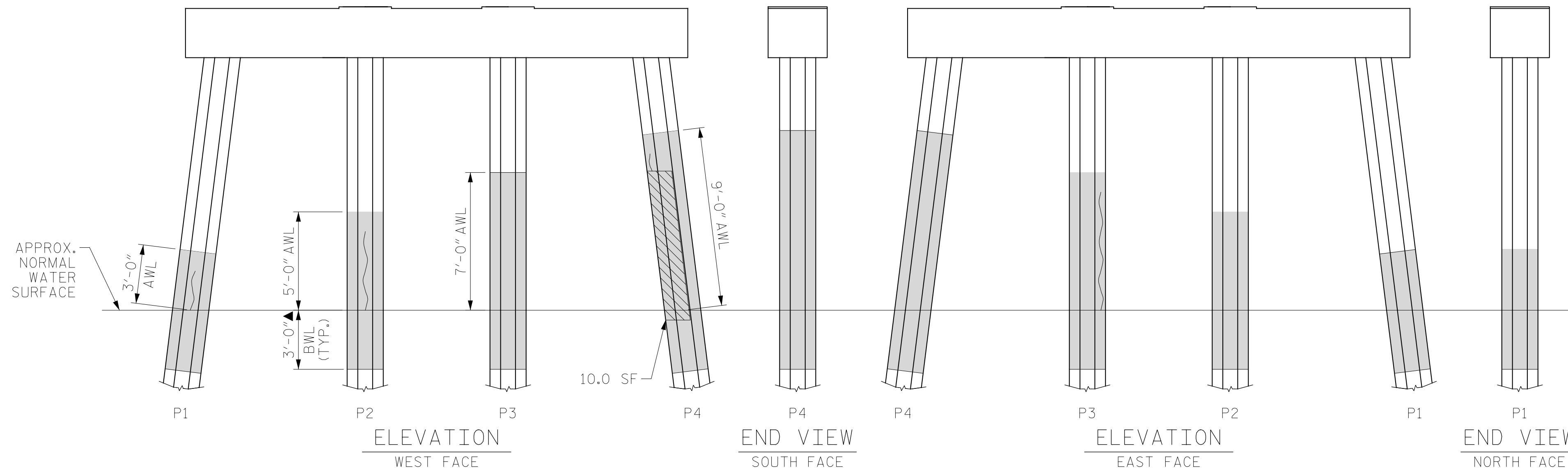
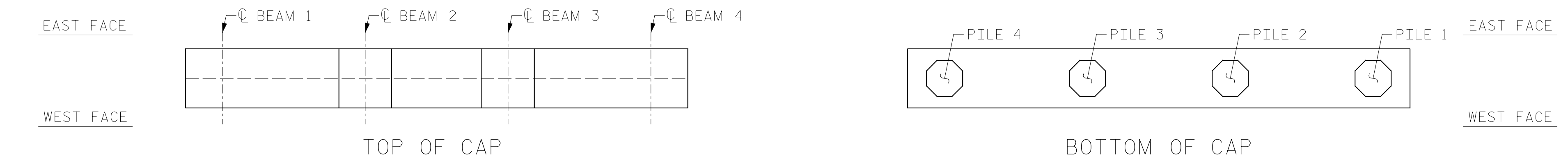
BENT 17			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	10.0 SF	4.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	132.5 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 18			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	8.6 SF	3.9 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	166.0 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

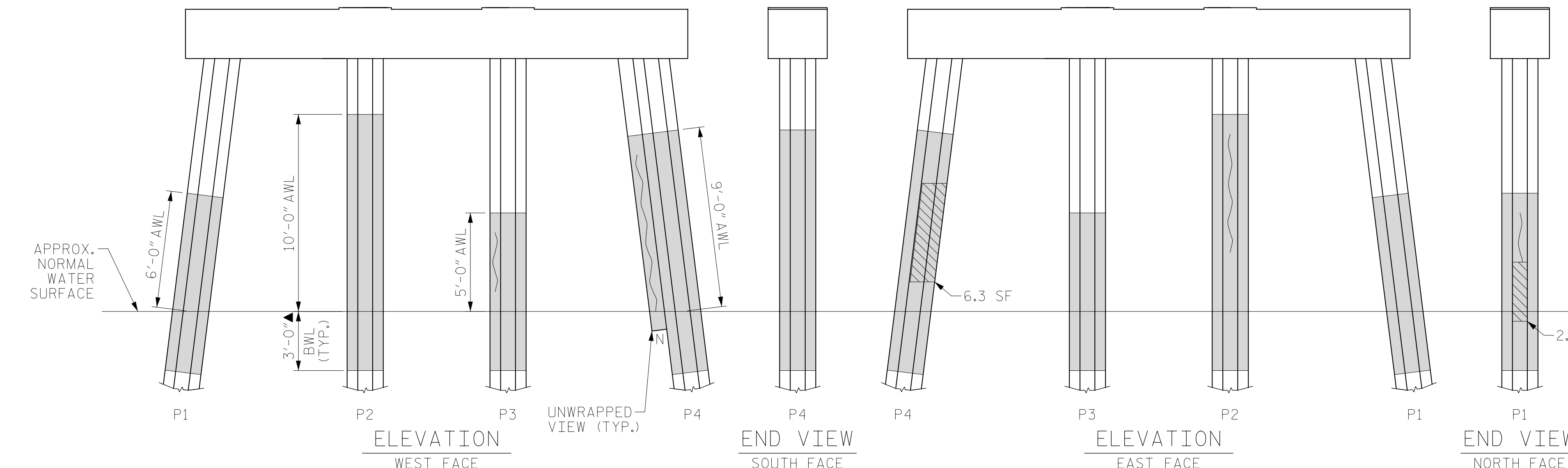
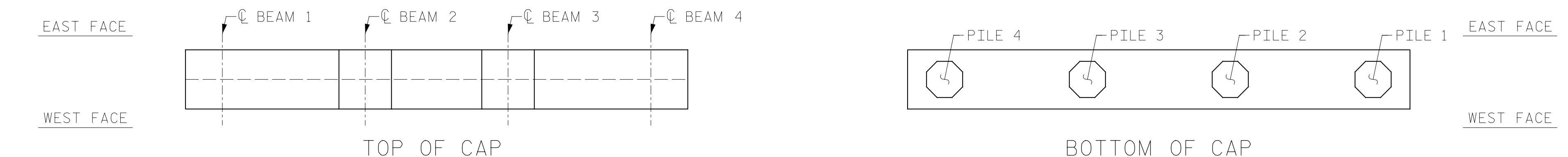
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



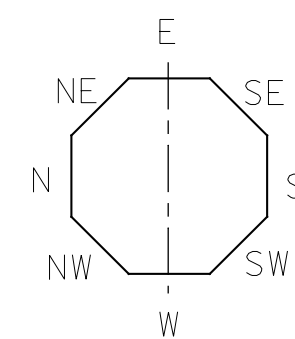
BENT 17

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 18

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 17	PILE 1	-	2	-	-	-	-	-	2
	PILE 2	-	4	4	-	-	-	-	-
	PILE 3	5	-	-	-	-	-	6	5
	PILE 4	1	-	-	-	-	-	-	-
BENT 18	PILE 1	-	-	-	-	3	-	3	5
	PILE 2	-	-	5	3	-	6	3	3
	PILE 3	3	-	-	-	-	-	2	-
	PILE 4	-	-	-	-	-	-	4	8

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Shaded] - FRP PROTECTIVE SYSTEM
- [Hatched] - PILE CONCRETE RESTORATION
- [Cross-hatched] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 17 & BENT 18

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			124
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 19

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION		- LF			LF

PILE REPAIRS

ESTIMATE			
PILE CONCRETE RESTORATION	5.3 SF	2.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	121.5 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 20

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	1.3 SF	0.7 CF	SF	CF	
EPOXY RESIN INJECTION		- LF			LF

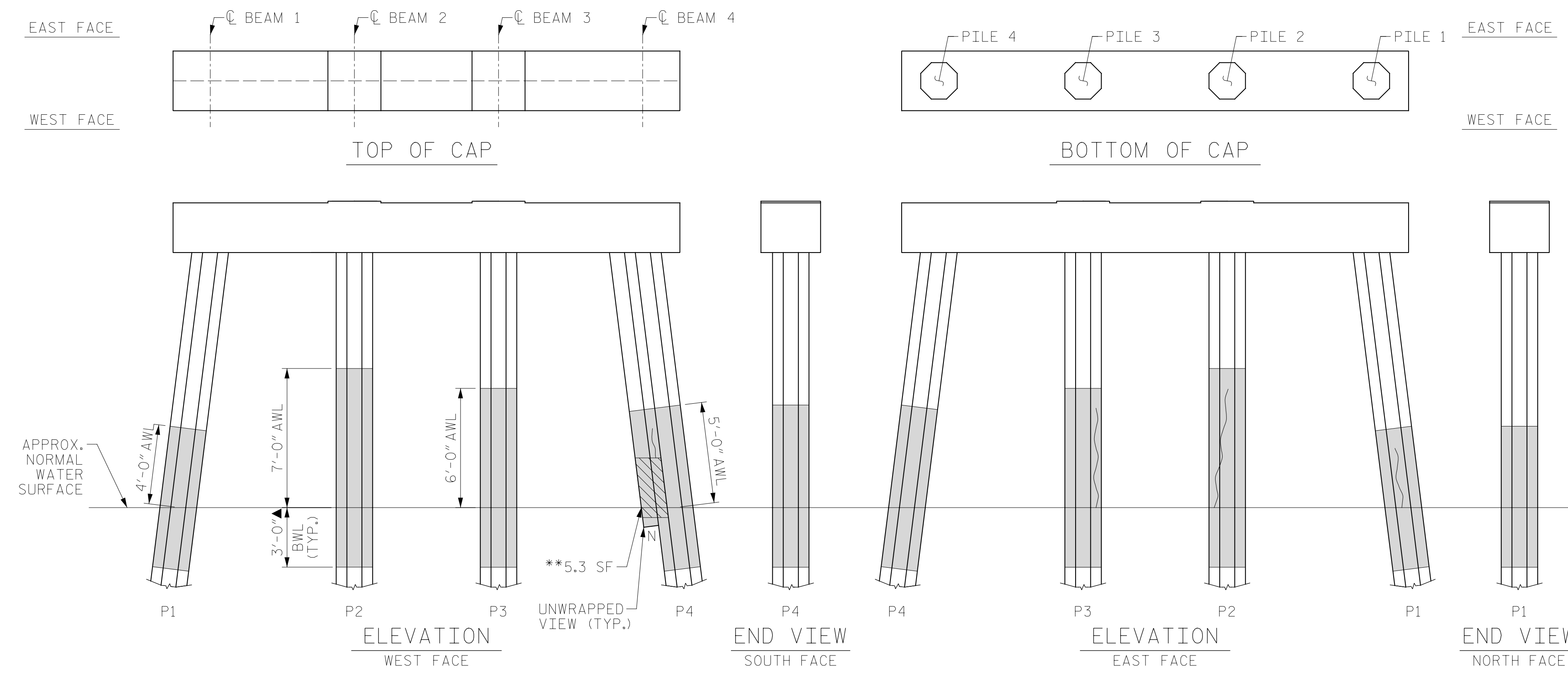
PILE REPAIRS

ESTIMATE			
PILE CONCRETE RESTORATION	5.5 SF	2.6 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	171.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

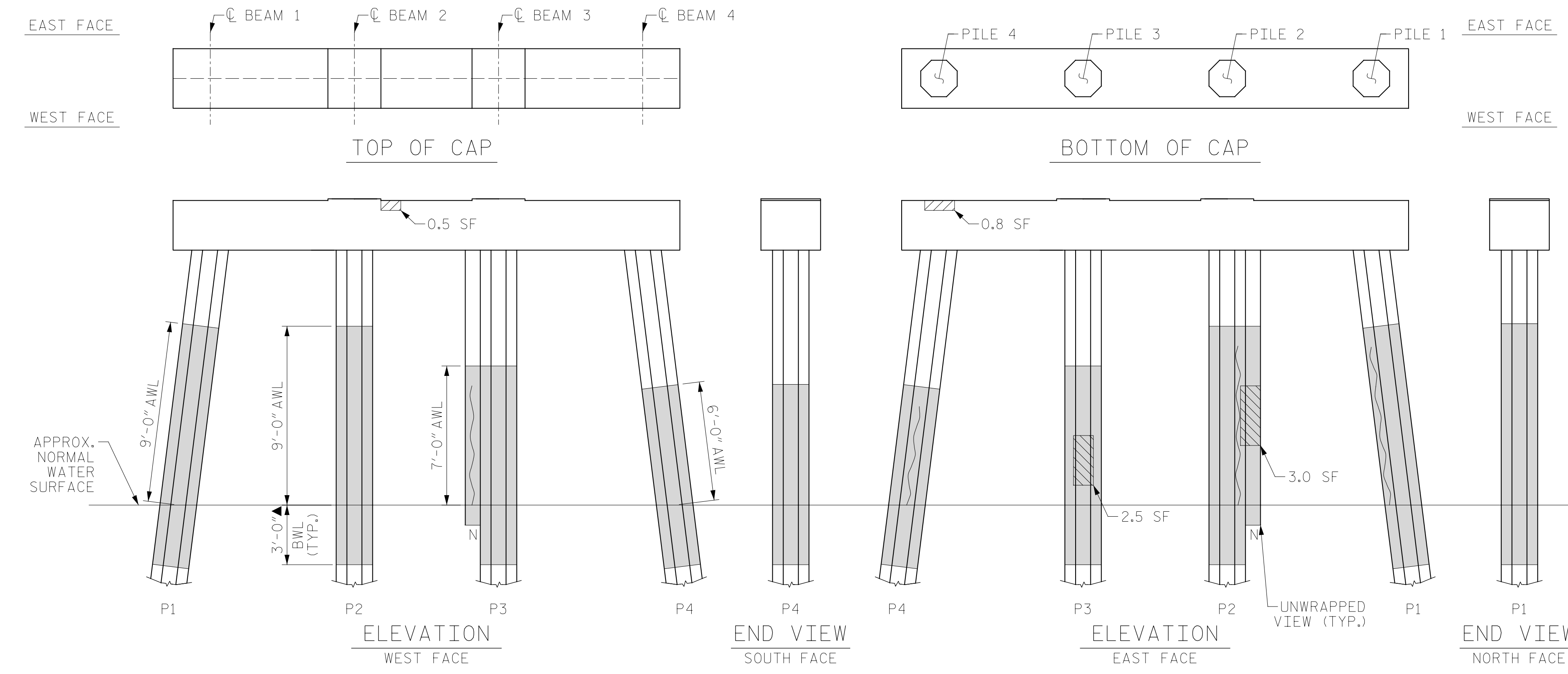
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



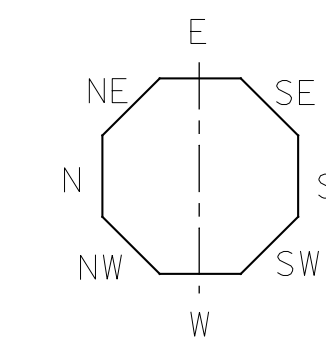
BENT 19

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 20

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)

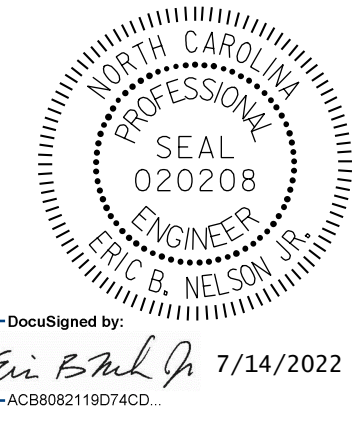


		NW	W	SW	S	SE	E	NE	N
BENT 19	PILE 1	-	-	-	-	-	3	-	-
	PILE 2	-	-	-	-	-	6	-	-
	PILE 3	5	-	-	-	-	-	5	-
	PILE 4	4	-	-	-	-	2	-	-
BENT 20	PILE 1	-	3	4	-	8	-	-	-
	PILE 2	6	-	3	4	-	-	8	-
	PILE 3	3	-	-	-	-	-	-	6
	PILE 4	-	-	3	3	-	5	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 19 & BENT 20

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-125
1			3			TOTAL SHEETS
2			4			355

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

BENT 21			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	7.4 SF	3.7 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	2.3 SF	1.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	198.5 SF		
FRP PROTECTIVE SYSTEM BWL	82.5 SF		

BENT 22			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	15.8 SF	7.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	138.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

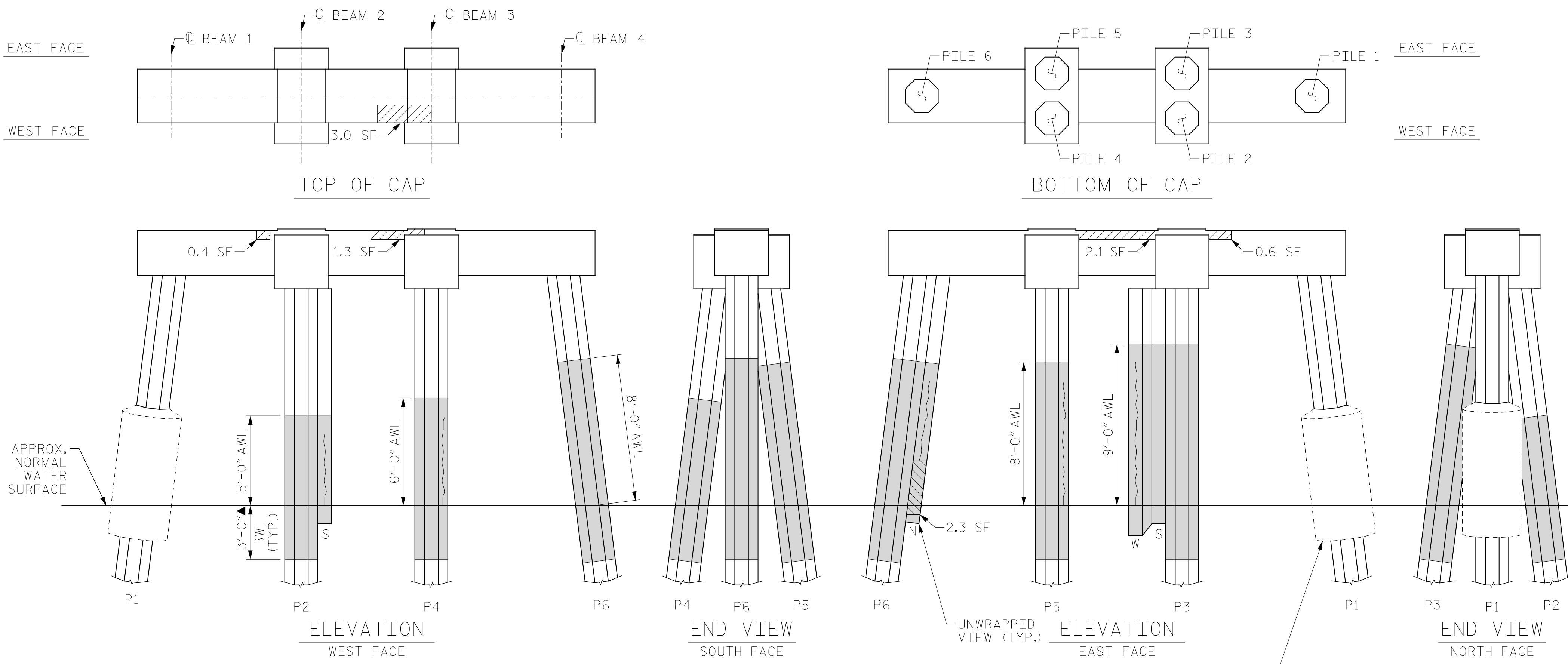
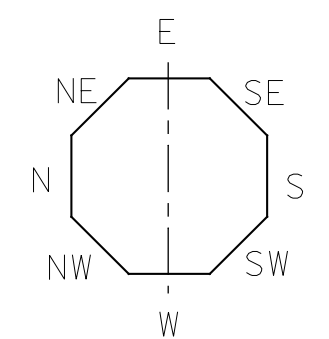
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 21	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	-	-	-	4	-	-	-	-
	PILE 3	-	8	-	-	-	-	-	-
	PILE 4	-	-	5	-	-	-	-	-
BENT 22	PILE 1	-	2	-	-	-	-	-	3
	PILE 2	-	-	-	6	-	-	7	-
	PILE 3	-	5	-	-	-	-	5	-
	PILE 4	5	2	-	-	-	5	-	-

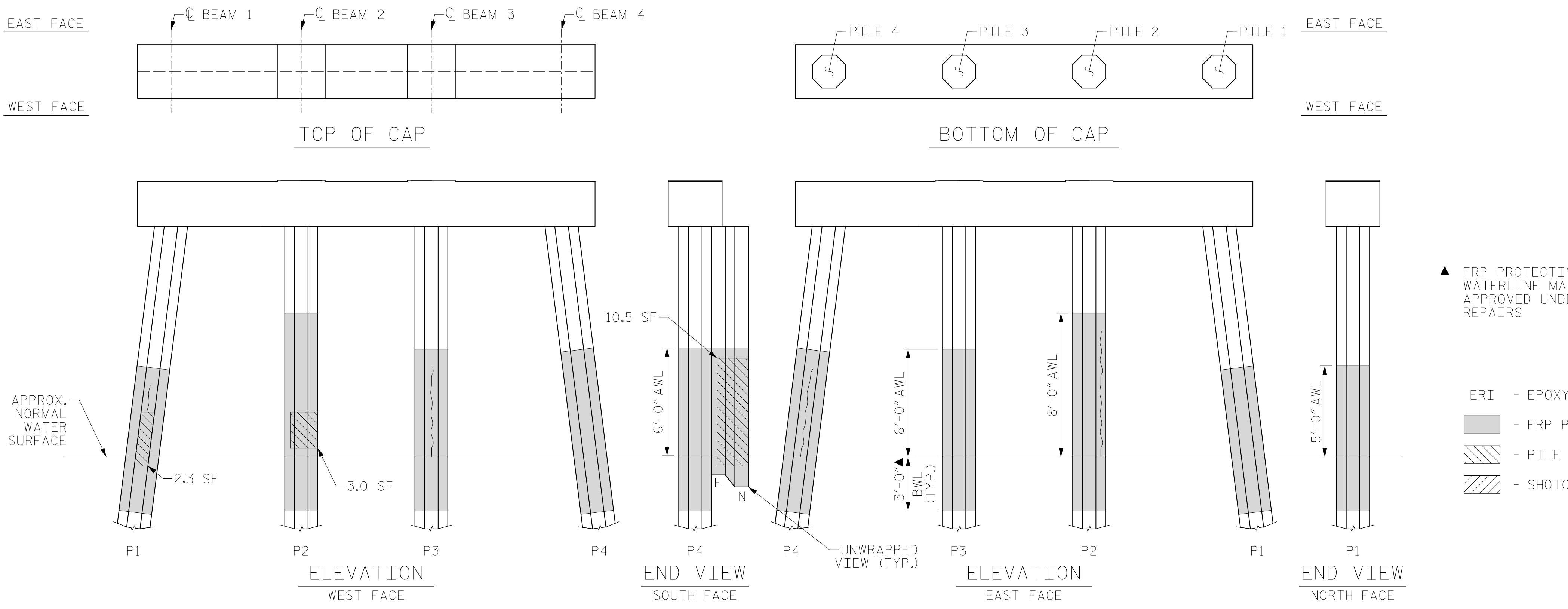
NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



BENT 21

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 22

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 21 & BENT 22

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-126
1			3			TOTAL SHEETS
2			4			355

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

BENT 23

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	1.9 SF	1.0 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	132.9 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

BENT 24

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	22.3 SF	9.1 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	143.9 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

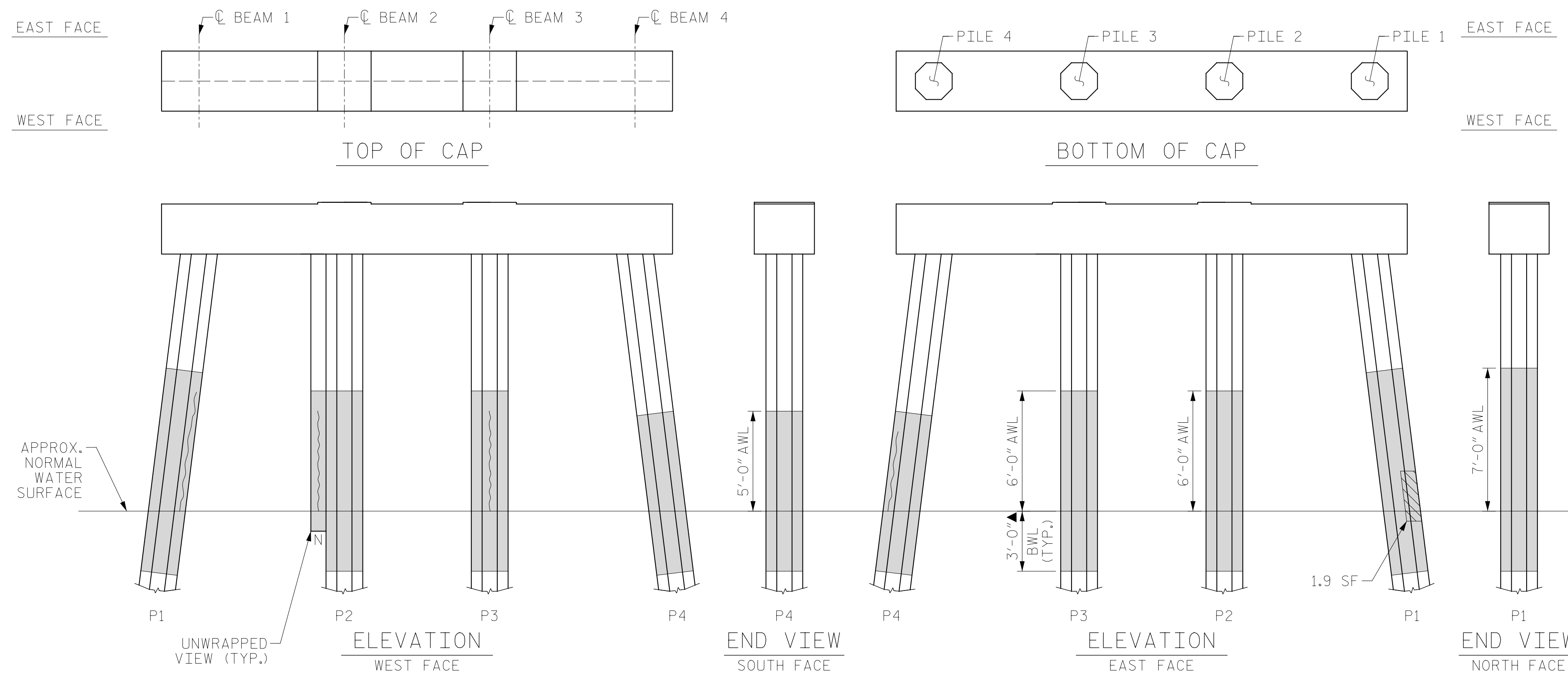
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

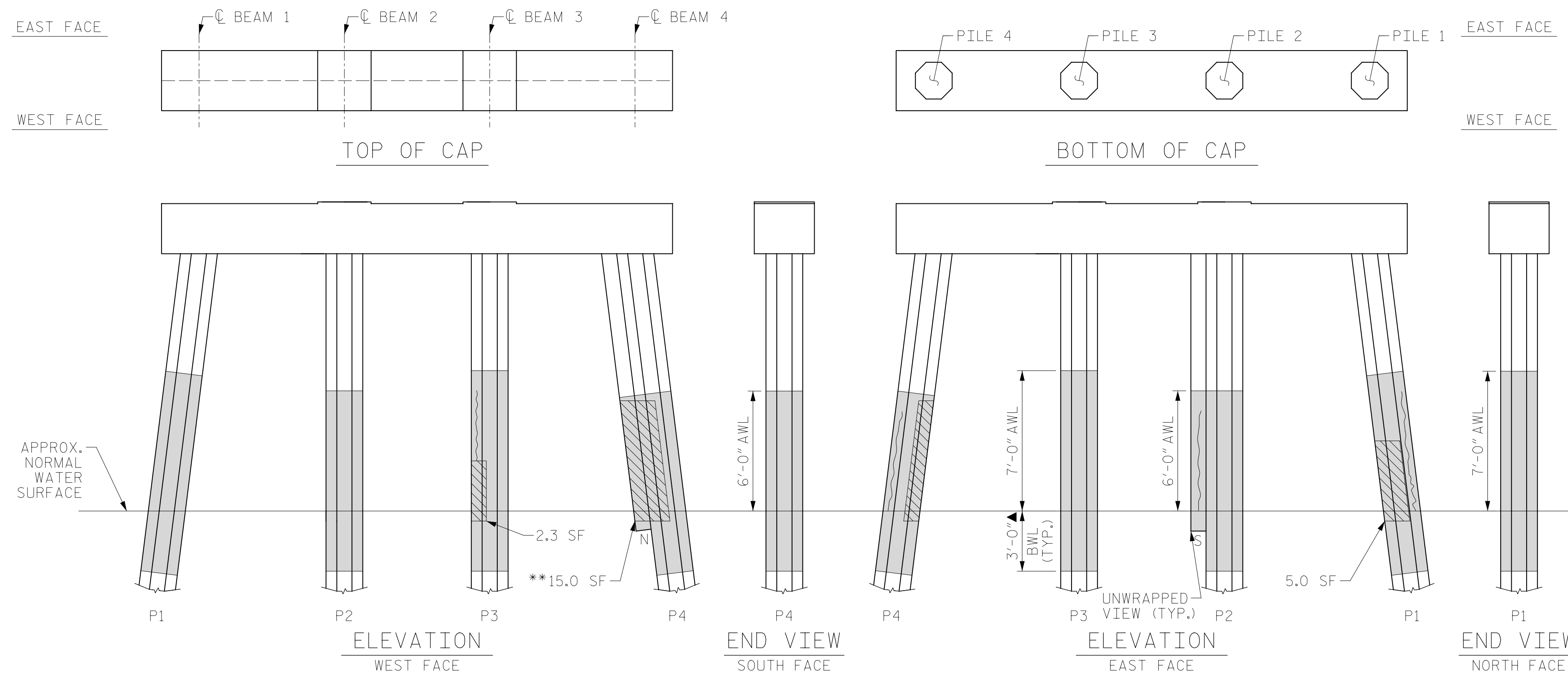
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



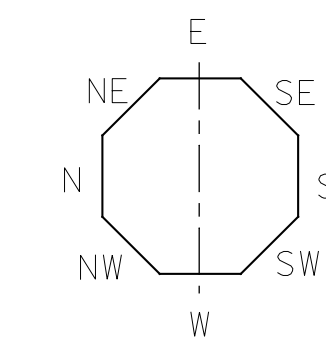
BENT 23

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 24

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



		NW	W	SW	S	SE	E	NE	N
BENT 23	PILE 1	-	-	6	-	-	-	3	-
	PILE 2	-	2	-	2	-	-	-	5
	PILE 3	5	5	-	-	-	-	-	5
	PILE 4	-	-	-	-	4	-	-	-
BENT 24	PILE 1	3	2	-	-	-	-	6	-
	PILE 2	4	4	-	5	-	3	-	-
	PILE 3	6	-	-	-	3	-	-	-
	PILE 4	-	-	-	-	-	5	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson
7/14/2022
AC880211907ACD...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 23 & BENT 24

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-127
2			4			TOTAL SHEETS 355

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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AS-BUILT REPAIR QUANTITY TABLE

BENT 25

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	1.7 SF	0.9 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	15.0 SF	5.9 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	181.0 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

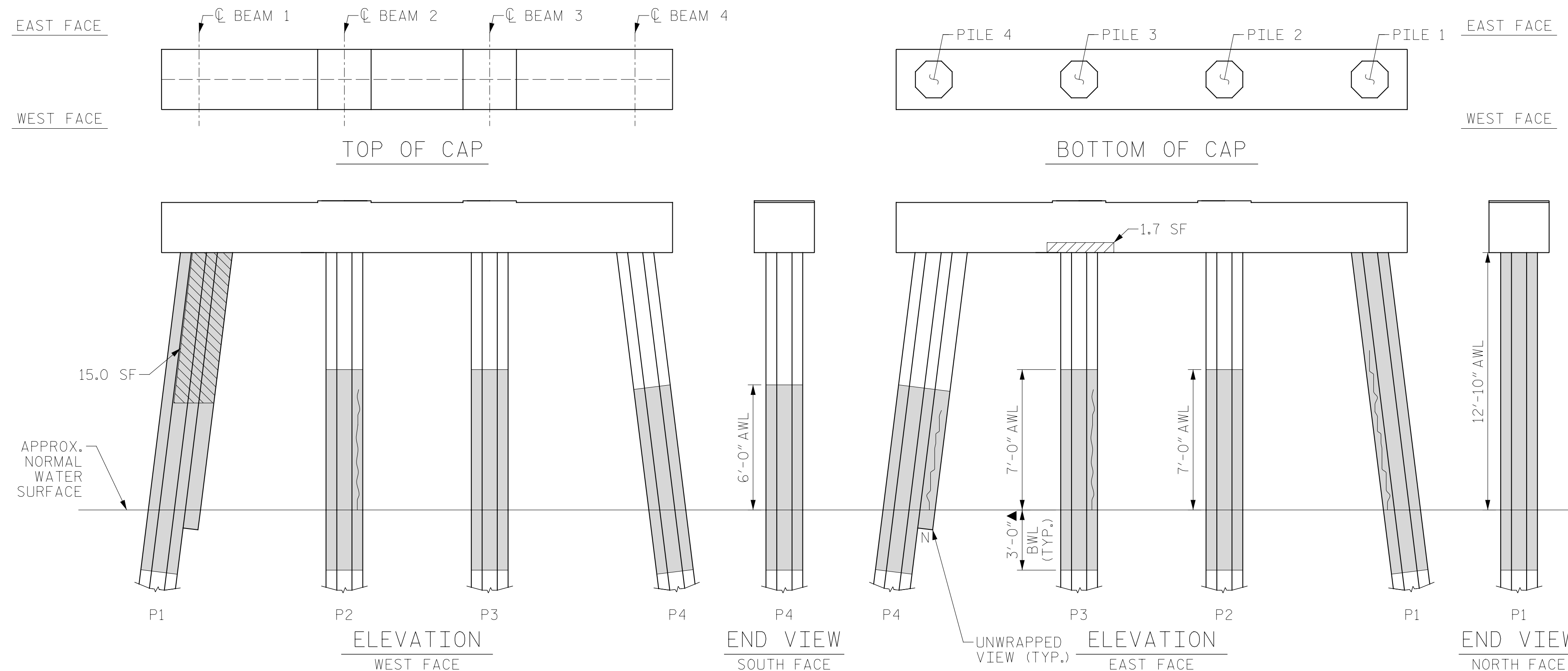
BENT 26

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	3.3 SF	1.7 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	35.5 SF	14.5 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	142.5 SF				
FRP PROTECTIVE SYSTEM BWL	49.5 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

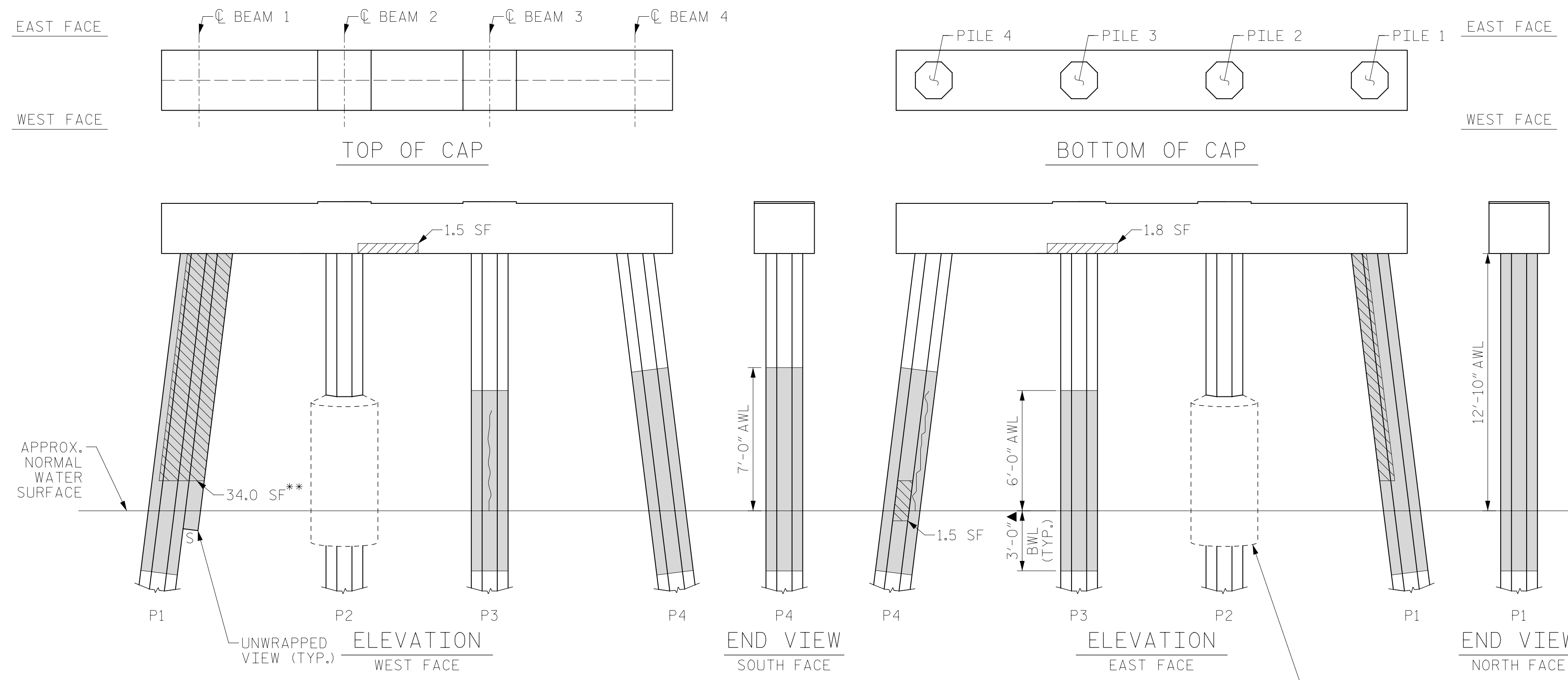
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



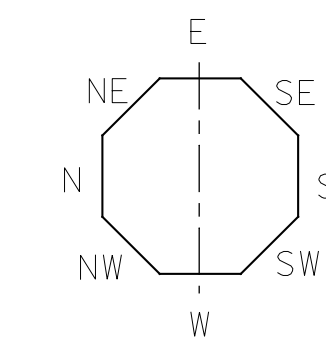
BENT 25

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 26

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.

	NW	W	SW	S	SE	E	NE	N
BENT 25								
PILE 1	-	-	-	-	8	-	5	-
PILE 2	-	4	6	4	-	-	-	-
PILE 3	-	-	3	3	-	4	6	6
PILE 4	4	-	3	-	-	-	-	5
BENT 26								
PILE 1	-	-	-	-	-	-	-	-
PILE 2	-	-	-	-	-	-	-	-
PILE 3	-	5	-	-	-	2	-	-
PILE 4	3	-	4	-	-	4	6	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- FRP PROTECTIVE SYSTEM
- PILE CONCRETE RESTORATION
- SHOTCRETE REPAIRS



DocuSigned by: Eric B. Nelson 7/14/2022

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 25 & BENT 26

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			355

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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AS-BUILT REPAIR QUANTITY TABLE

BENT 27

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	3.8 SF	2.0 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	153.5 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

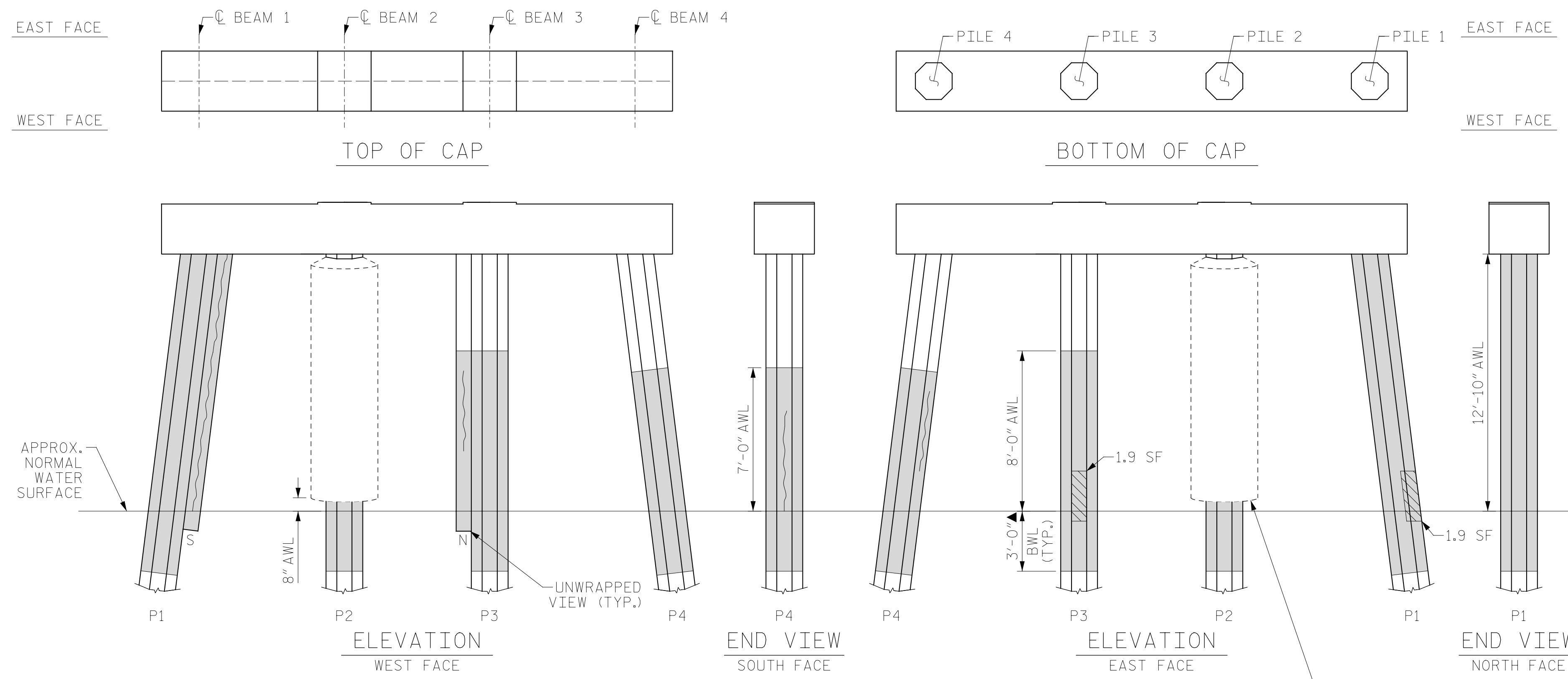
BENT 28

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	2.3 SF	1.2 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	149.4 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

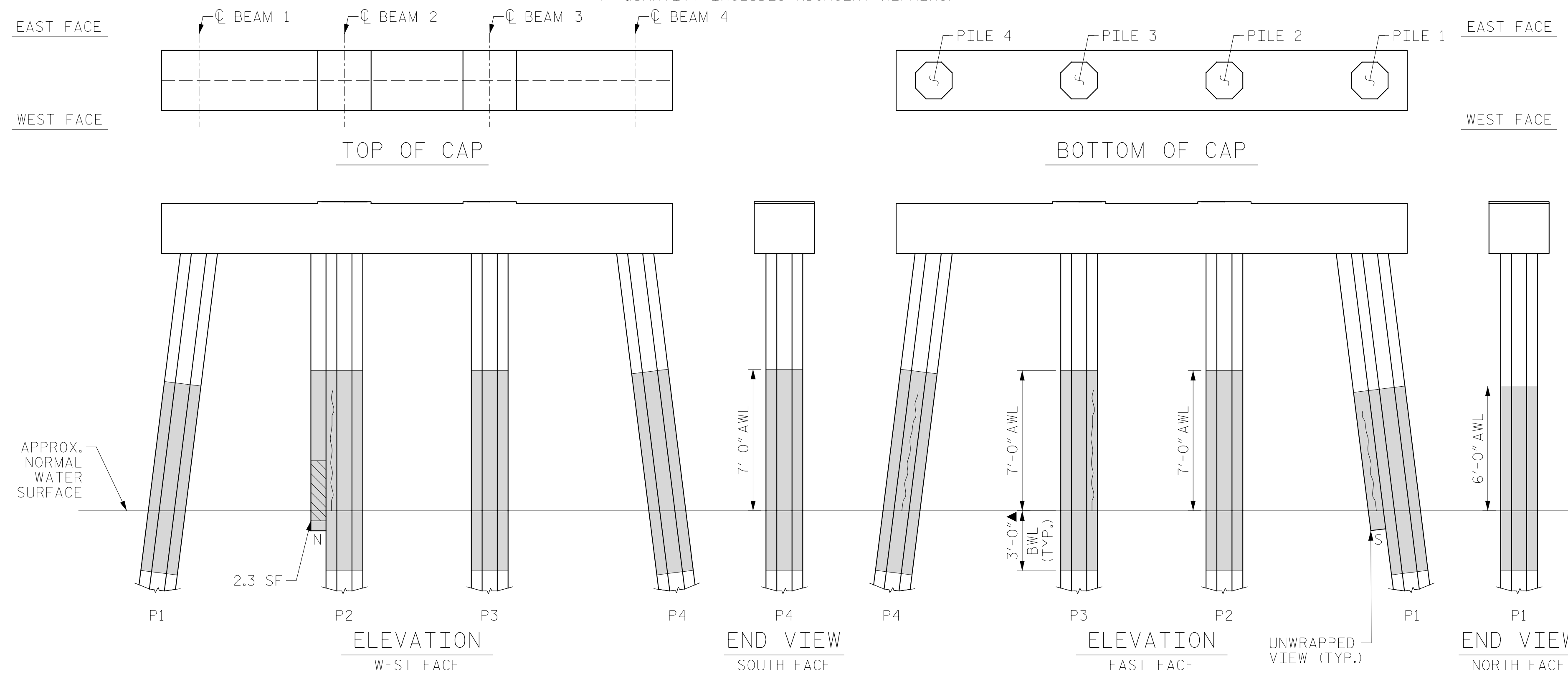
FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

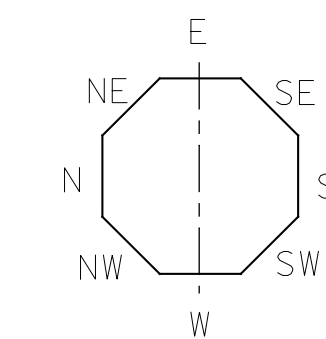
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 27
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 28
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



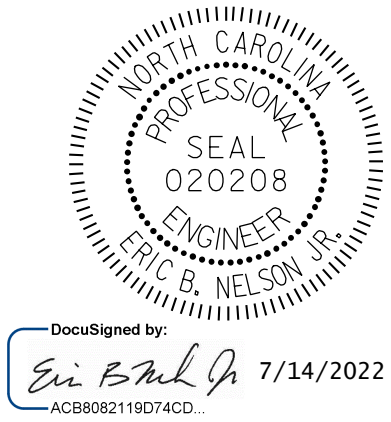
ESTIMATED PILE CRACK QTY.

		NW	W	SW	S	SE	E	NE	N
BENT 27	PILE 1	-	-	-	13	-	-	6	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	2	-	-	-	-	-	-	4
	PILE 4	-	5	-	5	-	-	4	-
BENT 28	PILE 1	-	4	-	5	-	-	-	-
	PILE 2	6	-	-	-	-	-	-	4
	PILE 3	4	-	-	2	-	-	6	4
	PILE 4	-	4	-	-	-	6	-	6

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Hatched Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 27 & BENT 28

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			355

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AS-BUILT REPAIR QUANTITY TABLE

BENT 29

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	5.4 SF	2.1 CF	SF	CF	
EPOXY RESIN INJECTION	2.0 LF				LF

PILE REPAIRS

ESTIMATE			
PILE CONCRETE RESTORATION	36.5 SF	15.6 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	251.2 SF		
FRP PROTECTIVE SYSTEM BWL	99.0 SF		

BENT 30

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF

PILE REPAIRS

ESTIMATE			
PILE CONCRETE RESTORATION	20.0 SF	8.0 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	168.7 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY.

		NW	W	SW	S	SE	E	NE	N
BENT 29	PILE 1	-	-	-	-	5	-	3	4
	PILE 2	-	2	2	-	-	-	-	-
	PILE 3	3	8	-	-	-	-	5	-
	PILE 4	-	3	5	-	-	-	-	-
	PILE 5	-	5	-	-	-	3	-	-
	PILE 6	-	-	-	-	4	-	-	-
BENT 30	PILE 1	-	-	-	-	-	-	4	-
	PILE 2	-	-	3	-	-	-	4	-
	PILE 3	-	4	6	-	-	-	-	-
	PILE 4	-	-	-	-	-	6	4	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

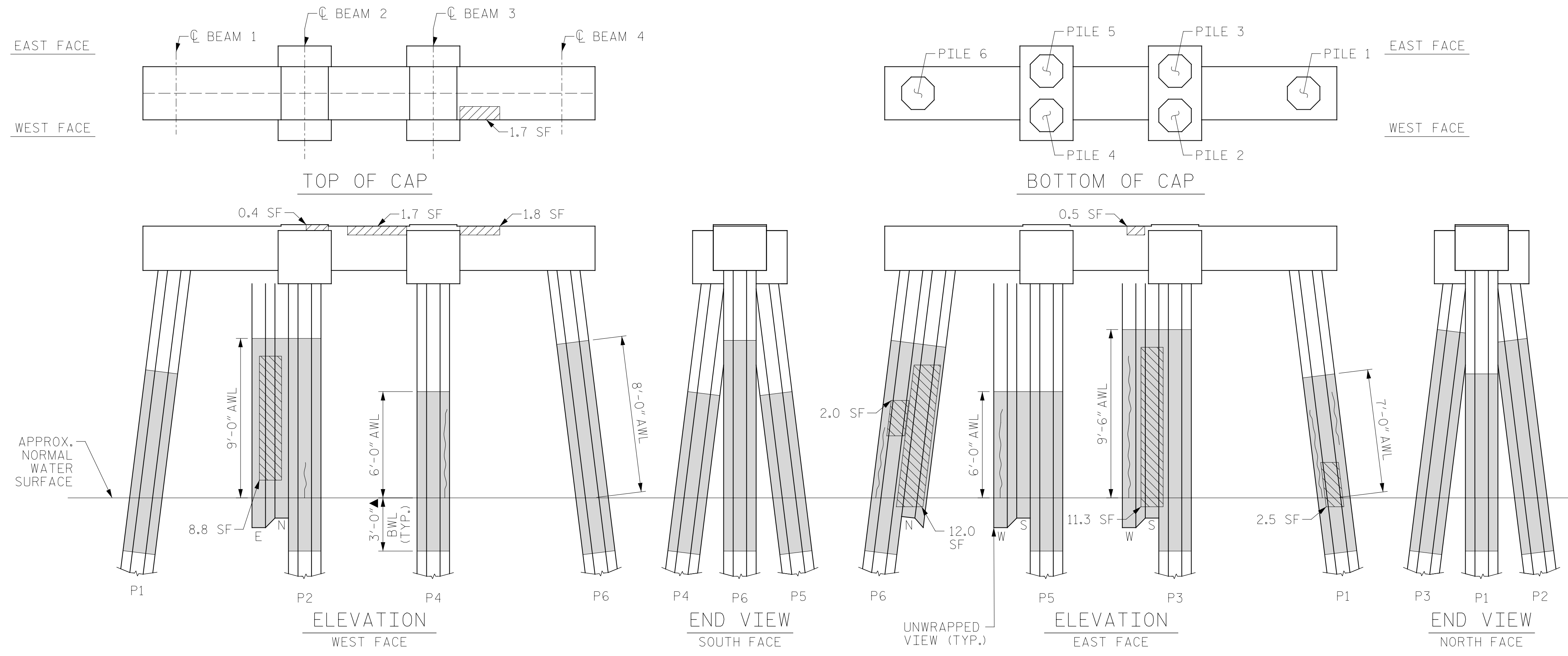
PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

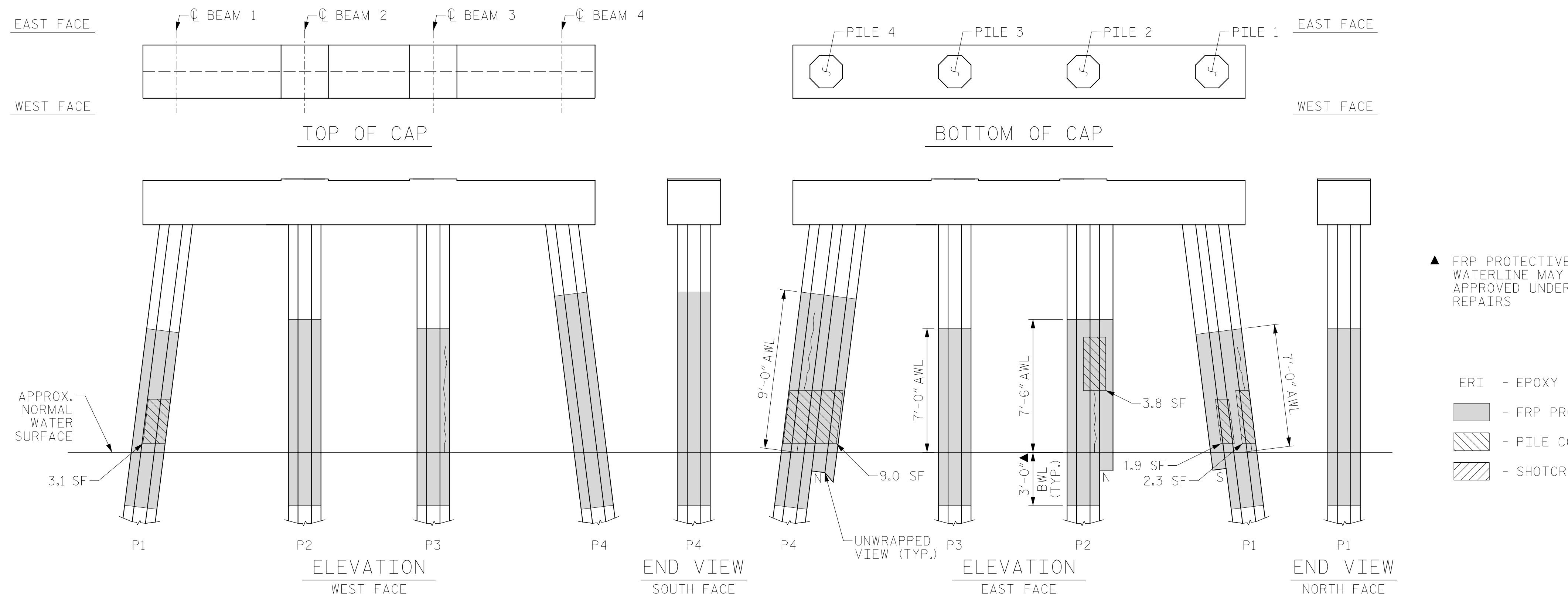
BENT 29 & BENT 30

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 355
2			4			



BENT 29

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 30

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



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AS-BUILT REPAIR QUANTITY TABLE

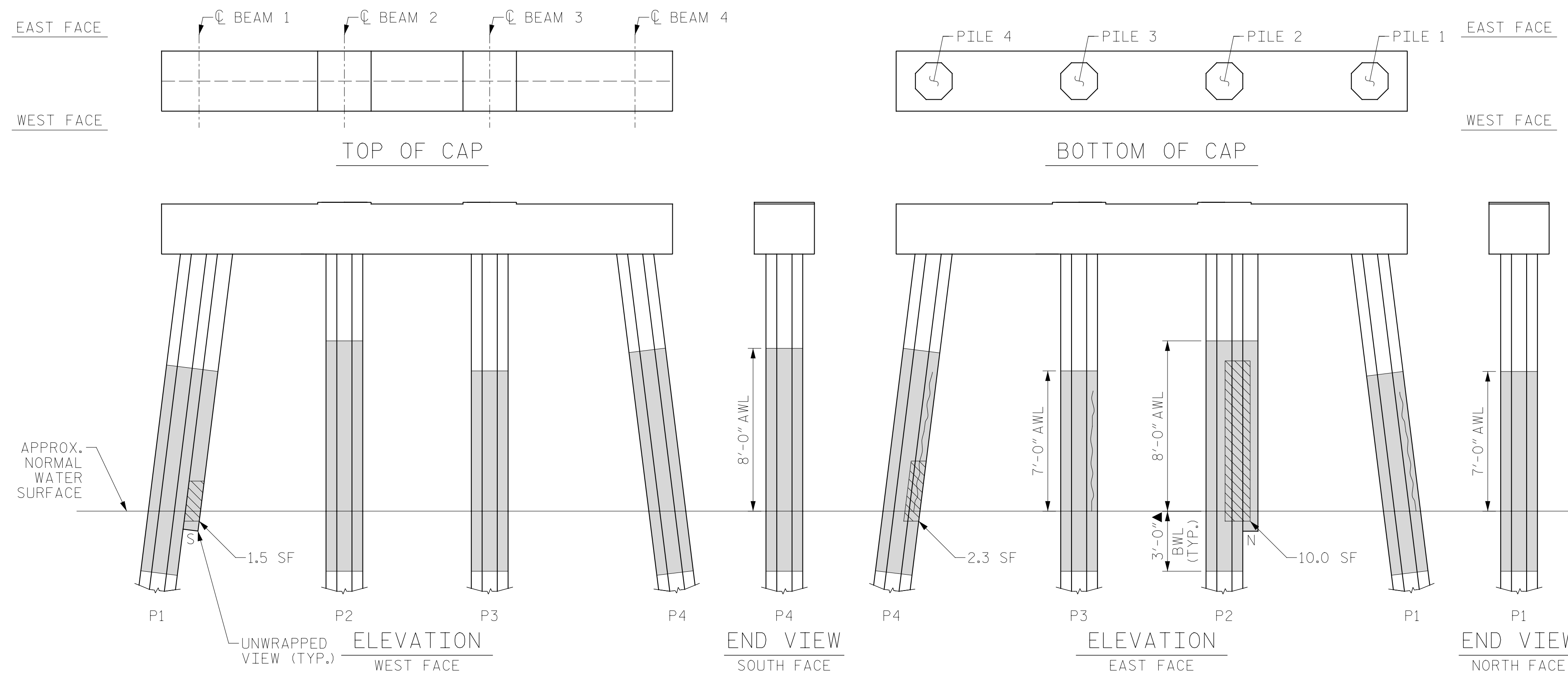
BENT 31				
CAP REPAIRS		ESTIMATE		
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS		ESTIMATE		
PILE CONCRETE RESTORATION	13.8 SF	6.3 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	166.0 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

BENT 32				
CAP REPAIRS		ESTIMATE		
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS		ESTIMATE		
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	149.4 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

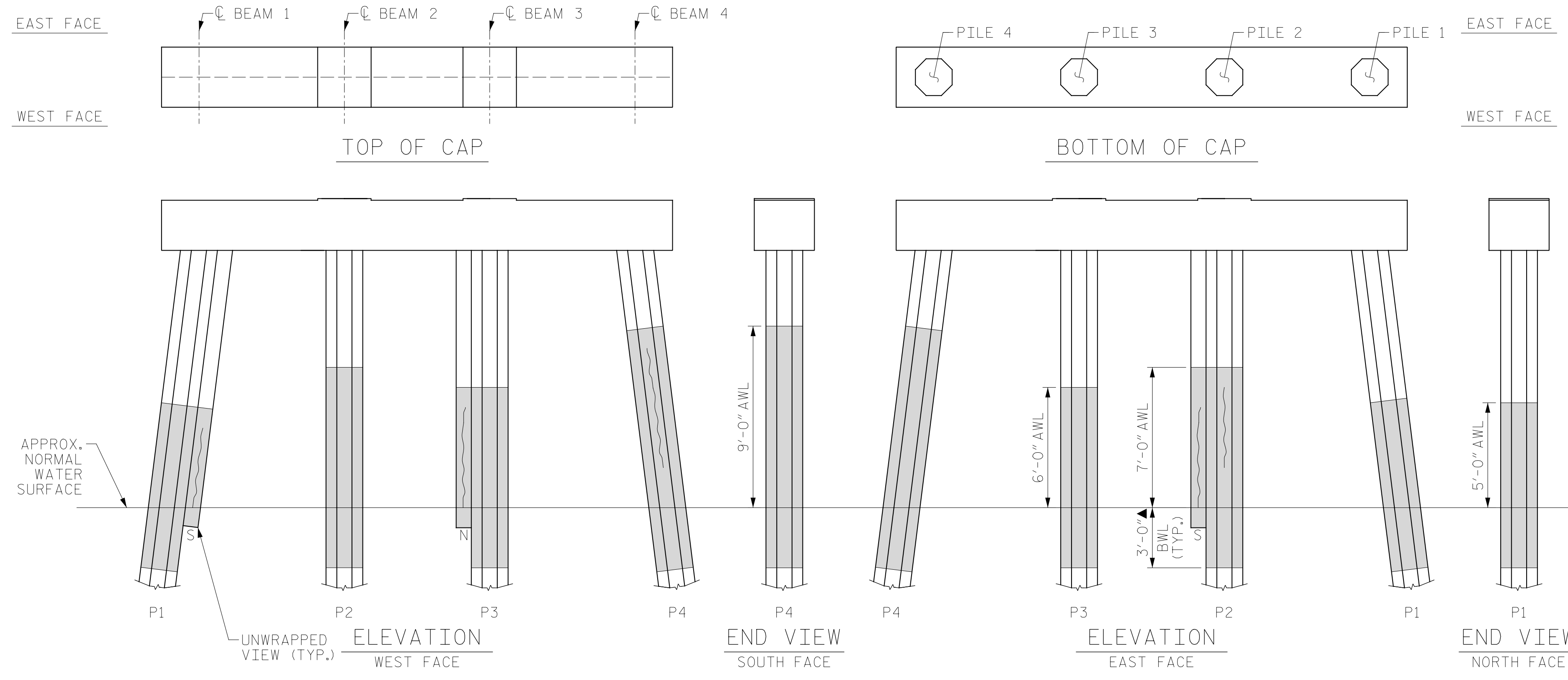
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



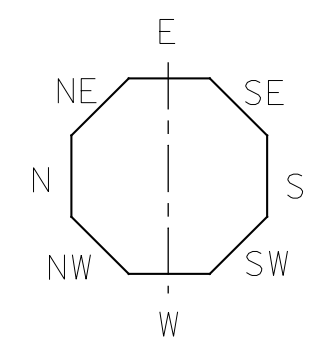
BENT 31

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 32

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 31	PILE 1	-	-	-	-	-	5	6	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	-	-	-	3	-	6	-
	PILE 4	-	4	-	4	-	-	5	-
BENT 32	PILE 1	-	-	-	4	-	-	-	-
	PILE 2	-	-	5	5	-	4	-	-
	PILE 3	-	-	-	-	3	3	-	5
	PILE 4	-	6	4	3	-	4	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
BENT 31 & BENT 32

DRAWN BY : T. HARTLEY DATE : 2/2019
 CHECKED BY : R. WERTMAN DATE : 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-131
2			4			TOTAL SHEETS 355

AS-BUILT REPAIR QUANTITY TABLE

BENT 33

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF			LF	

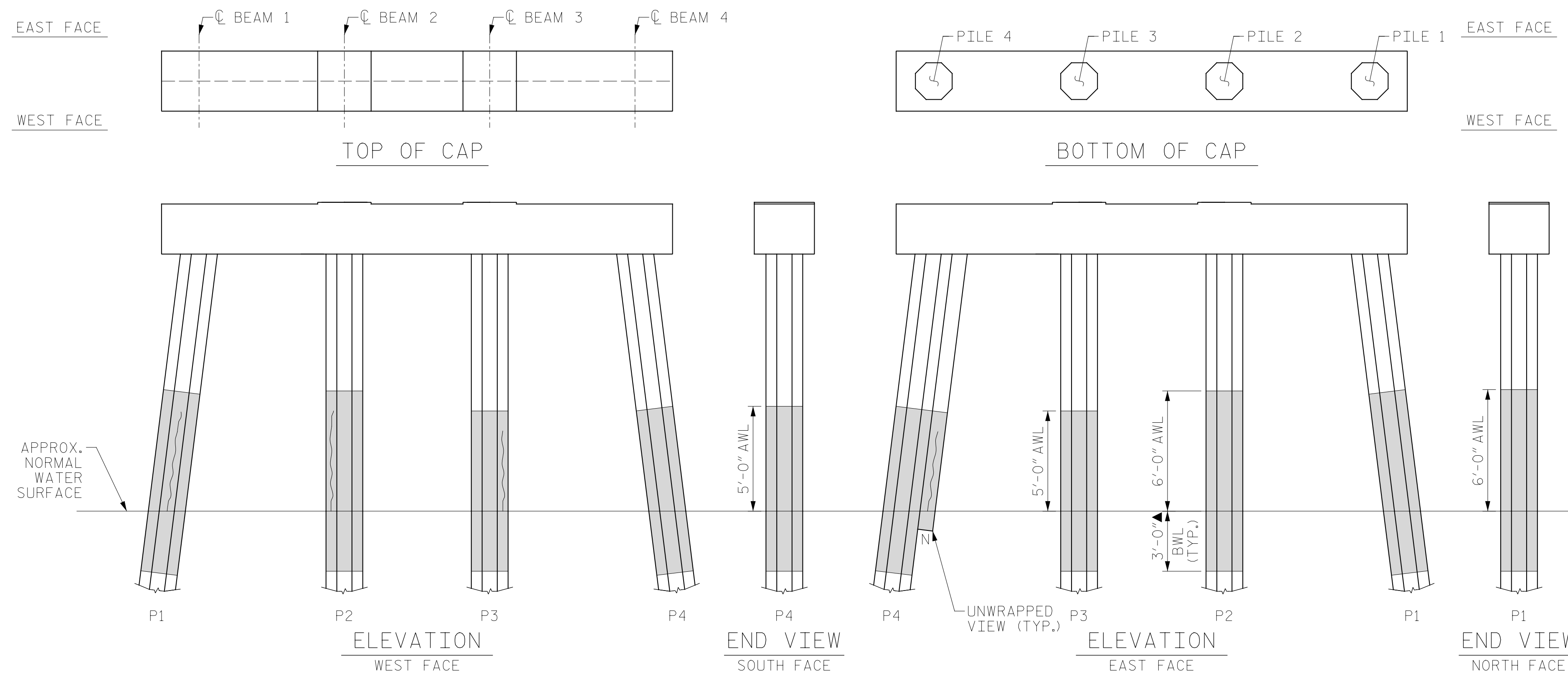
BENT 34

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF			LF	

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

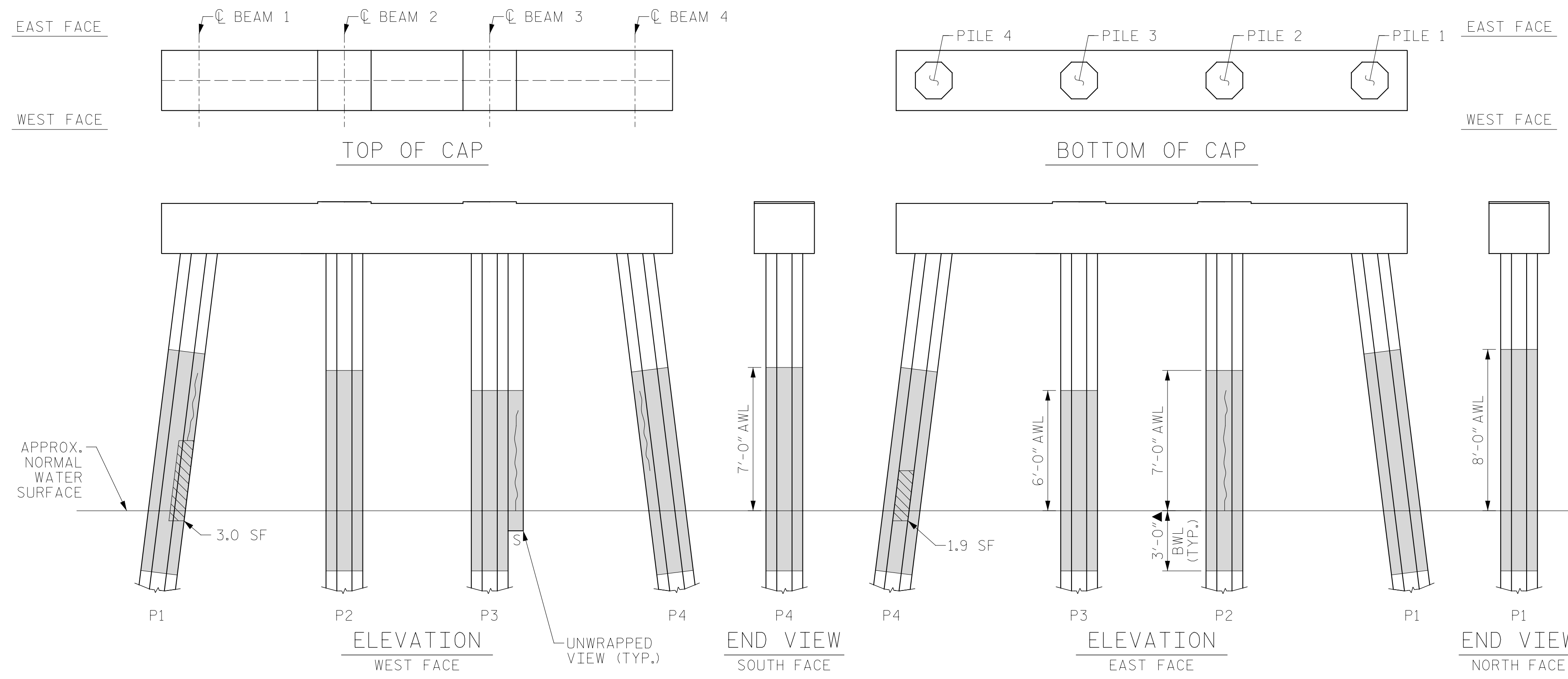
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



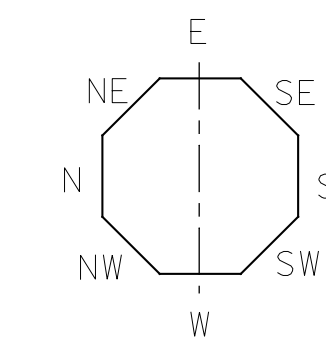
BENT 33

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 34

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



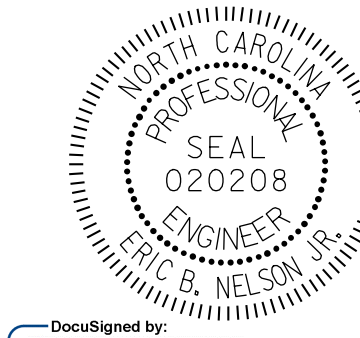
ESTIMATED PILE CRACK QTY.		NW	W	SW	S	SE	E	NE	N
BENT 33	PILE 1	-	5	5	-	5	-	-	-
	PILE 2	5	-	-	-	-	2	-	-
	PILE 3	3	-	4	4	-	-	3	-
	PILE 4	-	3	-	-	-	-	-	4
BENT 34	PILE 1	3	-	4	-	-	6	6	-
	PILE 2	-	-	6	4	-	6	-	-
	PILE 3	-	4	-	5	4	-	-	-
	PILE 4	4	-	4	-	-	3	-	5

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Shaded Box] - FRP PROTECTIVE SYSTEM
- [Hatched Box] - PILE CONCRETE RESTORATION
- [Dotted Box] - SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson 7/14/2022

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 33 & BENT 34

DRAWN BY : T. HARTLEY DATE : 2/2019
CHECKED BY : R. WERTMAN DATE : 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-132
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 35

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	1.5 SF	0.8 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	9.5 SF	4.1 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	83.0 SF				
FRP PROTECTIVE SYSTEM BWL	33.0 SF				

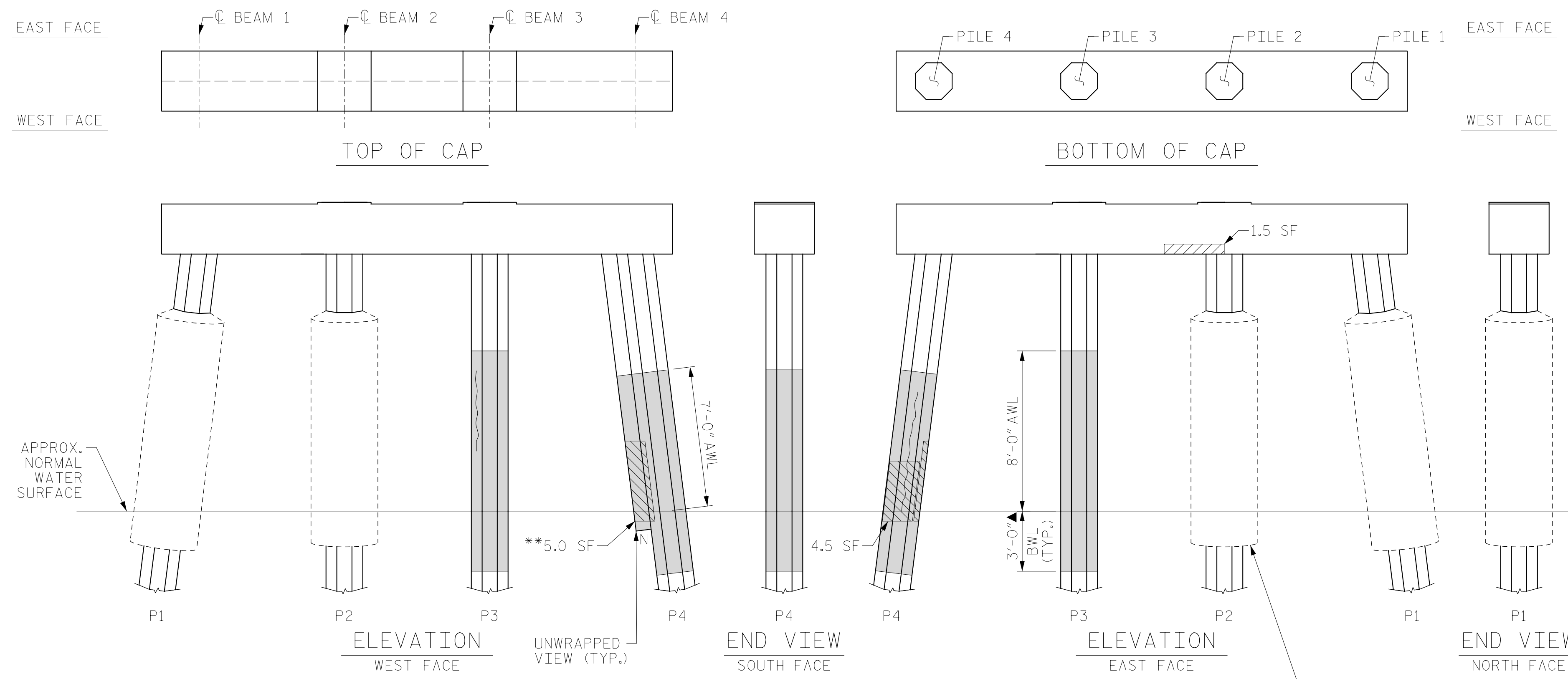
BENT 36

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	105.0 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

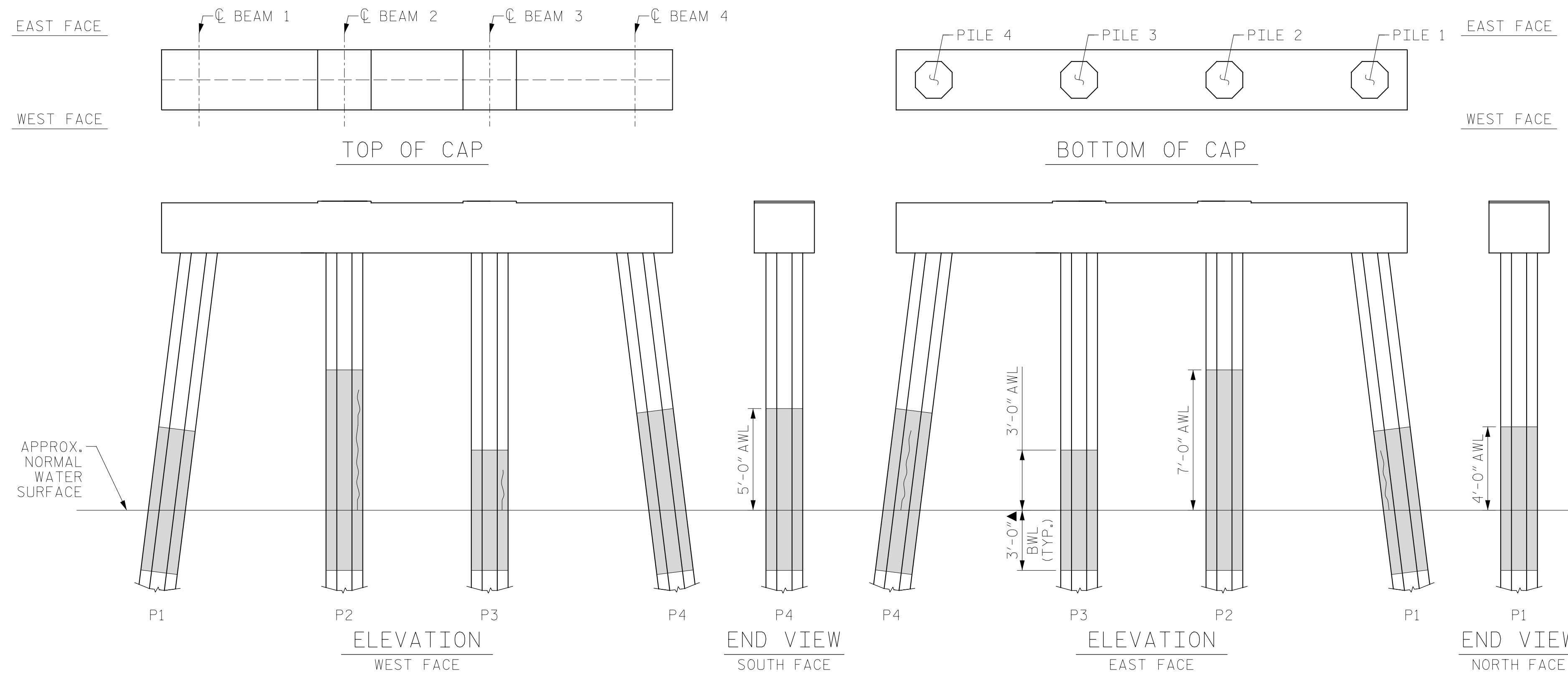
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



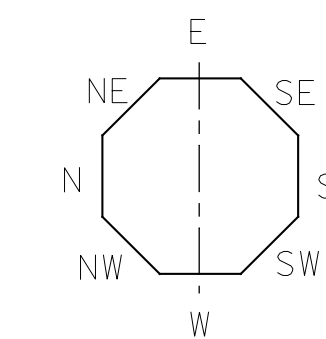
BENT 35

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 36

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



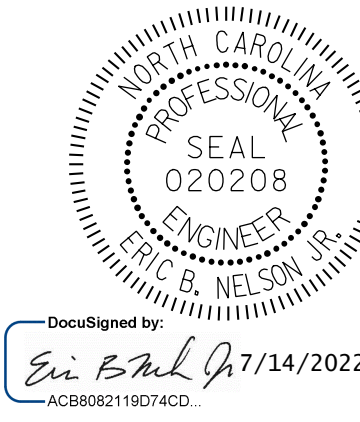
ESTIMATED PILE CRACK QTY.		NW	W	SW	S	SE	E	NE	N
BENT 35	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	4	6	-	4	-	2	-	-
	PILE 4	-	-	3	-	-	4	-	-
BENT 36	PILE 1	-	-	-	3	3	-	-	-
	PILE 2	-	-	6	5	-	3	-	-
	PILE 3	-	-	2	2	-	-	-	-
	PILE 4	-	-	-	-	-	4	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 35 & BENT 36

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-133
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 37			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	4.9 SF	2.5 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	6.8 SF	3.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	193.4 SF		
FRP PROTECTIVE SYSTEM BWL	82.5 SF		

BENT 38			
CAP REPAIRS		ESTIMATE	
SHOTCRETE REPAIRS	1.2 SF	0.6 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS		ESTIMATE	
PILE CONCRETE RESTORATION	- SF	- CF	SF CF
FRP PROTECTIVE SYSTEM AWL	171.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

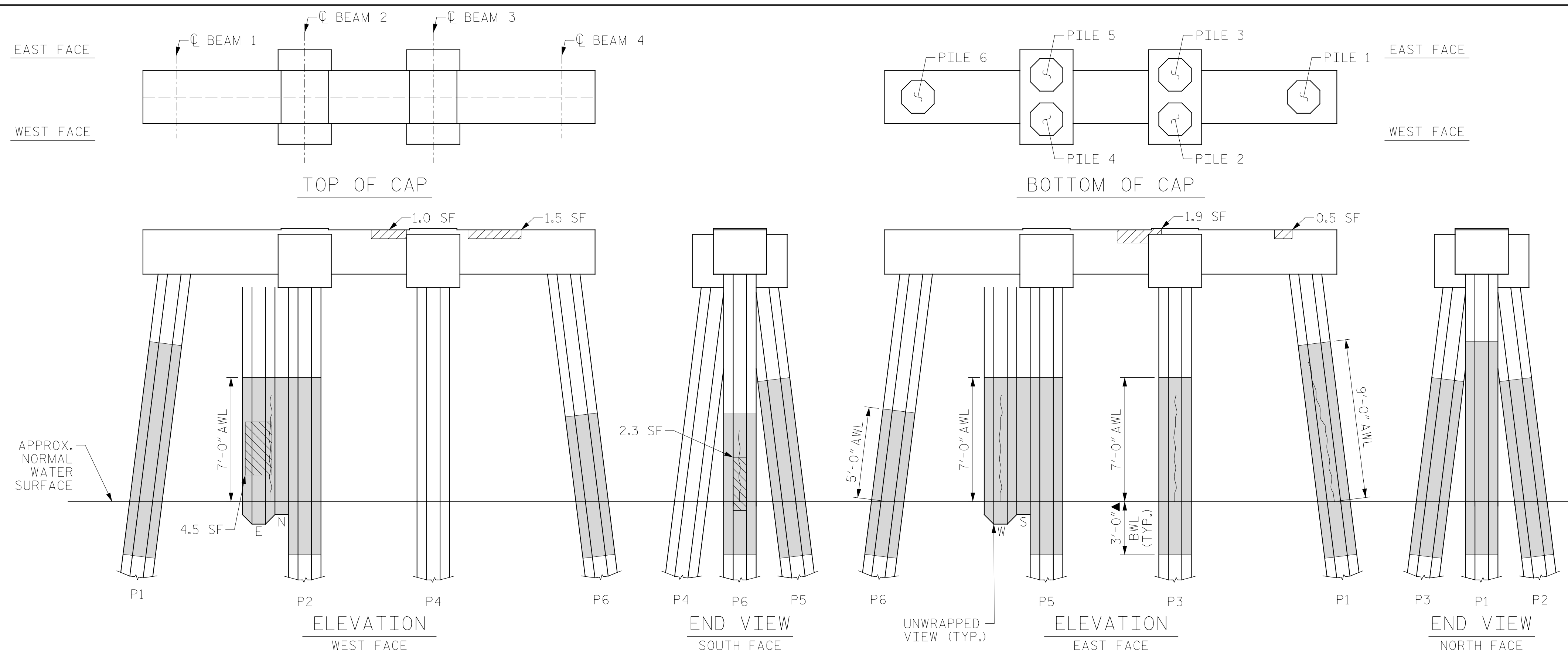
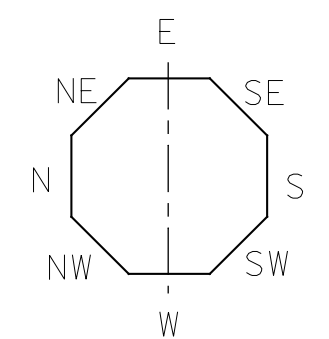
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 37	PILE 1	-	-	-	4	-	8	8	-
	PILE 2	-	-	-	2	-	-	6	-
	PILE 3	-	-	-	-	-	6	6	-
	PILE 4	-	-	-	-	-	-	-	-
BENT 38	PILE 1	-	-	-	-	7	-	-	-
	PILE 2	-	-	-	-	-	-	-	6
	PILE 3	-	8	-	3	-	-	-	-
	PILE 4	-	3	-	3	-	6	-	-

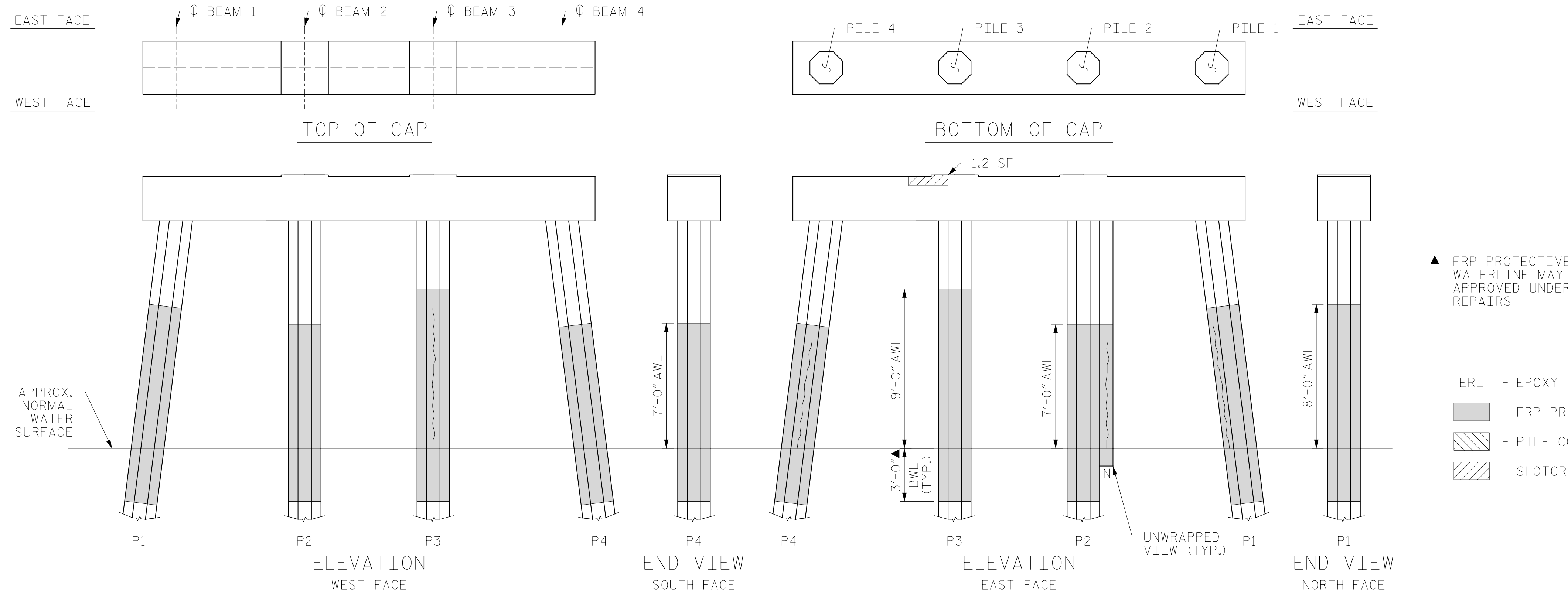
NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



BENT 37

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 38

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

 BENT 37 & BENT 38

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-134
1			3			TOTAL SHEETS
2			4			355

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AS-BUILT REPAIR QUANTITY TABLE

BENT 39

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	1.9 SF	1.0 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF

PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	7.5 SF	2.9 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	143.9 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

BENT 40

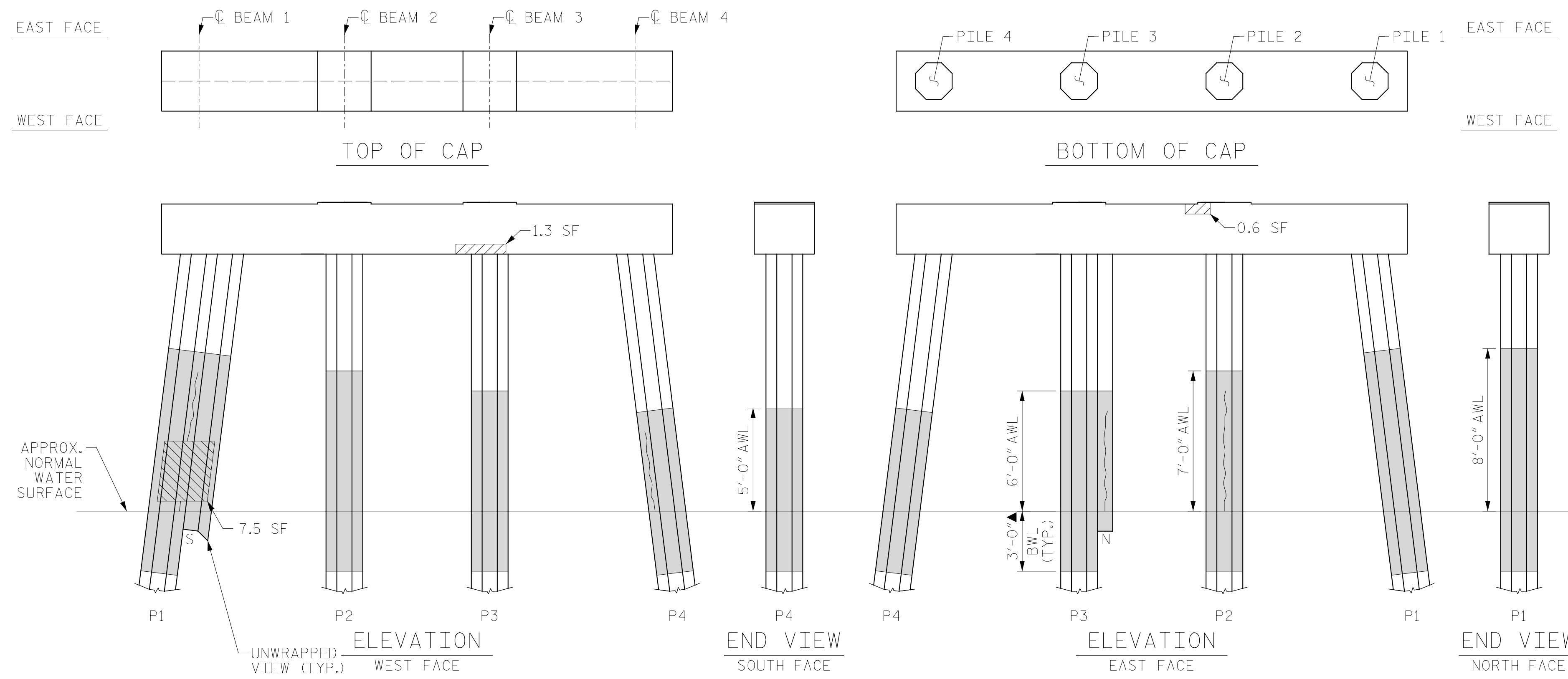
CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	12.0 SF	6.0 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF

PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	99.5 SF				
FRP PROTECTIVE SYSTEM BWL	33.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

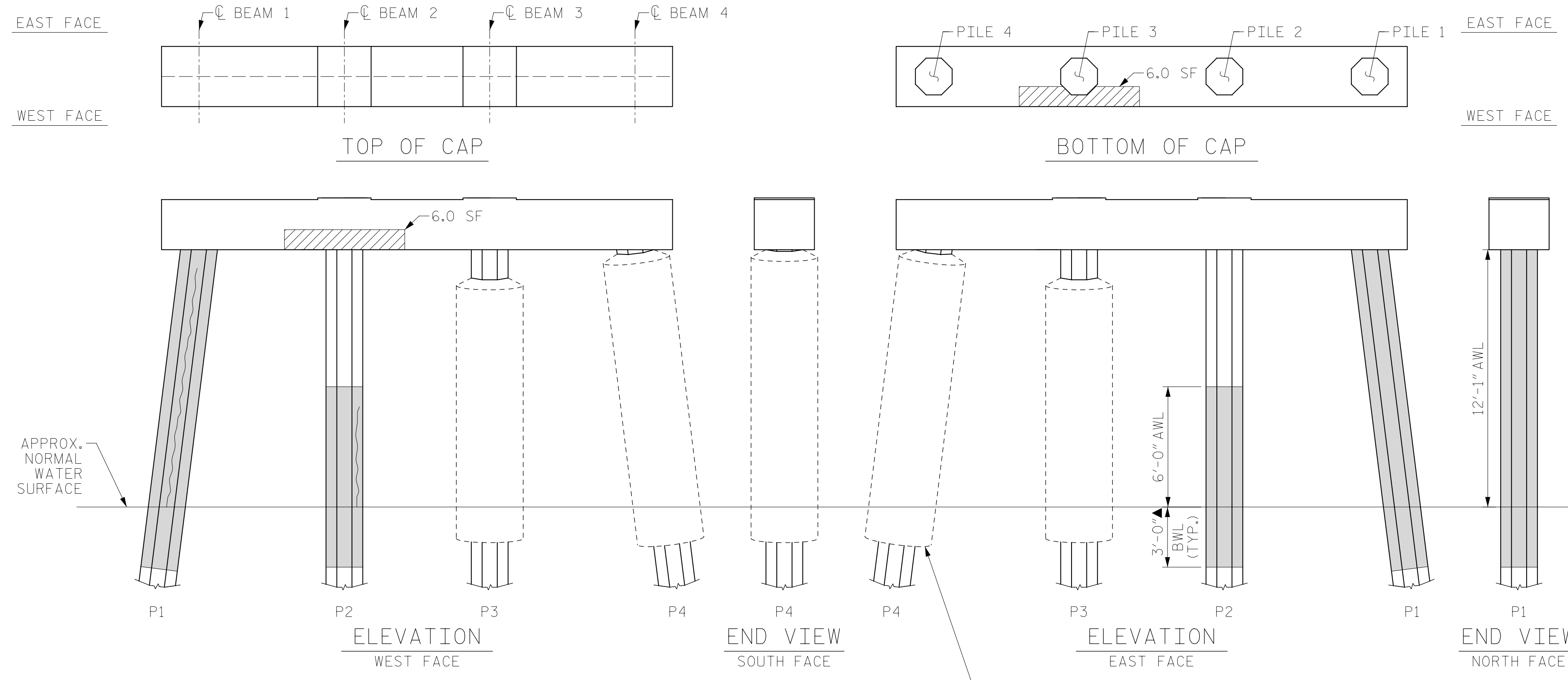
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



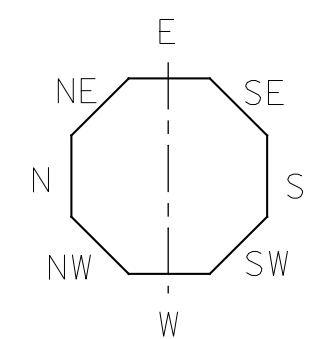
BENT 39

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 40

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)

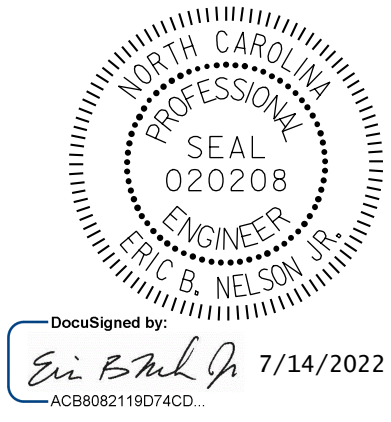


ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 39	PILE 1	-	-	4	-	-	-	-	-
	PILE 2	-	-	-	-	-	6	6	6
	PILE 3	-	-	-	2	-	-	-	5
	PILE 4	-	4	-	-	-	3	-	-
BENT 40	PILE 1	-	12	-	12	-	-	-	6
	PILE 2	-	-	5	2	-	-	-	-
	PILE 3	-	-	-	-	-	-	-	-
	PILE 4	-	-	-	-	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Hatched Box] - PILE CONCRETE RESTORATION
- [Hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 39 & BENT 40

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 355
2			4			

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AS-BUILT REPAIR QUANTITY TABLE

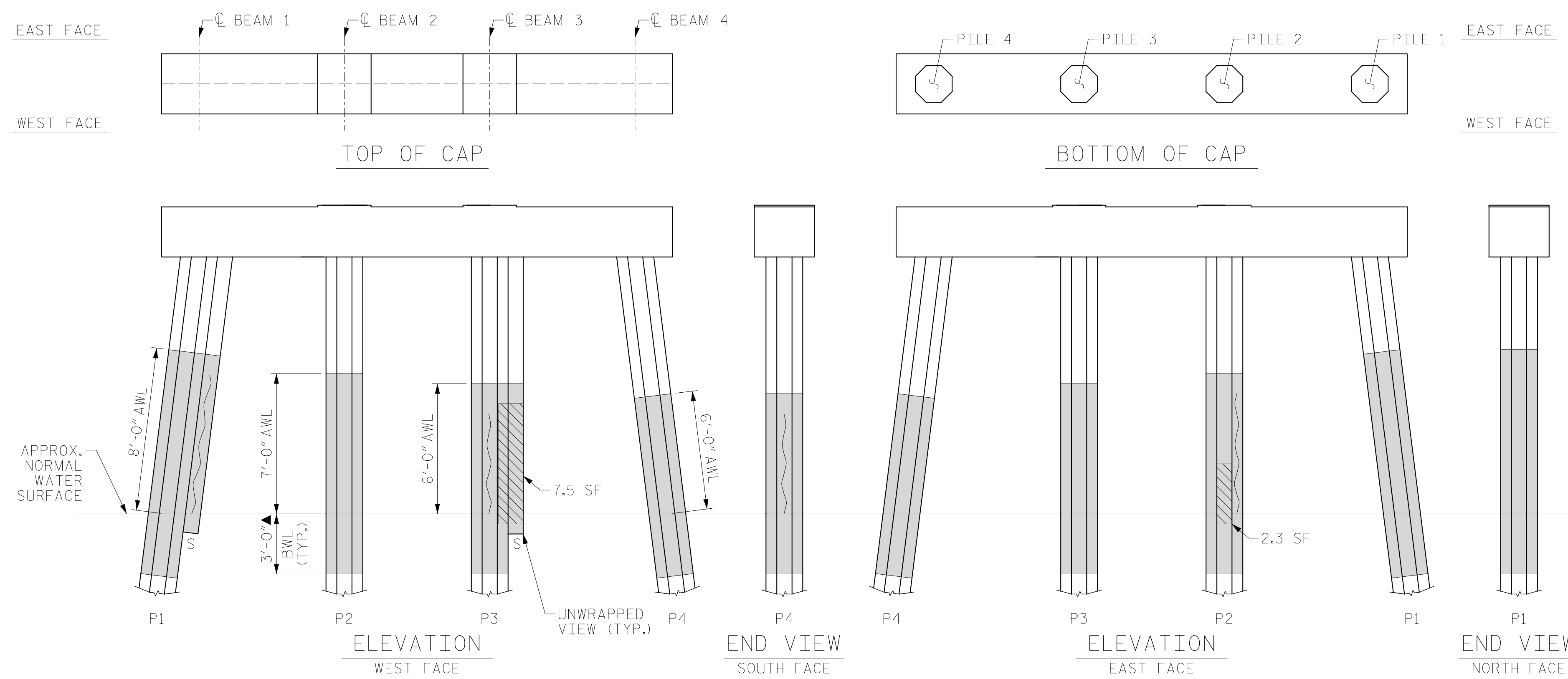
BENT 41				
CAP REPAIRS		ESTIMATE		
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS		ESTIMATE		
PILE CONCRETE RESTORATION	9.8 SF	4.4 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	149.5 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

BENT 42				
CAP REPAIRS		ESTIMATE		
SHOTCRETE REPAIRS	1.4 SF	0.7 CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS		ESTIMATE		
PILE CONCRETE RESTORATION	11.3 SF	4.8 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	165.5 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

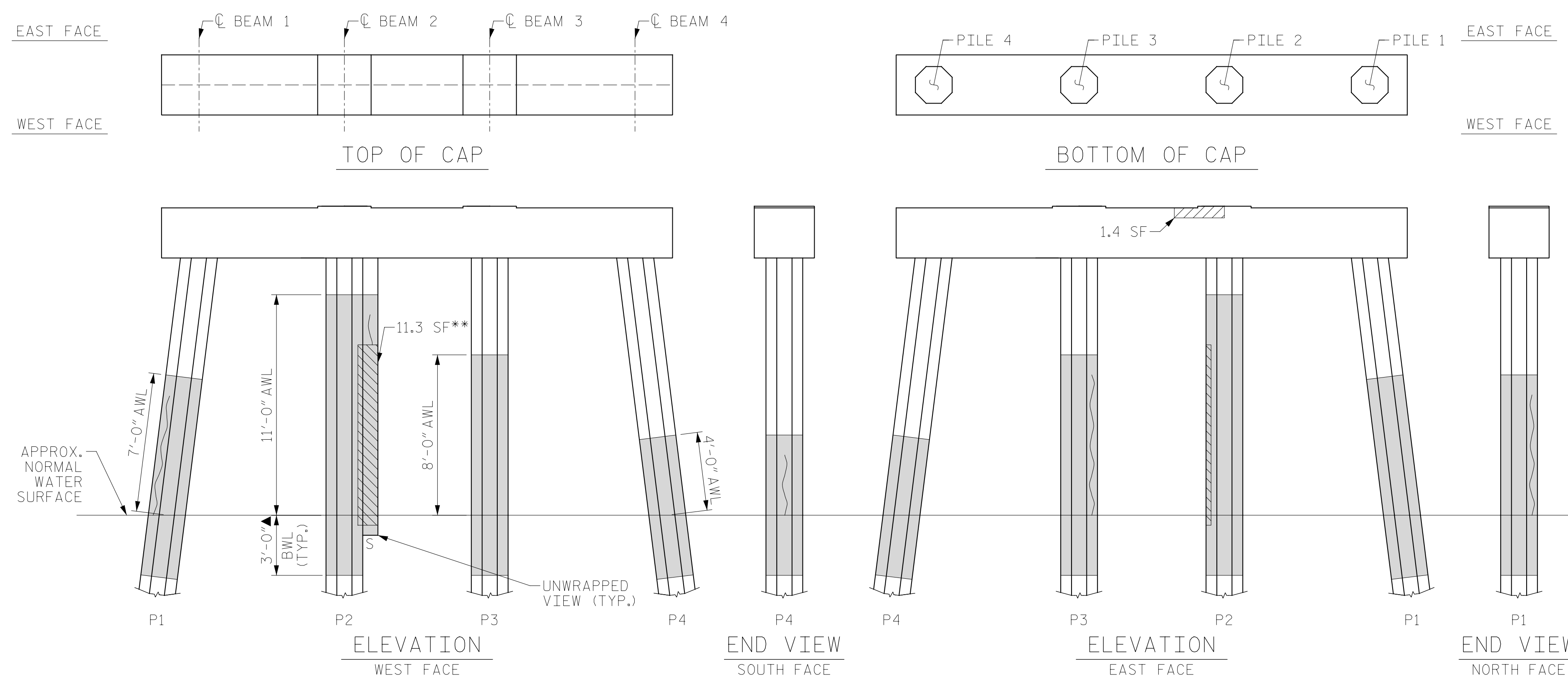
NOTES:
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



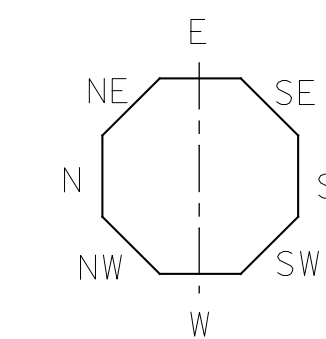
BENT 41

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 42

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 41	PILE 1	-	-	-	7	-	-	5	5
	PILE 2	-	-	-	-	-	-	6	3
	PILE 3	-	5	-	-	-	-	-	-
	PILE 4	-	-	-	5	-	-	-	-
BENT 42	PILE 1	6	-	-	-	4	-	6	-
	PILE 2	-	-	-	1	-	-	8	-
	PILE 3	-	-	-	3	-	-	7	-
	PILE 4	-	-	-	3	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 41 & BENT 42

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			136
2			4			355

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

BENT 43

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF			LF	
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	2.3 SF	1.2 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	88.5 SF				
FRP PROTECTIVE SYSTEM BWL	33.0 SF				

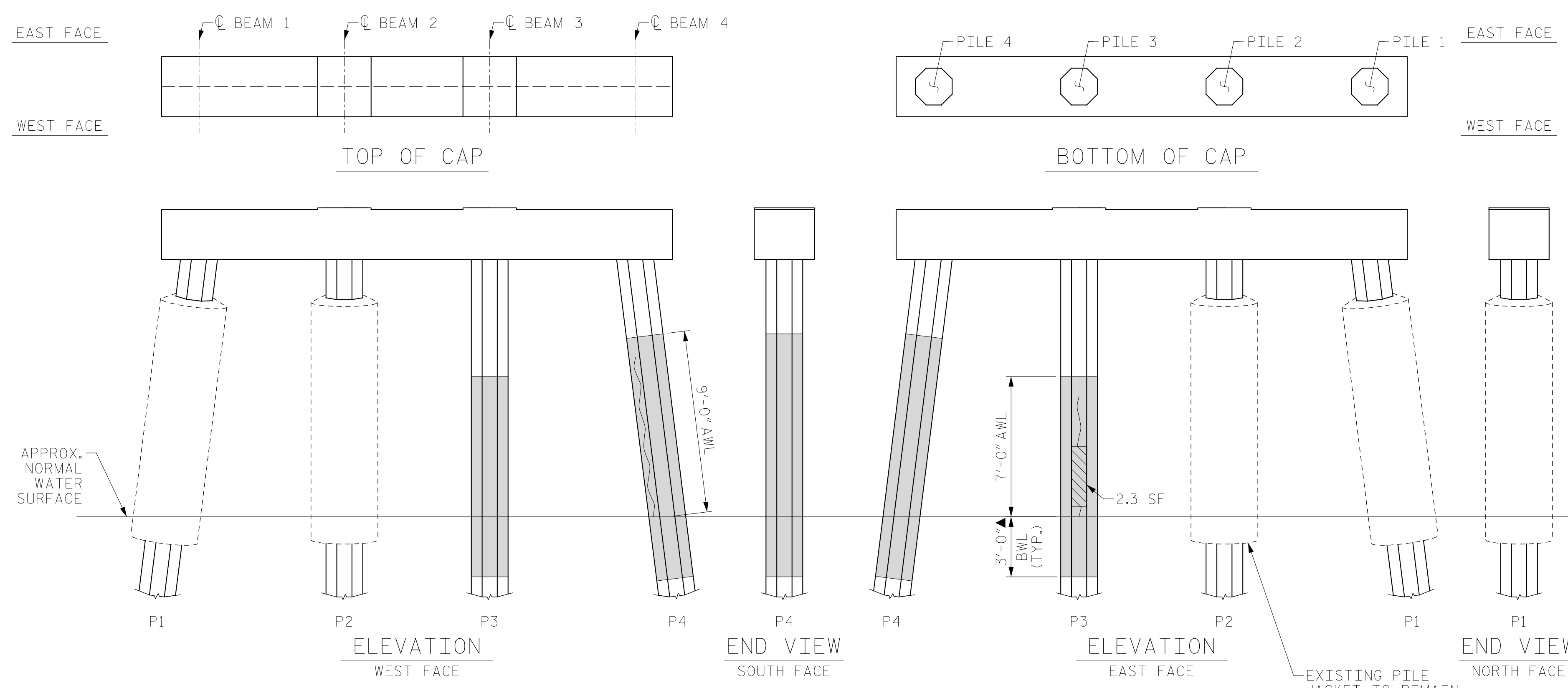
BENT 44

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF			LF	
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	143.9 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

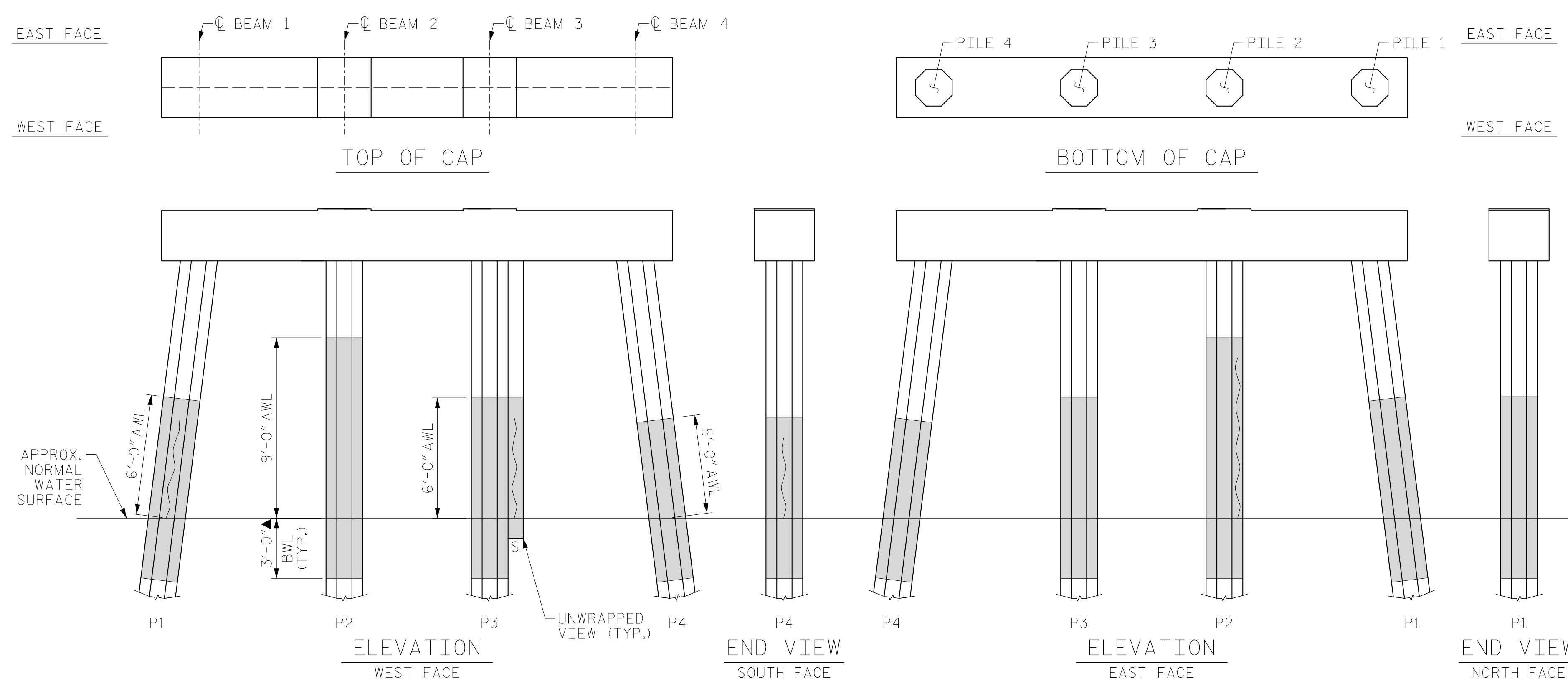
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



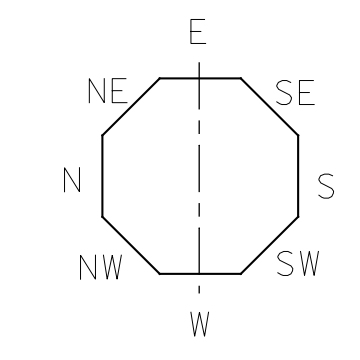
BENT 43

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 44

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)

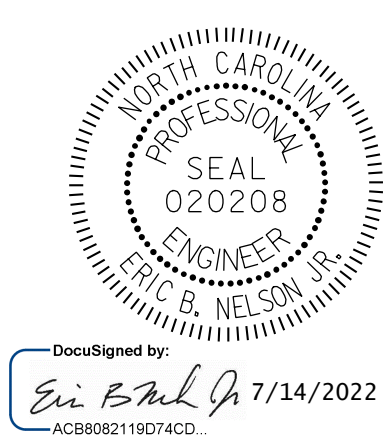


		NW	W	SW	S	SE	E	NE	N
BENT 43	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	4	-	-	-	3	-	-
	PILE 4	8	-	-	2	-	-	6	8
BENT 44	PILE 1	-	5	-	-	-	-	-	-
	PILE 2	-	-	-	3	-	-	8	-
	PILE 3	-	-	-	5	3	-	-	-
	PILE 4	-	-	-	4	-	-	4	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 43 & BENT 44

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 355
2			4			

AS-BUILT REPAIR QUANTITY TABLE

BENT 45

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	9.2 SF	4.7 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	1.9 SF	1.0 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	297.9 SF				
FRP PROTECTIVE SYSTEM BWL	99.0 SF				

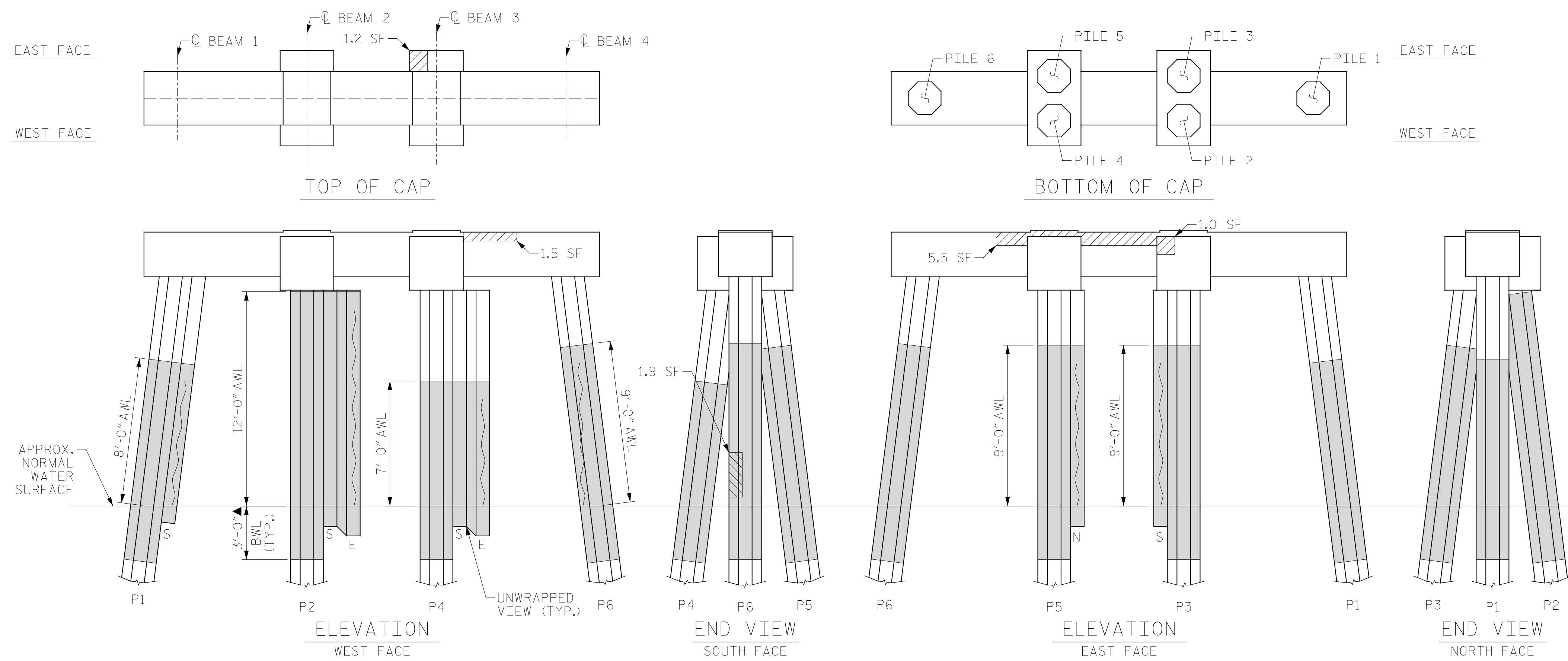
BENT 46

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	2.3 SF	1.2 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	164.5 SF				
FRP PROTECTIVE SYSTEM BWL	49.5 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

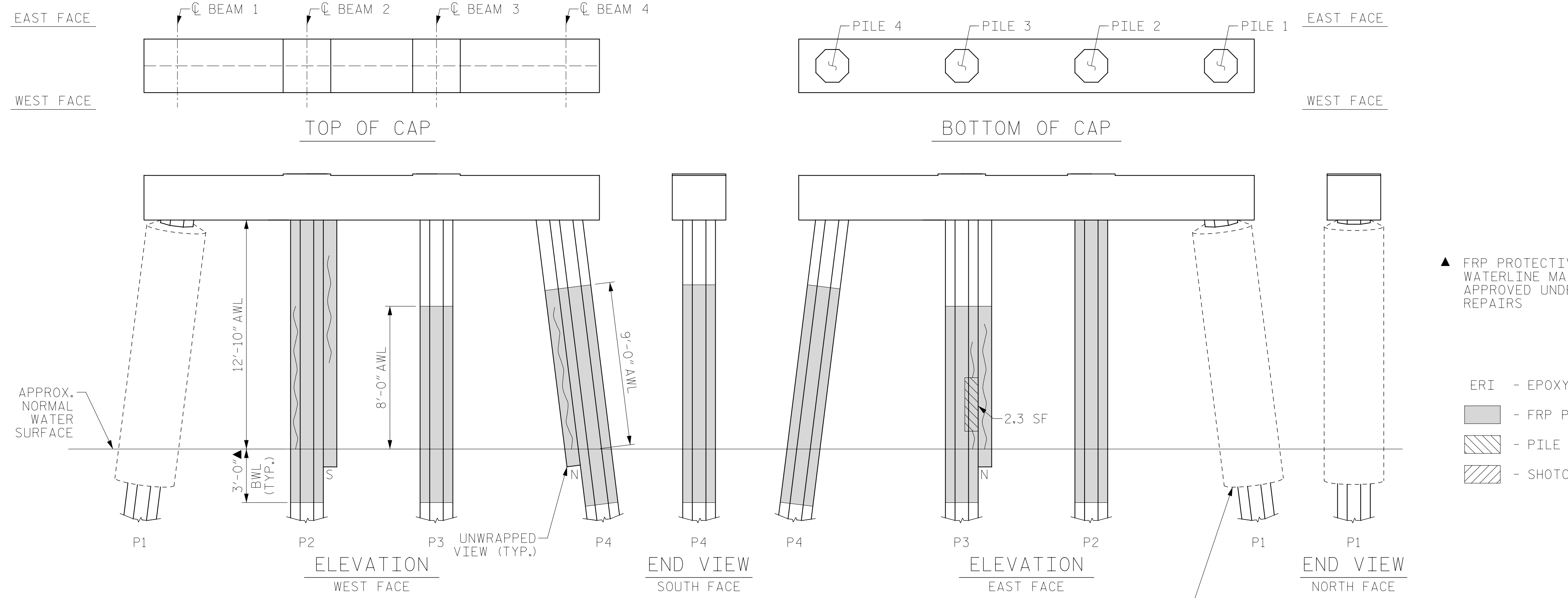
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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 45

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 46

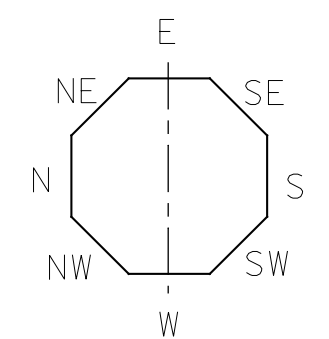
(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)

ESTIMATED PILE CRACK QTY.

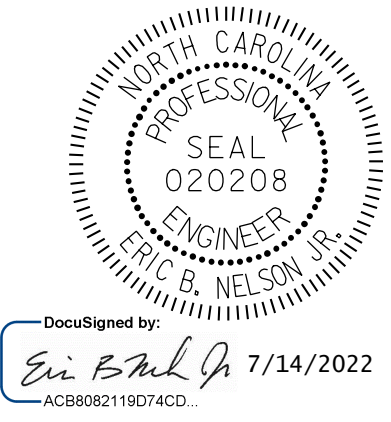
BENT	PILE	DIRECTION							
		NW	W	SW	S	SE	E	NE	N
45	PILE 1	-	-	-	7	-	-	-	-
	PILE 2	6	-	-	-	-	11	-	8
	PILE 3	-	-	-	8	-	-	-	-
	PILE 4	-	-	4	-	-	6	-	-
	PILE 5	-	8	-	-	-	-	-	8
	PILE 6	8	-	3	5	-	4	-	7
46	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	8	6	-	10	-	-	4	-
	PILE 3	-	-	-	-	-	-	3	7
	PILE 4	-	6	-	10	-	-	-	8

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009



- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Hatched Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 45 & BENT 46

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 355
2			4			

AS-BUILT REPAIR QUANTITY TABLE

BENT 47

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	16.5 SF	8.5 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF

PILE REPAIRS

ESTIMATE			
PILE CONCRETE RESTORATION	22.0 SF	8.7 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	182.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 48

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	6.0 SF	2.3 CF	SF	CF	
EPOXY RESIN INJECTION	- LF				LF

PILE REPAIRS

ESTIMATE			
PILE CONCRETE RESTORATION	4.2 SF	2.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	165.9 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

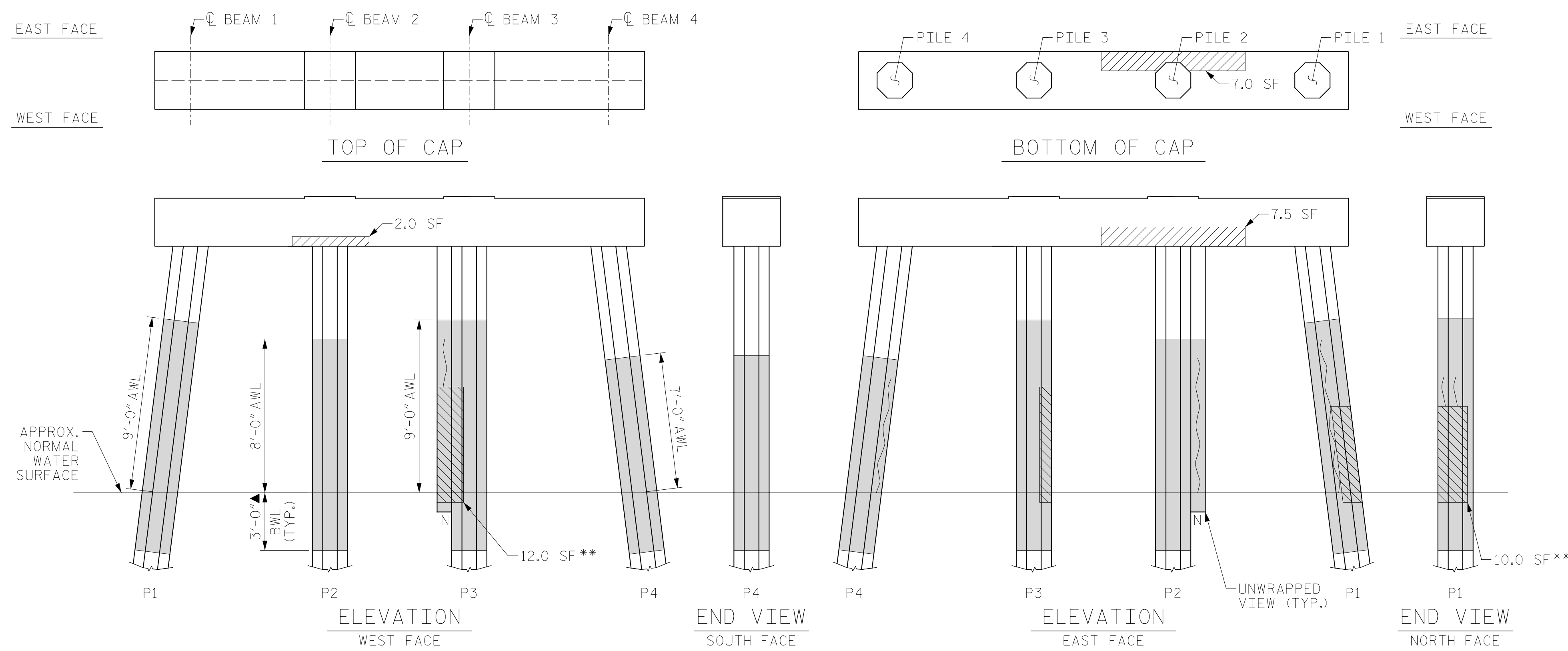
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

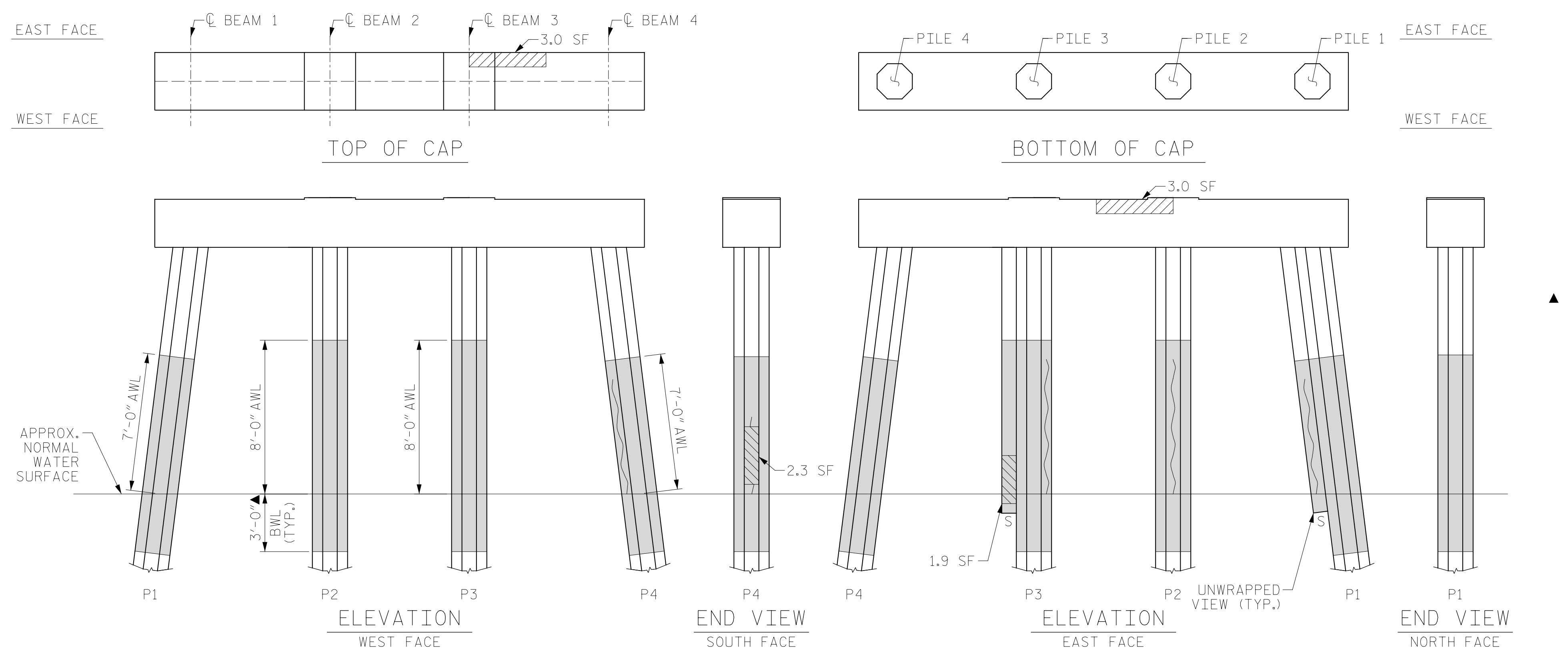
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



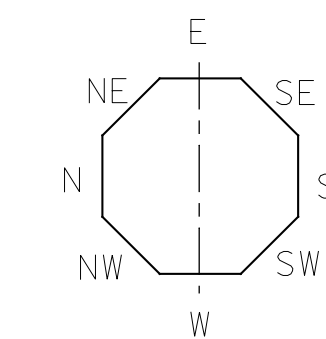
BENT 47

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 48

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY.									
		NW	W	SW	S	SE	E	NE	N
BENT 47	PILE 1	-	-	-	-	-	8	2	2
	PILE 2	-	6	-	-	-	-	-	7
	PILE 3	2	-	-	-	-	8	-	3
	PILE 4	-	-	3	-	5	-	6	-
BENT 48	PILE 1	3	4	-	6	-	-	-	-
	PILE 2	-	6	-	-	-	7	-	-
	PILE 3	-	-	-	1	6	-	7	-
	PILE 4	6	-	-	2	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- FRP PROTECTIVE SYSTEM
- PILE CONCRETE RESTORATION
- SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson, Jr.
7/14/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 47 & BENT 48

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 49

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	- SF	- CF	SF	CF	
EPOXY RESIN INJECTION		- LF			LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	42.8 SF	18.0 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	182.4 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

BENT 50

CAP REPAIRS		ESTIMATE			
SHOTCRETE REPAIRS	0.5 SF	0.3 CF	SF	CF	
EPOXY RESIN INJECTION		- LF			LF
PILE REPAIRS		ESTIMATE			
PILE CONCRETE RESTORATION	19.5 SF	7.3 CF	SF	CF	
FRP PROTECTIVE SYSTEM AWL	176.9 SF				
FRP PROTECTIVE SYSTEM BWL	66.0 SF				

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

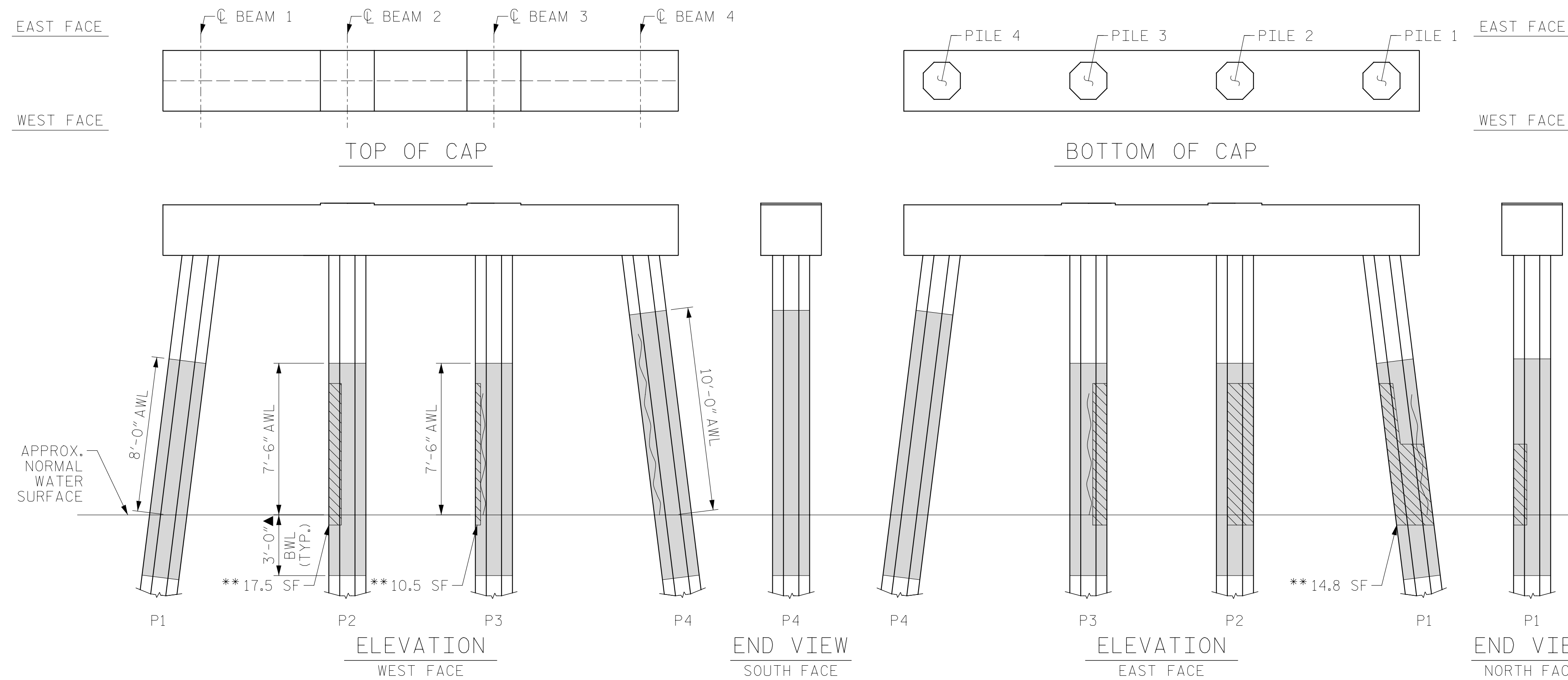
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

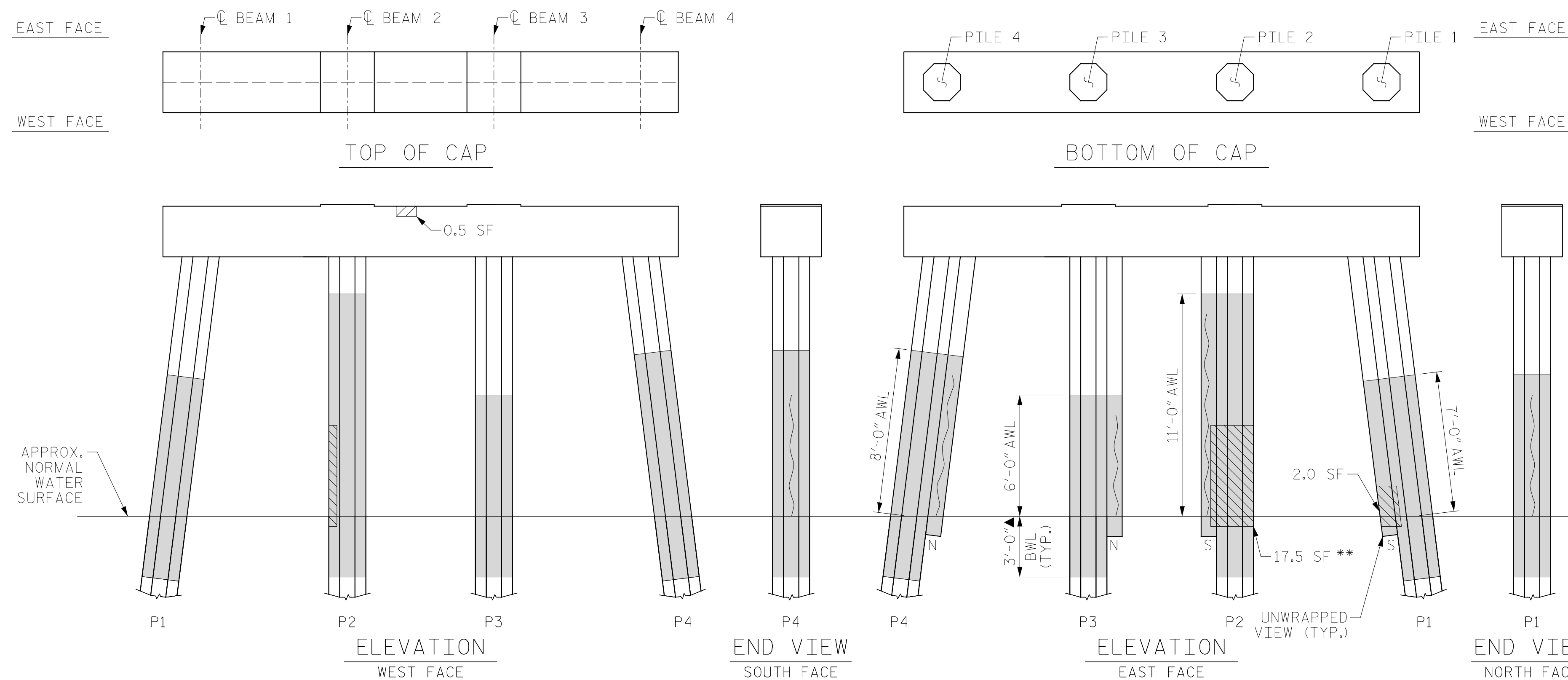
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



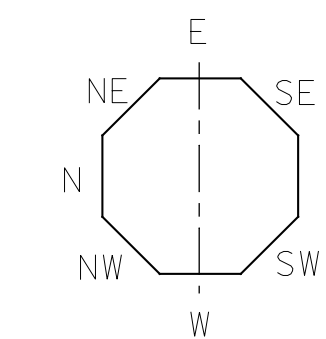
BENT 49

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 50

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



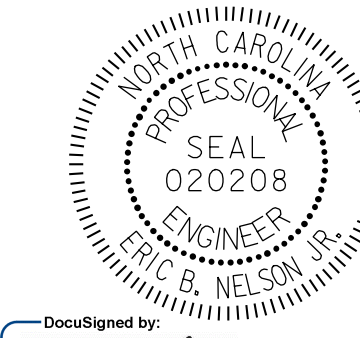
		NW	W	SW	S	SE	E	NE	N
BENT 49	PILE 1	-	-	-	-	-	-	3	6
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	6	-	-	-	-	6	-	-
	PILE 4	9	-	-	5	-	-	-	-
BENT 50	PILE 1	-	-	3	-	-	-	-	6
	PILE 2	-	-	-	10	6	-	-	-
	PILE 3	-	-	-	-	-	3	-	5
	PILE 4	-	-	-	10	-	-	-	7

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson, Jr.
7/14/2022

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 49 & BENT 50

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-140
1			3			TOTAL SHEETS
2			4			355

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AS-BUILT REPAIR QUANTITY TABLE

BENT 51				
CAP REPAIRS				
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS				
PILE CONCRETE RESTORATION	- SF	- CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	171.4 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

BENT 52				
CAP REPAIRS				
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS				
PILE CONCRETE RESTORATION	17.0 SF	6.9 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	176.9 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

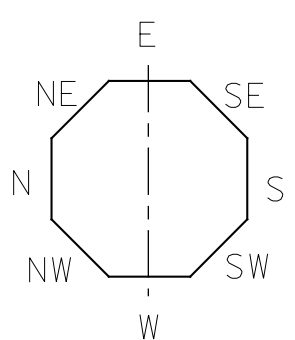
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY. TABLE									
		NW	W	SW	S	SE	E	NE	N
BENT 51	PILE 1	-	-	-	8	-	6	6	-
	PILE 2	-	-	-	4	-	-	-	8
	PILE 3	-	2	2	-	3	-	-	-
	PILE 4	-	-	-	-	6	-	6	8
BENT 52	PILE 1	-	1	1	-	-	-	-	-
	PILE 2	-	5	-	-	3	4	7	3
	PILE 3	-	-	4	7	3	3	-	4
	PILE 4	-	-	-	-	-	-	-	5

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- FRP PROTECTIVE SYSTEM
- PILE CONCRETE RESTORATION
- SHOTCRETE REPAIRS

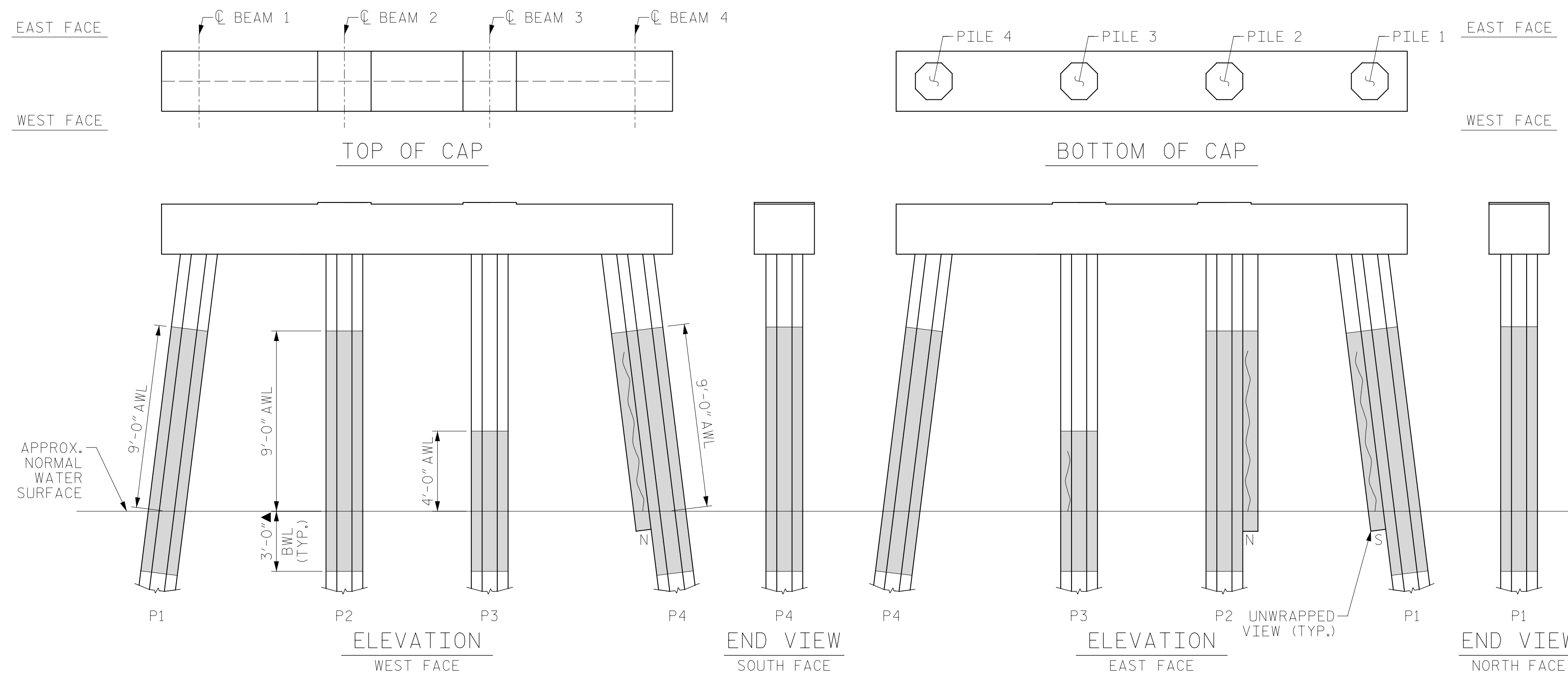


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 51 & BENT 52

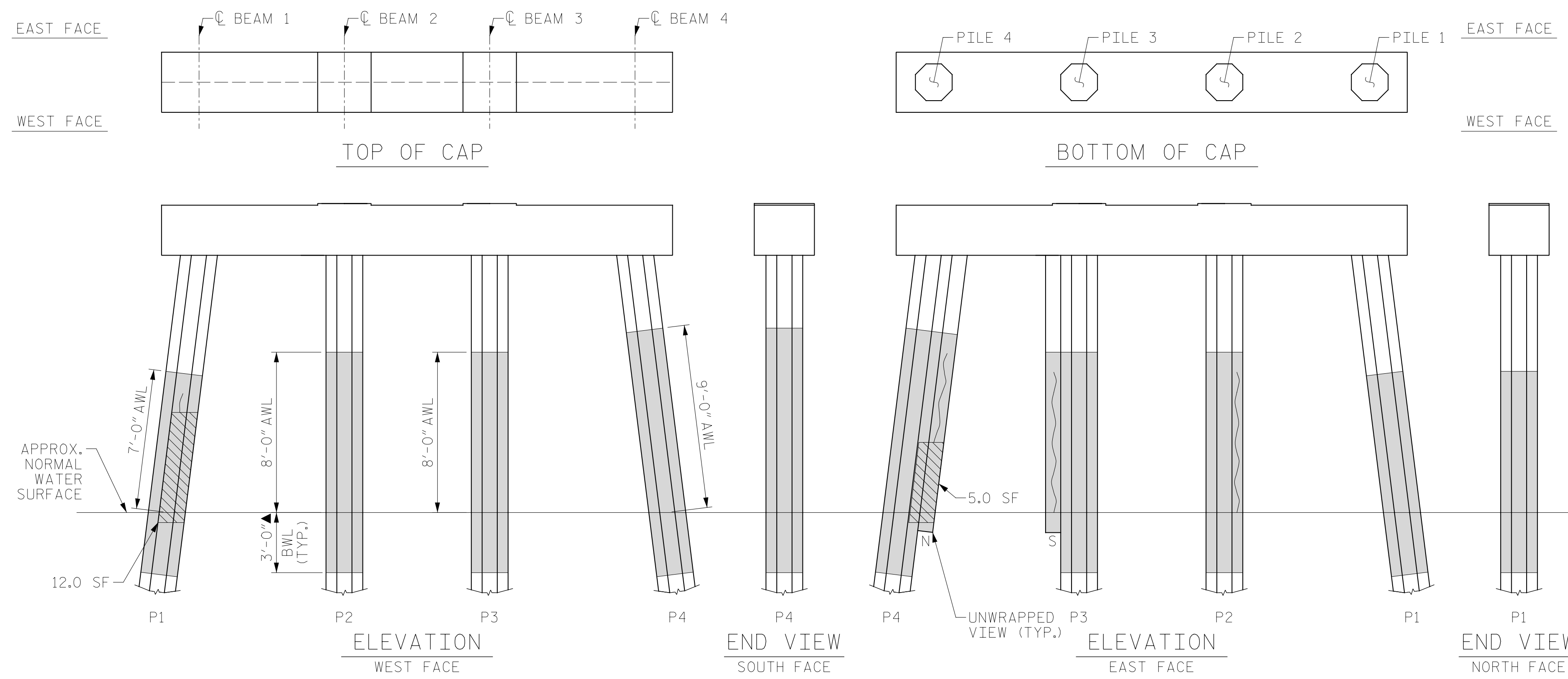
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-141
2			4			355

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BENT 51

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 52

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019

AS-BUILT REPAIR QUANTITY TABLE

BENT 53

CAP REPAIRS			
SHOTCRETE REPAIRS	4.1 SF	2.1 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	- SF	- CF	SF CF
FRP PROTECTIVE SYSTEM AWL	149.4 SF		
FRP PROTECTIVE SYSTEM BWL	49.5 SF		

BENT 54

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	8.8 SF	3.7 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	182.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

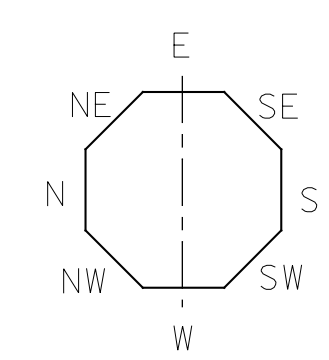
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY. TABLE

		DIRECTION							
		NW	W	SW	S	SE	E	NE	N
BENT 53	PILE 1	-	-	-	12	4	-	8	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	-	-	7	12	-	-	-
	PILE 4	-	-	-	-	-	-	-	-
	PILE 5	-	-	-	-	-	-	-	-
BENT 54	PILE 1	5	6	10	-	9	4	-	-
	PILE 2	-	-	3	7	6	1	-	3
	PILE 3	2	2	4	4	-	-	-	6
	PILE 4	6	-	3	-	3	-	4	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

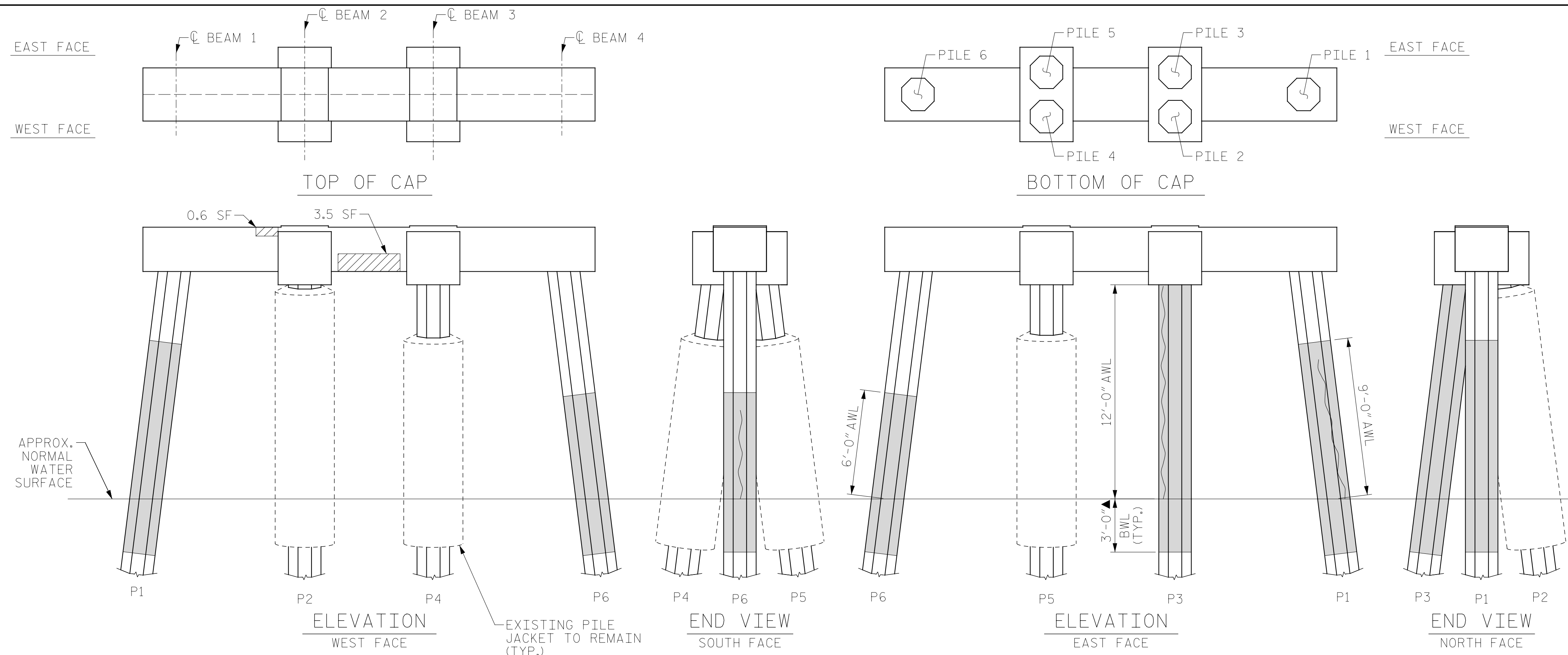
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

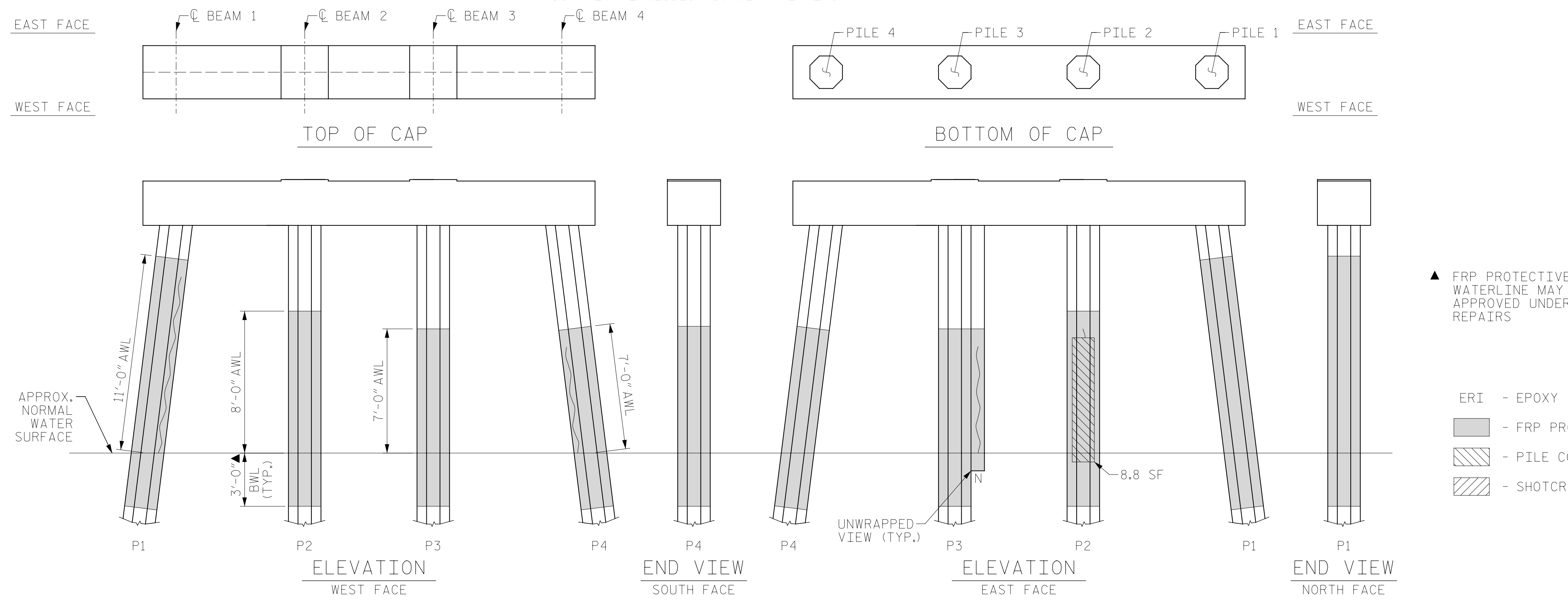
BENT 53 & BENT 54

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			142
2			4			355



BENT 53

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 54

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



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AS-BUILT REPAIR QUANTITY TABLE

BENT 55

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	4.5 SF	2.4 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	176.9 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 56

CAP REPAIRS			
SHOTCRETE REPAIRS	1.5 SF	0.8 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	- SF	- CF	SF CF
FRP PROTECTIVE SYSTEM AWL	121.9 SF		
FRP PROTECTIVE SYSTEM BWL	49.5 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

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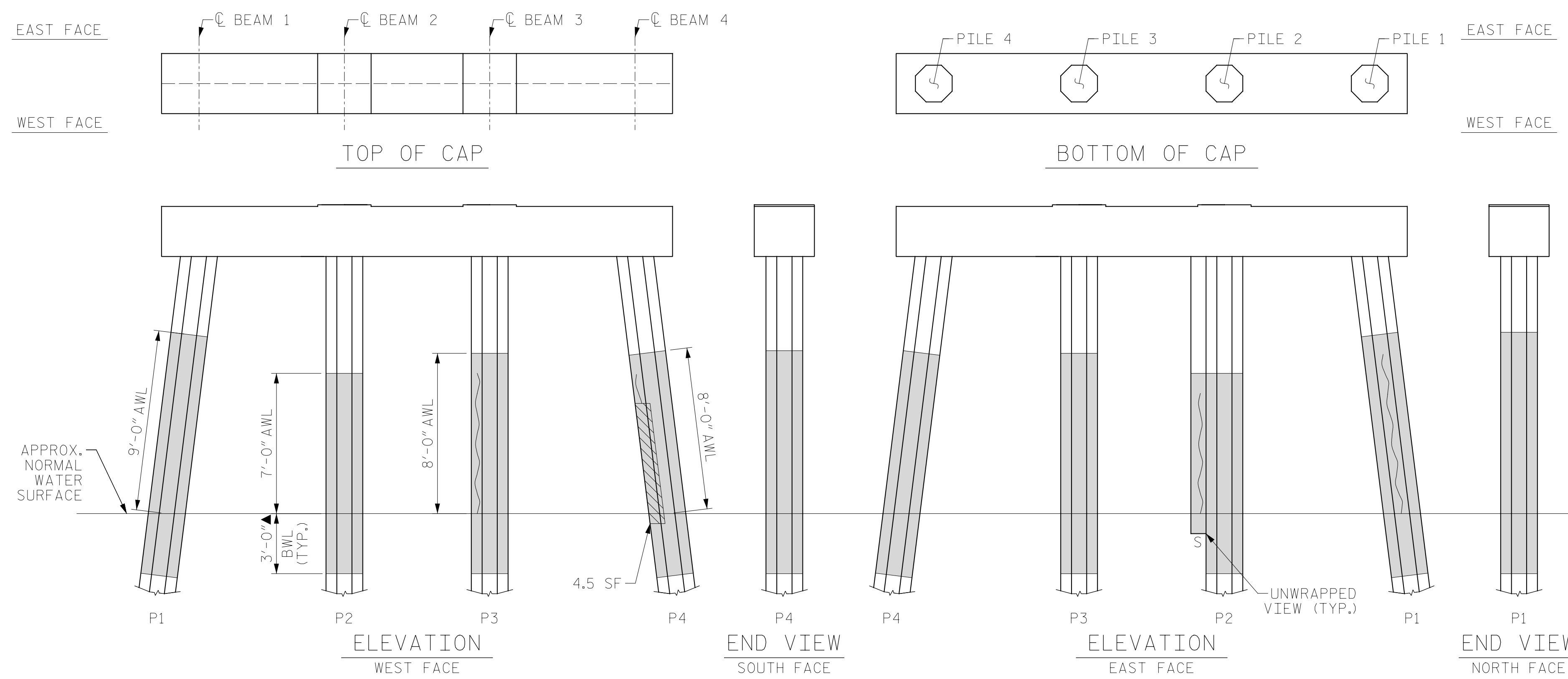
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

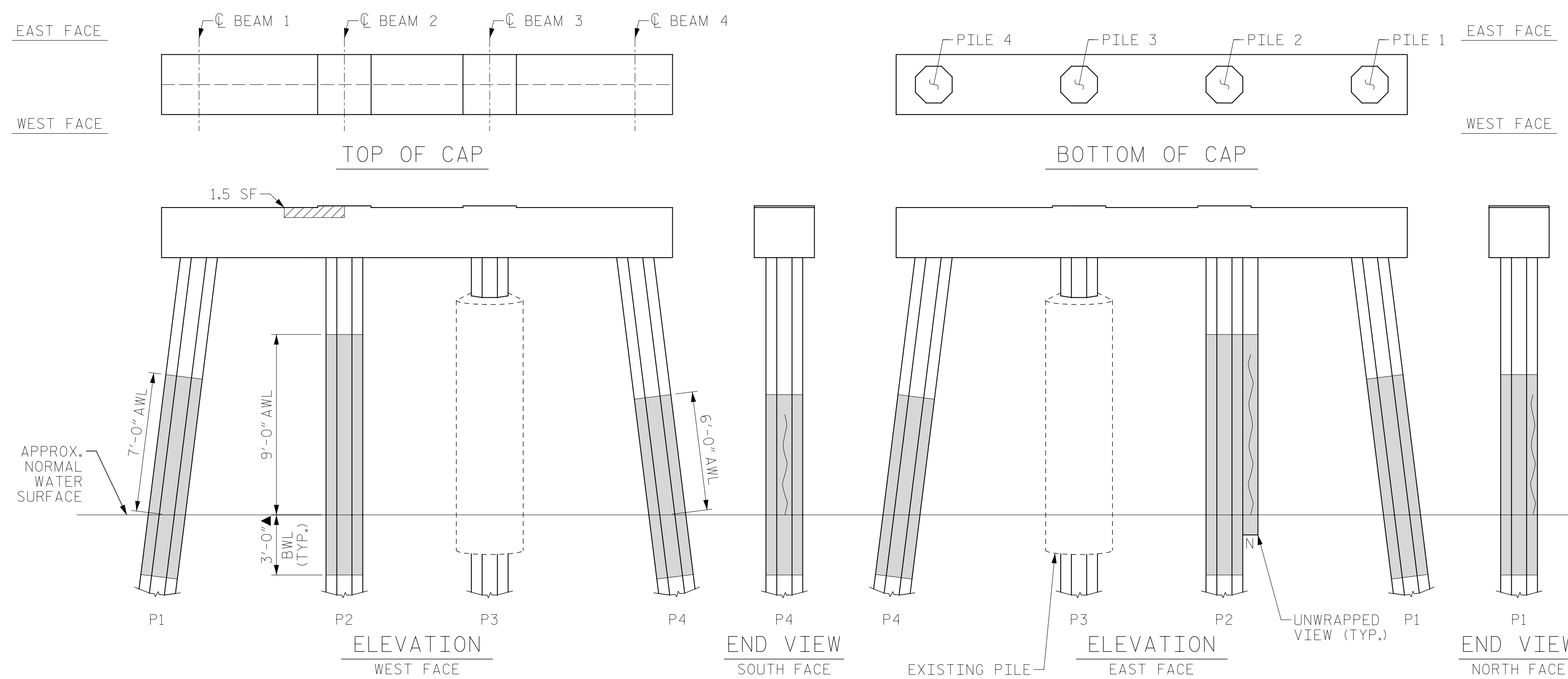
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 55

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



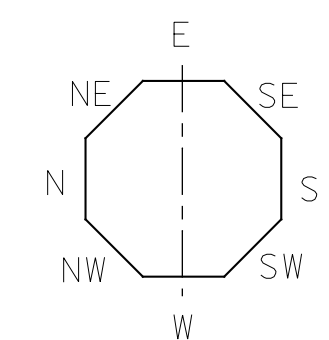
BENT 56

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)

ESTIMATED PILE CRACK QTY. TABLE

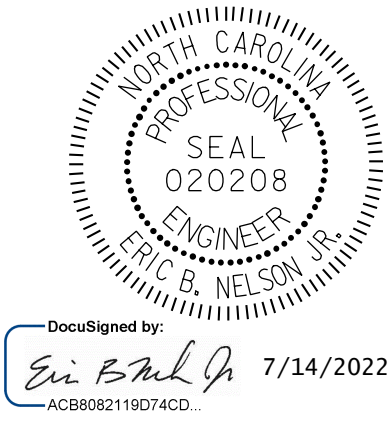
		NW	W	SW	S	SE	E	NE	N
BENT 55	PILE 1	-	-	-	-	-	8	7	-
	PILE 2	4	-	4	6	-	-	-	-
	PILE 3	7	-	-	-	-	6	-	4
	PILE 4	2	-	-	-	-	6	7	3
BENT 56	PILE 1	6	3	-	-	3	5	-	-
	PILE 2	-	-	-	3	-	4	-	8
	PILE 3	-	-	-	-	-	-	-	-
	PILE 4	-	3	4	5	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 55 & BENT 56

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. WERTMAN DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-143
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 57

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	7.5 LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	23.0 SF	9.2 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	190.7 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 58

CAP REPAIRS			
SHOTCRETE REPAIRS	42.6 SF	23.6 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	25.4 SF	11.4 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	152.2 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

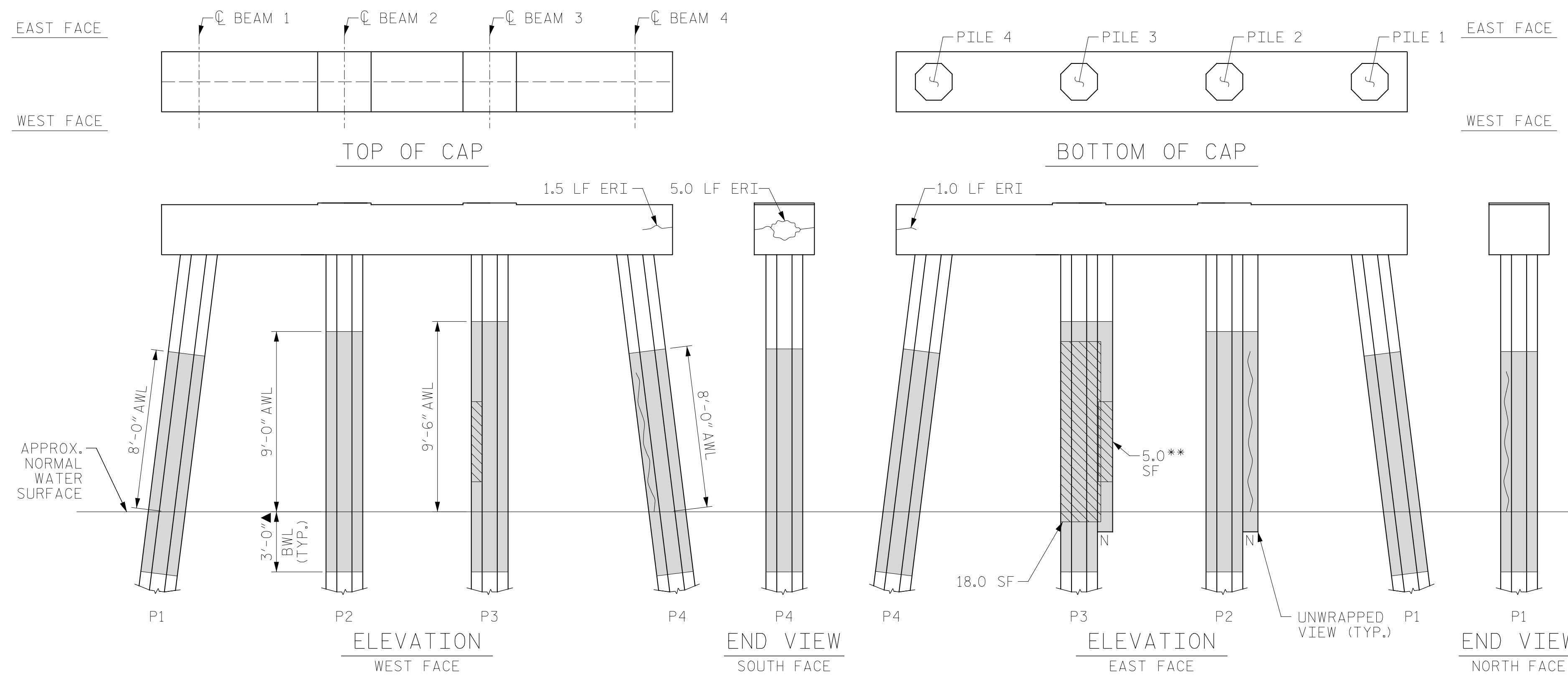
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

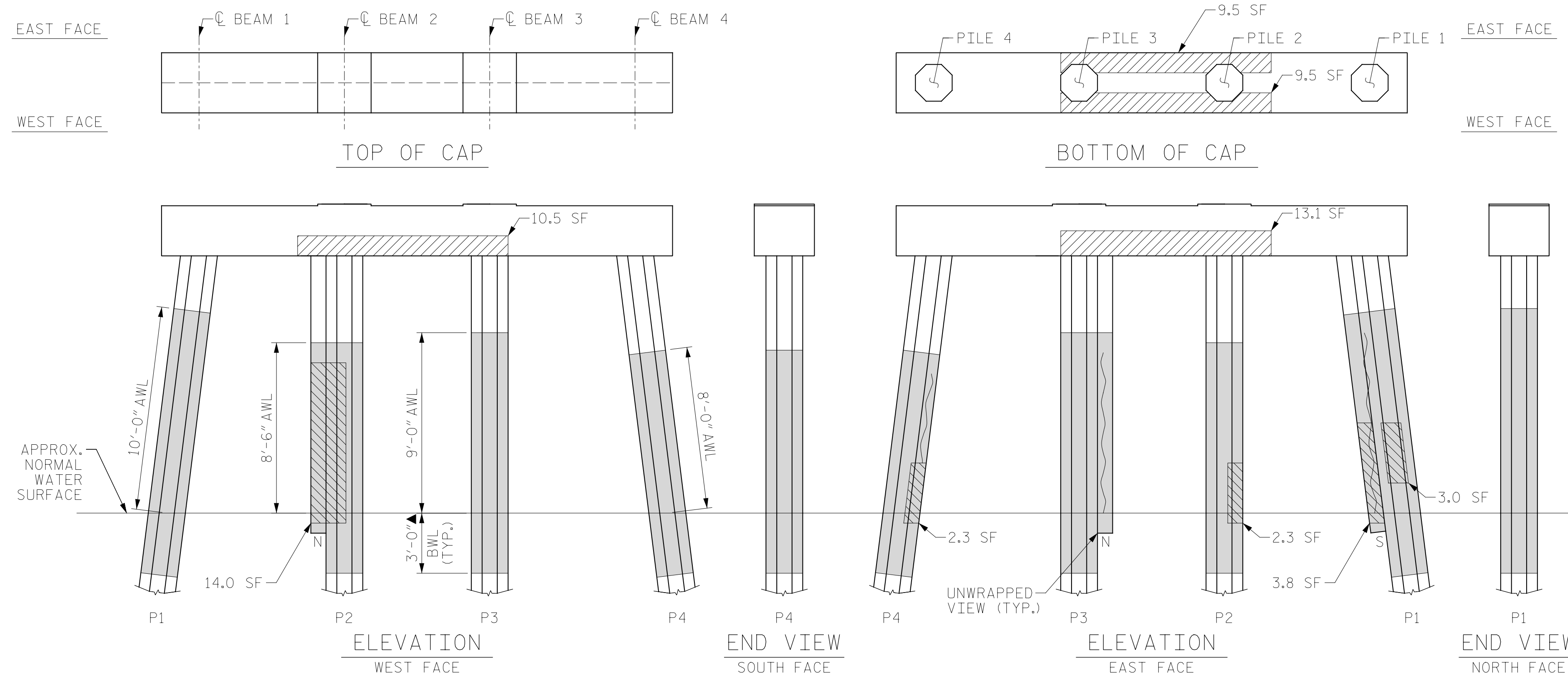
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 57

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)



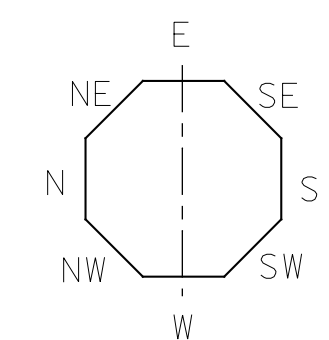
BENT 58

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(*QUANTITY INCLUDES ADJACENT REPAIRS)

ESTIMATED PILE CRACK QTY. TABLE

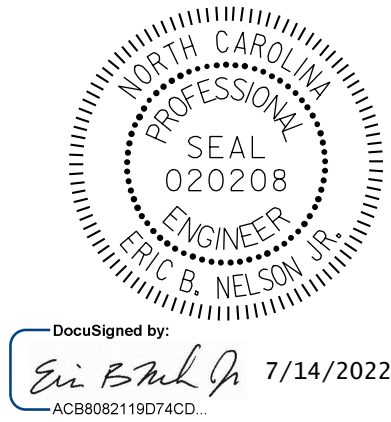
		NW	W	SW	S	SE	E	NE	N
BENT 57	PILE 1	5	-	-	-	-	-	7	-
	PILE 2	-	-	-	-	-	6	7	8
	PILE 3	-	-	-	-	-	-	-	2
	PILE 4	7	5	-	-	-	-	6	4
BENT 58	PILE 1	3	-	-	5	-	4	7	-
	PILE 2	-	-	3	4	2	-	4	-
	PILE 3	-	3	-	6	6	6	4	8
	PILE 4	5	5	-	10	-	-	5	6

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- - FRP PROTECTIVE SYSTEM
- ▨ - PILE CONCRETE RESTORATION
- ▩ - SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson 7/14/2022

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 57 & BENT 58

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-144
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 59

CAP REPAIRS			
SHOTCRETE REPAIRS	0.8 SF	0.4 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	33.3 SF	13.4 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	193.0 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 60

CAP REPAIRS			
SHOTCRETE REPAIRS	3.0 SF	1.5 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	30.5 SF	12.9 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	182.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

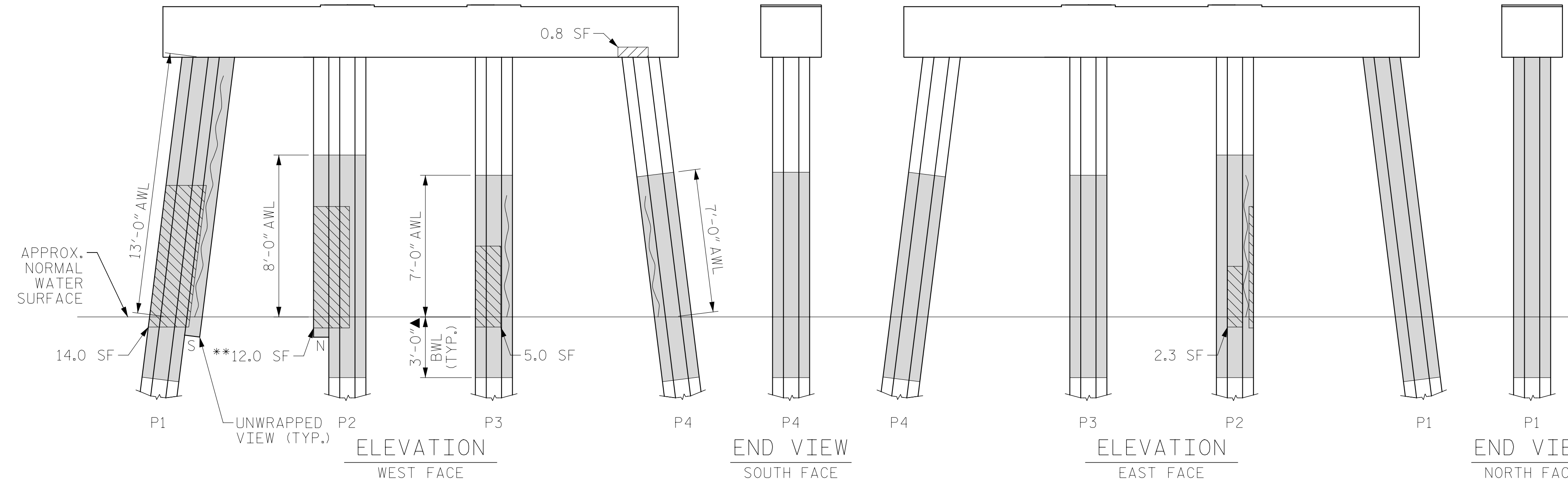
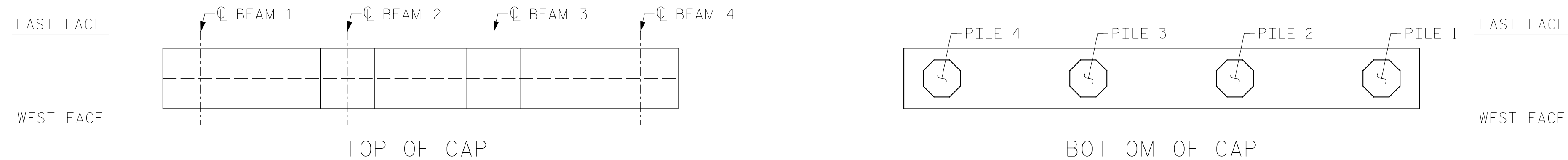
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

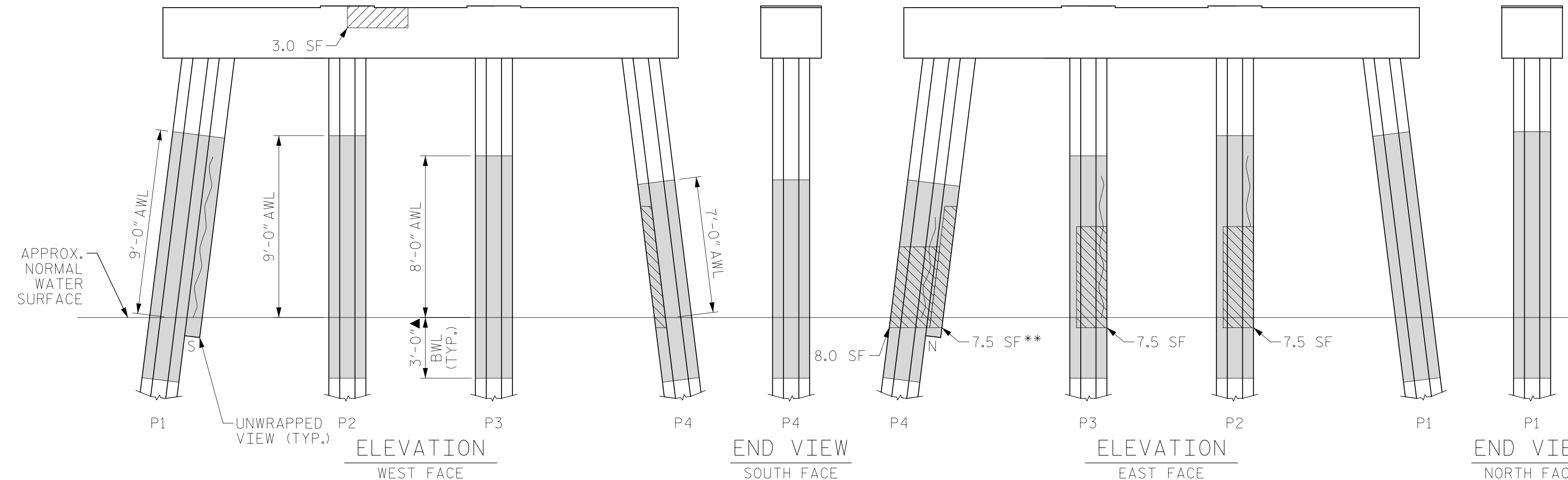
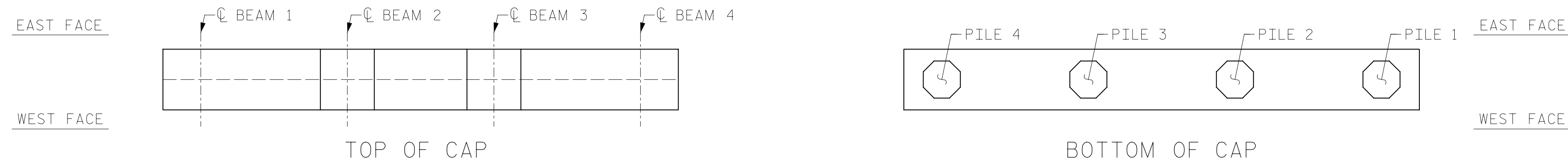
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



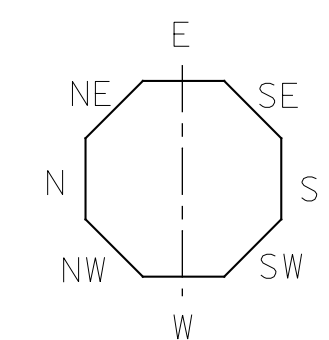
BENT 59

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 60

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY. TABLE

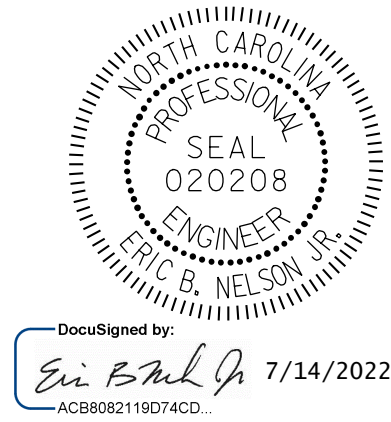
		NW	W	SW	S	SE	E	NE	N
BENT 59	PILE 1	-	8	7	12	4	-	-	-
	PILE 2	6	-	-	-	-	4	7	6
	PILE 3	3	-	6	3	3	-	-	6
	PILE 4	6	-	-	4	-	3	6	-
BENT 60	PILE 1	-	5	6	8	4	-	-	-
	PILE 2	-	-	4	8	3	-	8	7
	PILE 3	3	-	6	3	-	-	7	-
	PILE 4	5	3	-	-	6	3	5	5

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 59 & BENT 60

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. WERTMAN DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-145
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 61				
CAP REPAIRS				
SHOTCRETE REPAIRS	0.8 SF	0.4 CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS				
PILE CONCRETE RESTORATION	25.8 SF	10.7 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	270.4 SF			
FRP PROTECTIVE SYSTEM BWL	99.0 SF			

BENT 62				
CAP REPAIRS				
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS				
PILE CONCRETE RESTORATION	35.0 SF	13.9 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	138.4 SF			
FRP PROTECTIVE SYSTEM BWL	49.5 SF			

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

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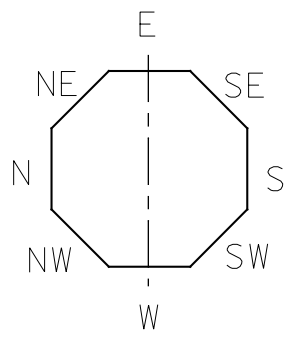
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY. TABLE

BENT	PILE	DIRECTION							
		NW	W	SW	S	SE	E	NE	N
61	PILE 1	-	2	-	5	4	4	3	4
	PILE 2	6	6	-	-	-	8	7	5
	PILE 3	-	-	-	6	5	-	4	-
	PILE 4	-	-	-	-	-	2	4	-
	PILE 5	-	-	8	-	-	-	-	4
	PILE 6	-	5	-	5	-	-	-	-
62	PILE 1	-	-	2	-	9	-	4	3
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	-	-	-	-	2	3	6
	PILE 4	2	-	3	-	-	3	2	3

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS

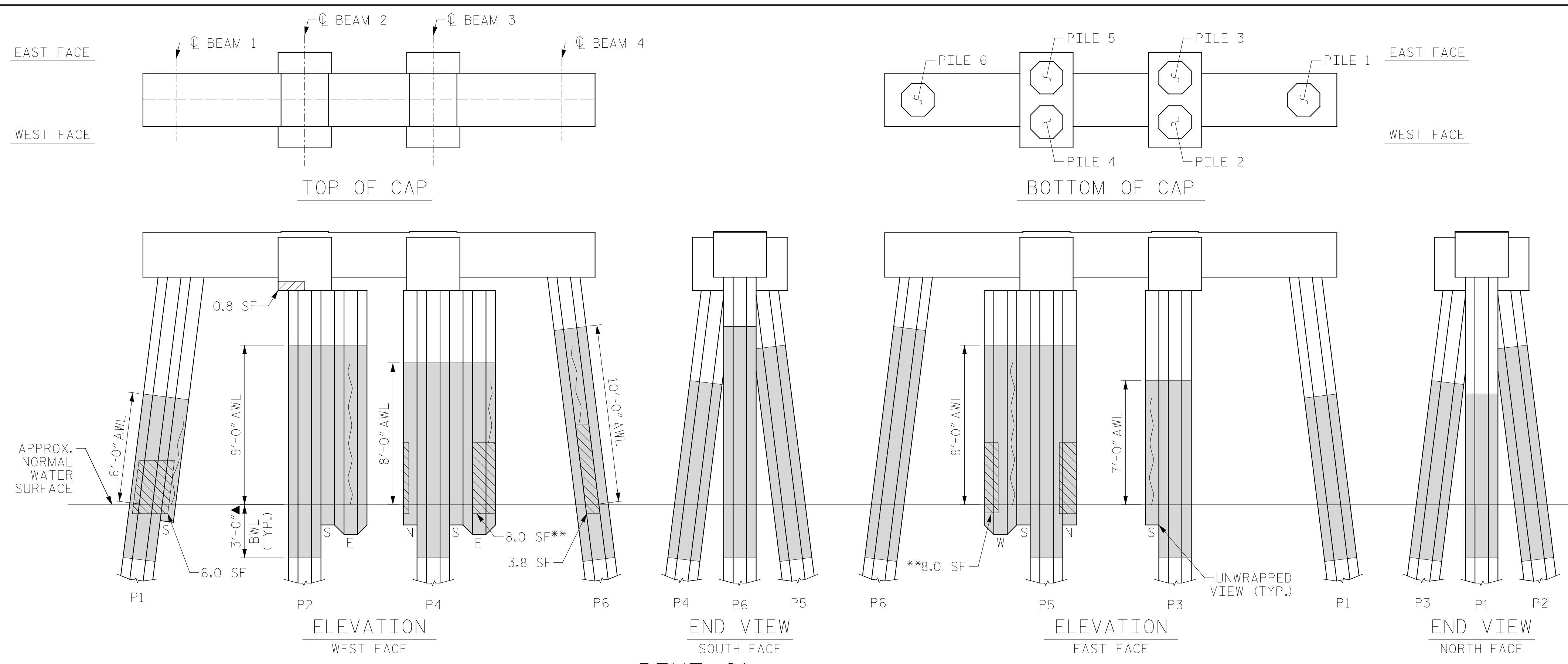


STATE OF NORTH CAROLINA
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 RALEIGH

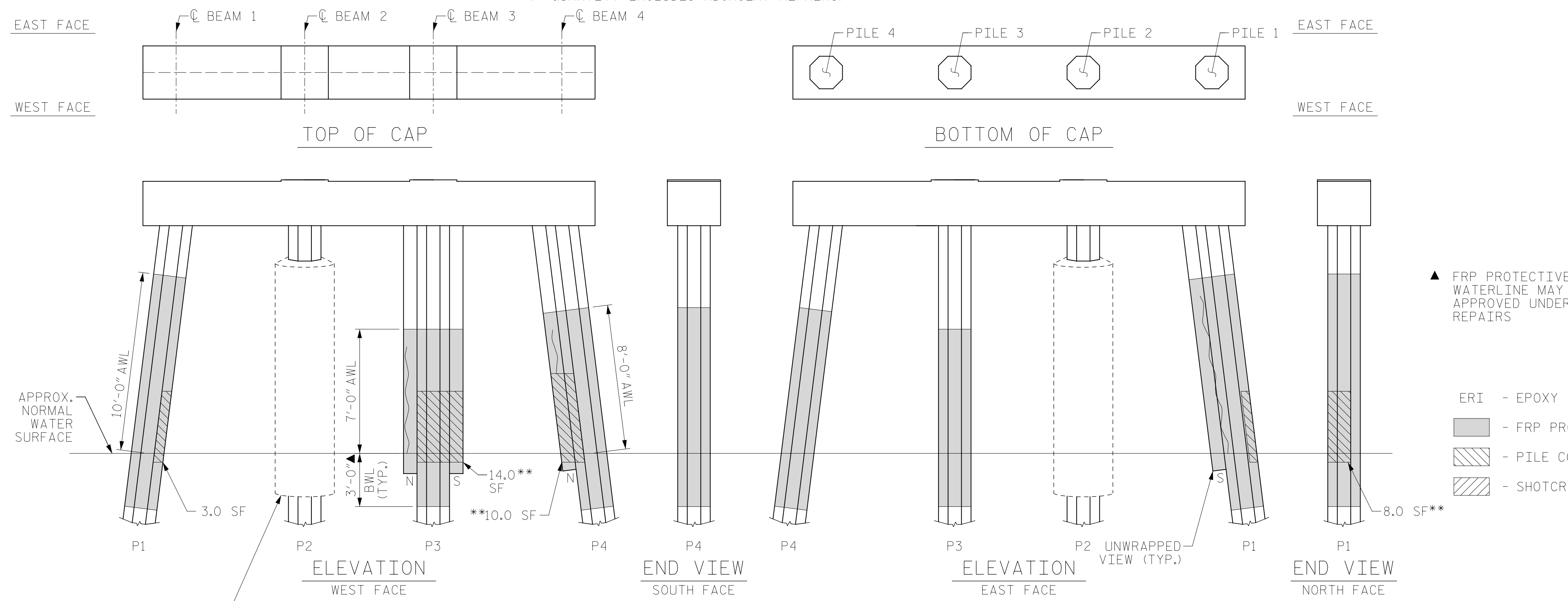
BENT 61 & BENT 62

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-146
1			3			TOTAL SHEETS
2			4			355

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BENT 61
 (AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 62
 (AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. FISHER DATE: 3/2019

AS-BUILT REPAIR QUANTITY TABLE

BENT 63

CAP REPAIRS			
SHOTCRETE REPAIRS	1.3 SF	0.7 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	55.5 SF	21.4 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	193.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 64

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	34.0 SF	13.7 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	121.5 SF		
FRP PROTECTIVE SYSTEM BWL	49.5 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

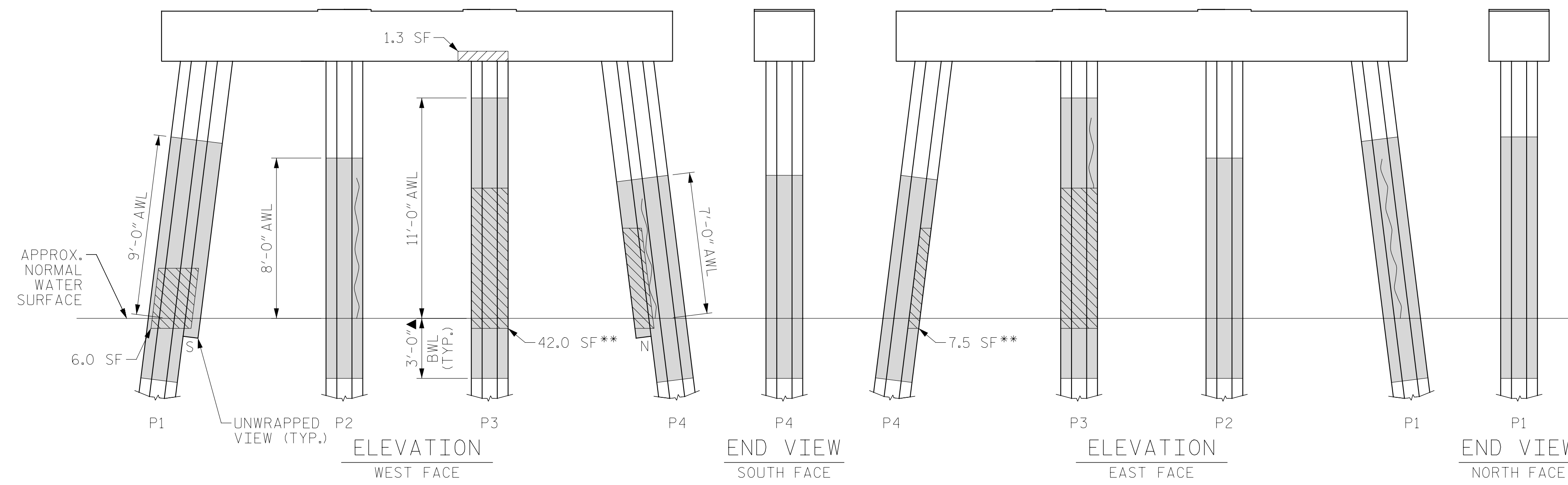
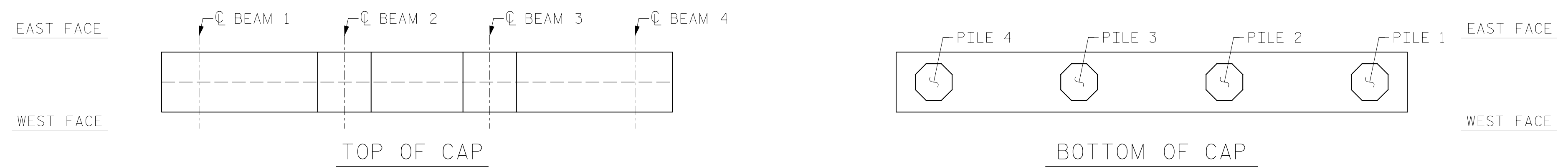
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY. TABLE

		NW	W	SW	S	SE	E	NE	N
BENT 63	PILE 1	-	4	4	-	6	8	-	-
	PILE 2	-	5	7	-	7	5	-	-
	PILE 3	-	-	-	-	-	-	4	-
	PILE 4	6	-	-	-	-	-	6	6
BENT 64	PILE 1	-	-	-	-	-	-	-	-
	PILE 2	8	-	3	3	3	-	-	5
	PILE 3	3	-	4	-	-	-	-	5
	PILE 4	6	4	4	-	4	4	6	-

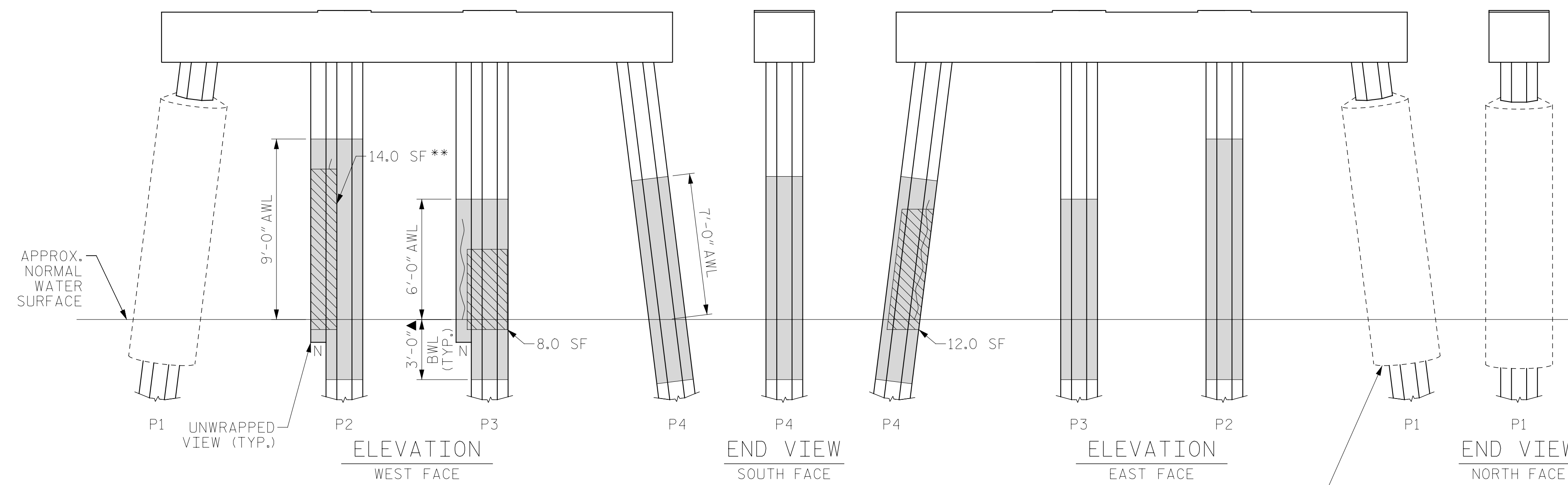
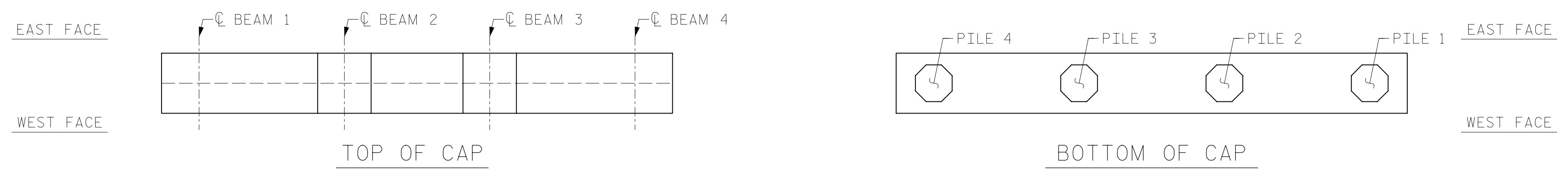
NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



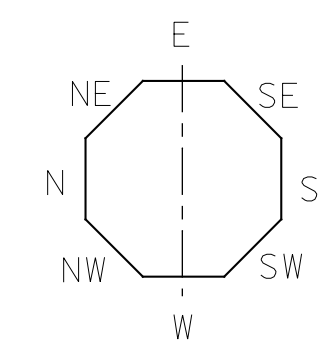
BENT 63

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



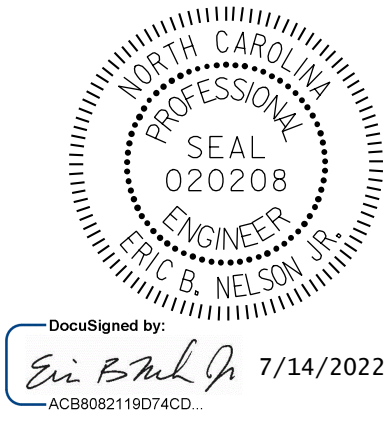
BENT 64

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Solid Gray] - FRP PROTECTIVE SYSTEM
- [Diagonal Hatching] - PILE CONCRETE RESTORATION
- [Cross-hatching] - SHOTCRETE REPAIRS



DocuSigned by:
 Eric B. Nelson, Jr.
 7/14/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 63 & BENT 64

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. FISHER DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			147
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 65

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	6.5 LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	17.8 SF	7.4 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	187.9 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

BENT 66

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	42.8 SF	17.0 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	149.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY. TABLE

		NW	W	SW	S	SE	E	NE	N
BENT 65	PILE 1	3	-	-	-	5	3	6	-
	PILE 2	3	-	2	-	-	5	3	-
	PILE 3	9	-	6	-	-	4	-	8
	PILE 4	-	-	3	-	3	-	4	7
BENT 66	PILE 1	-	3	5	-	2	1	-	-
	PILE 2	1	-	-	-	-	-	-	-
	PILE 3	-	-	-	2	-	-	-	2
	PILE 4	3	-	3	-	-	3	3	-

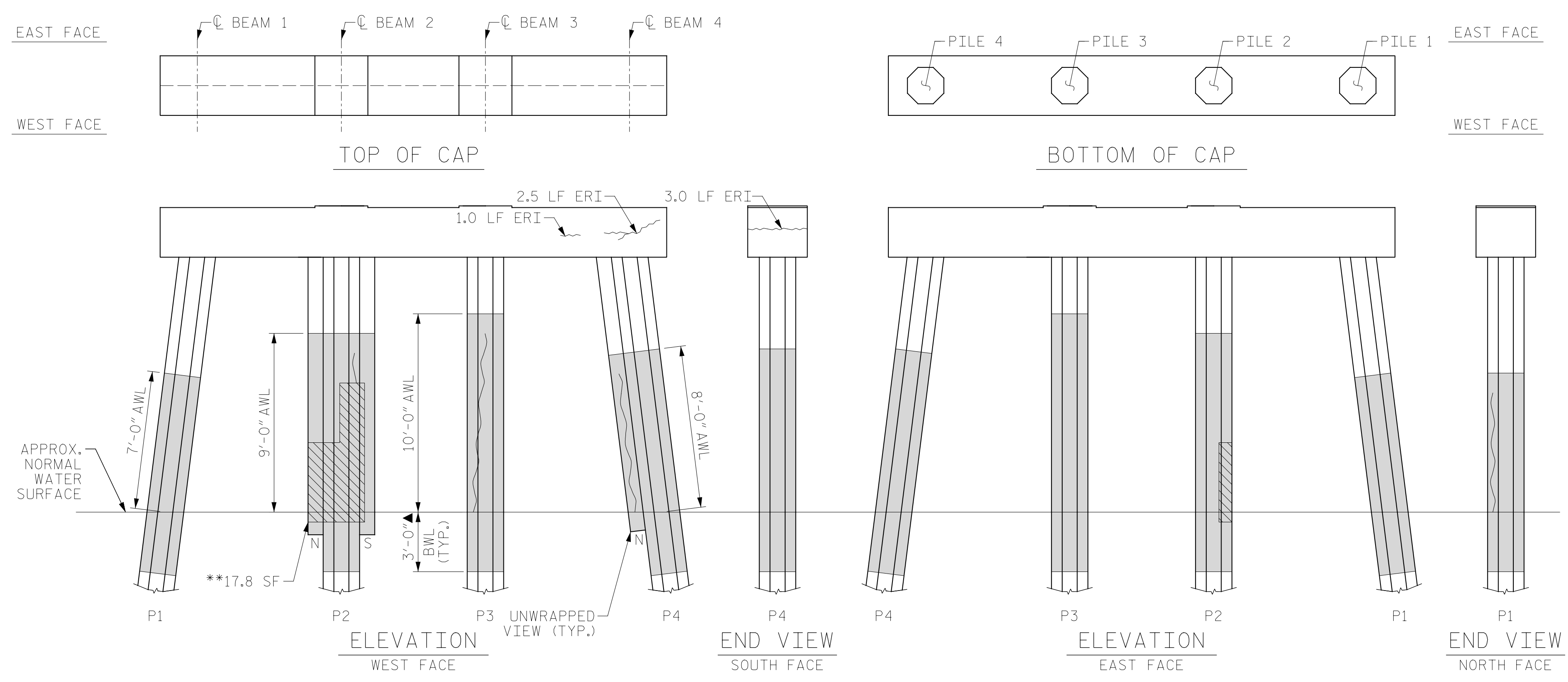
NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



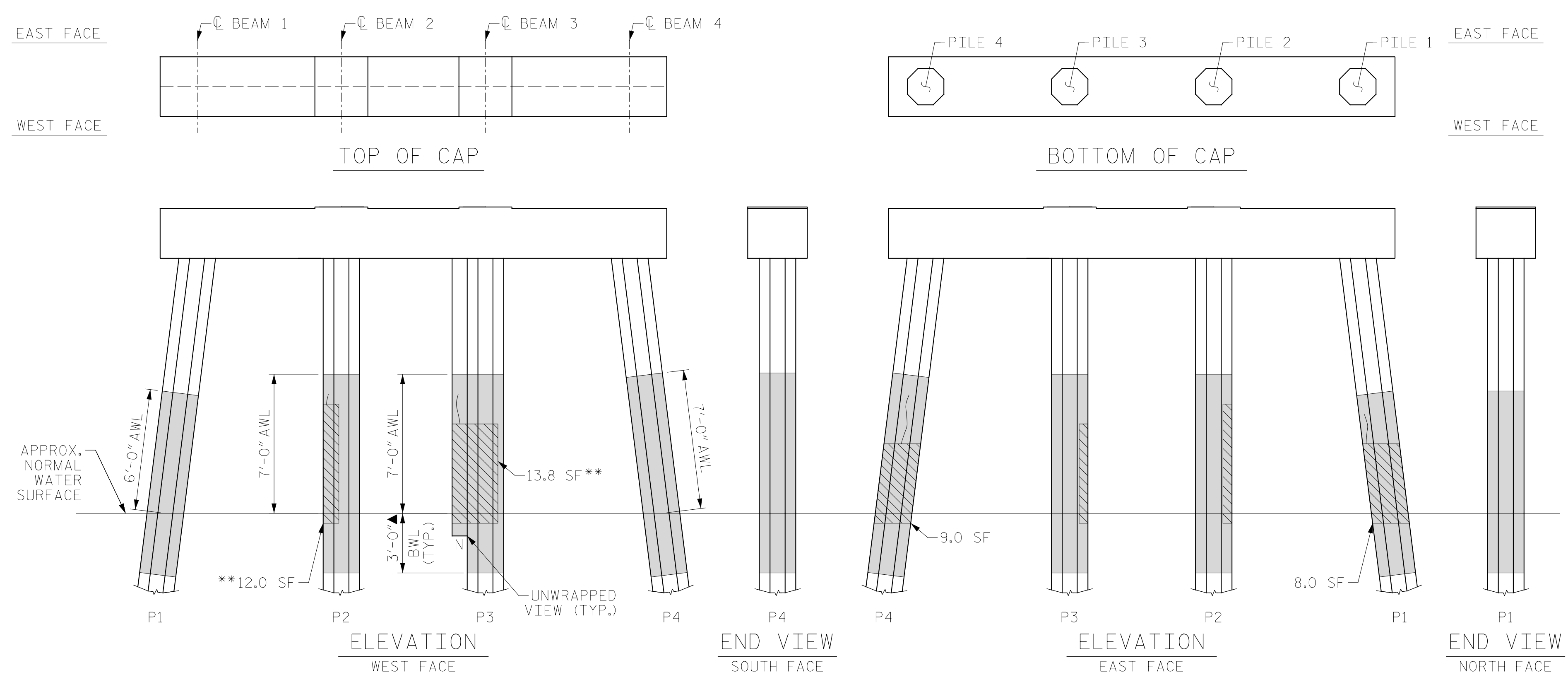
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

 BENT 65 & BENT 66



BENT 65

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 66

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

- ▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS
- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. FISHER DATE: 3/2019



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-148
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 67

CAP REPAIRS			
SHOTCRETE REPAIRS	2.0 SF	1.0 CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	26.0 SF	9.9 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	138.4 SF		
FRP PROTECTIVE SYSTEM BWL	49.5 SF		

BENT 68

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	41.6 SF	16.0 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	182.4 SF		
FRP PROTECTIVE SYSTEM BWL	66.0 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR QUANTITIES AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

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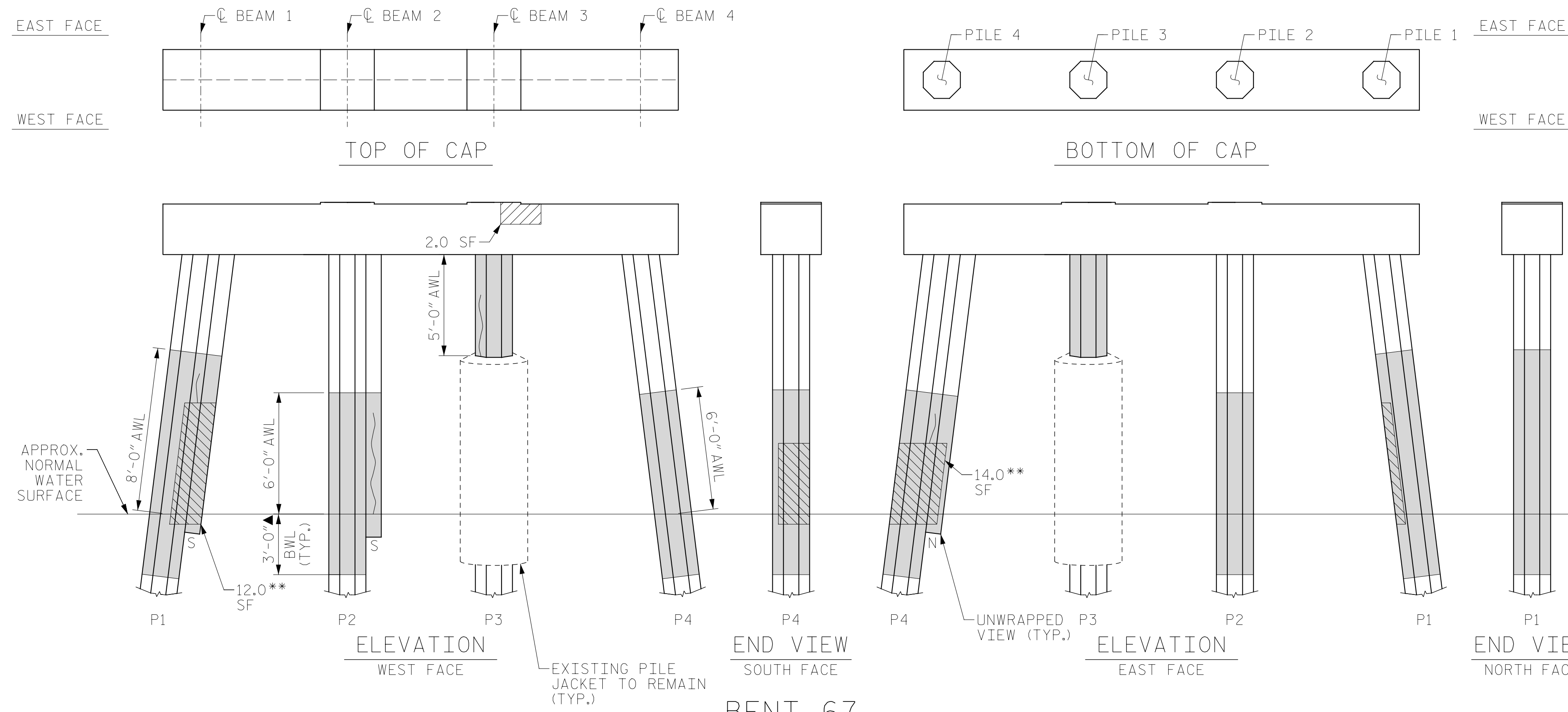
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

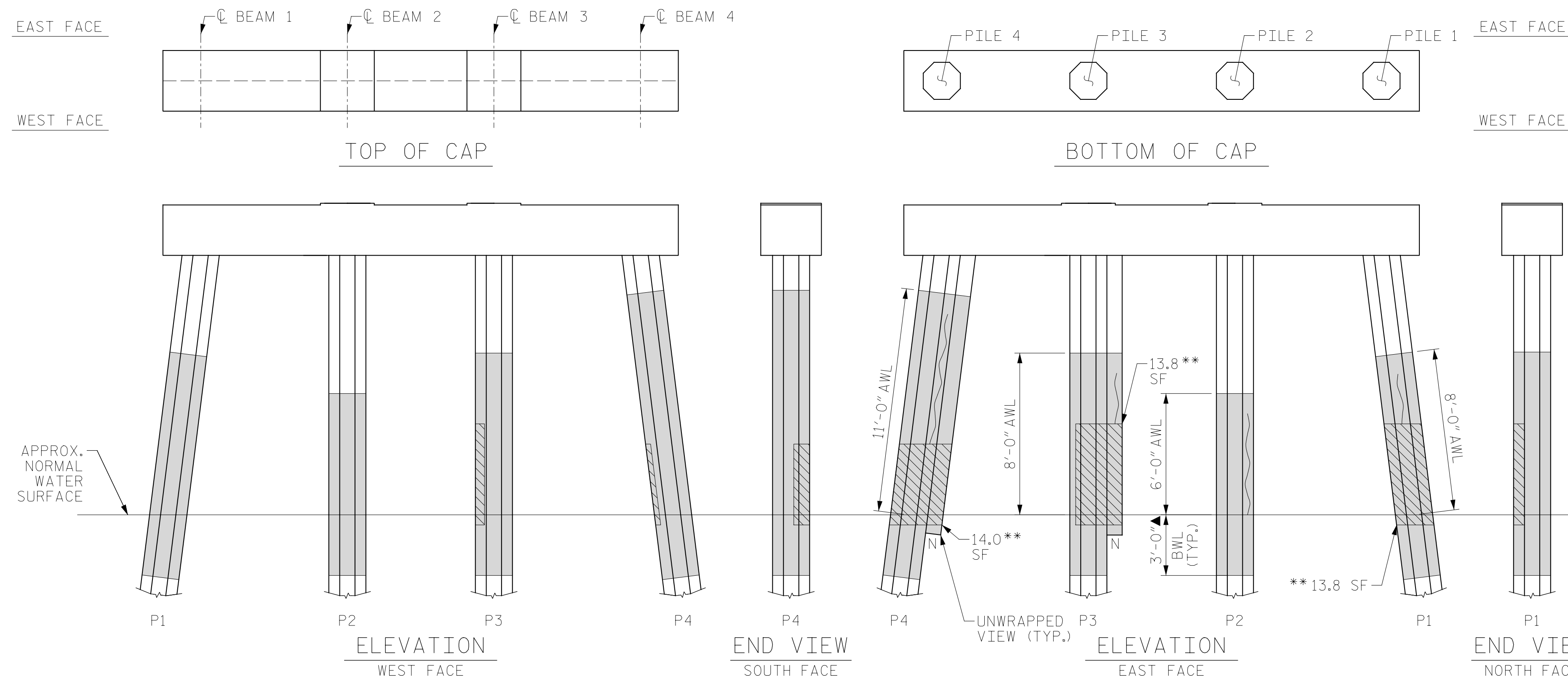
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



BENT 67

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



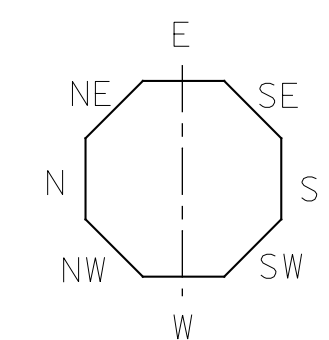
BENT 68

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)

ESTIMATED PILE CRACK QTY. TABLE

BENT	PILE	DIRECTION							
		NW	W	SW	S	SE	E	NE	N
67	PILE 1	3	-	2	-	3	-	-	-
	PILE 2	-	4	-	5	-	4	-	-
	PILE 3	3	-	-	-	-	-	-	4
	PILE 4	-	-	-	1	1	-	2	-
68	PILE 1	-	-	-	6	-	3	2	-
	PILE 2	-	-	2	-	-	-	5	3
	PILE 3	-	-	2	3	-	2	-	3
	PILE 4	-	-	3	6	-	3	7	4

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Shaded Box] - FRP PROTECTIVE SYSTEM
- [Hatched Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



PROJECT NO. HB-0017
DARE COUNTY
BRIDGE NO. 270009

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BENT 67 & BENT 68

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. FISHER DATE: 3/2019



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			149
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 69

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	85.9 SF	34.4 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	243.0 SF		
FRP PROTECTIVE SYSTEM BWL	82.5 SF		

BENT 70

CAP REPAIRS			
SHOTCRETE REPAIRS	- SF	- CF	SF CF
EPOXY RESIN INJECTION	- LF		LF
PILE REPAIRS			
PILE CONCRETE RESTORATION	43.2 SF	17.5 CF	SF CF
FRP PROTECTIVE SYSTEM AWL	132.5 SF		
FRP PROTECTIVE SYSTEM BWL	49.5 SF		

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

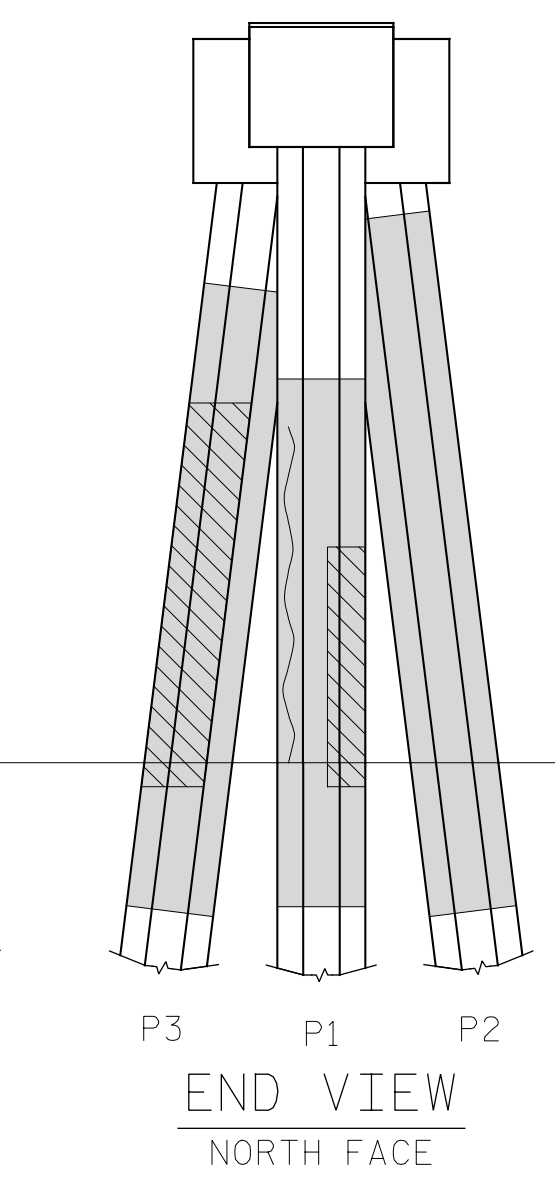
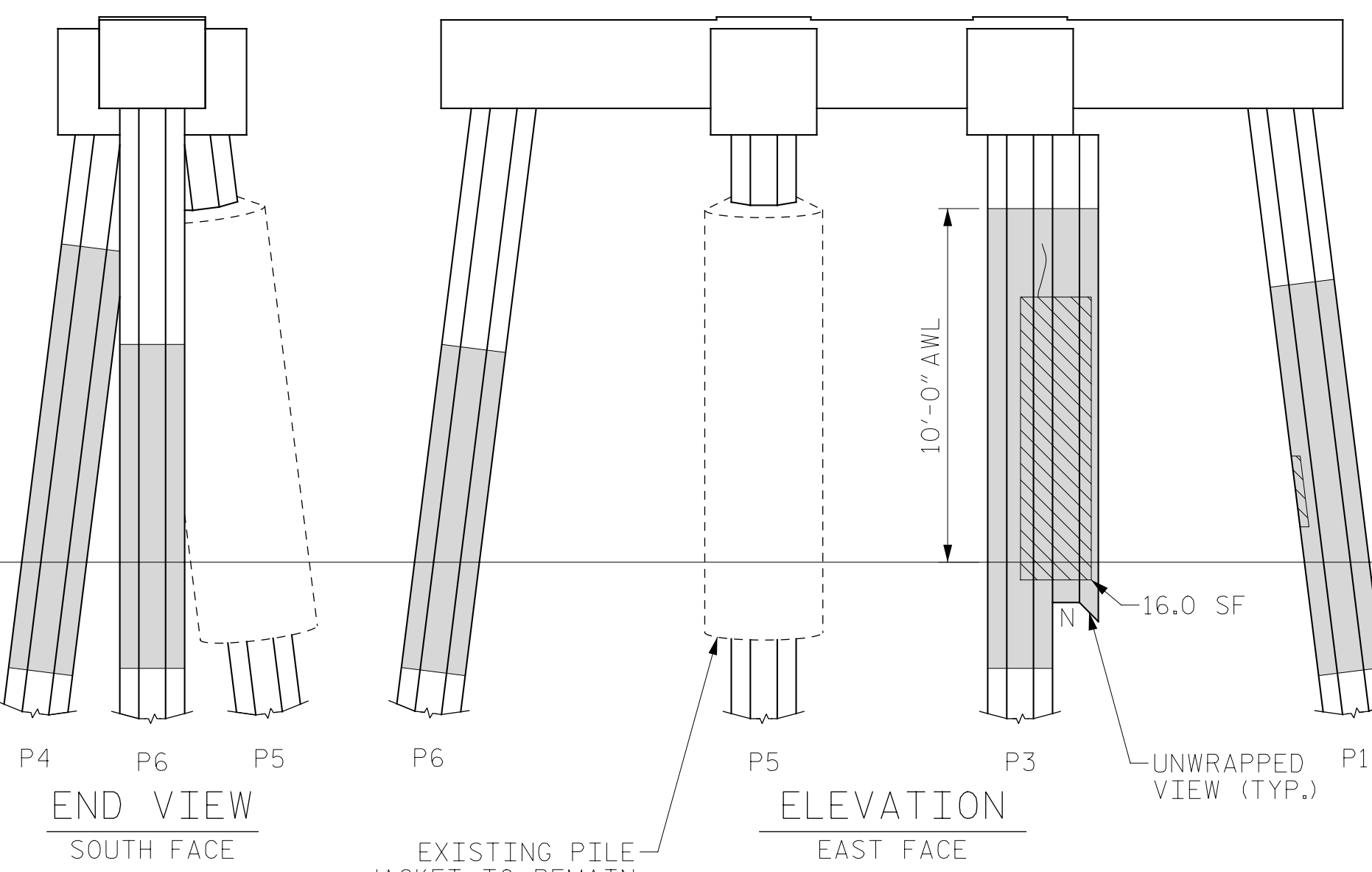
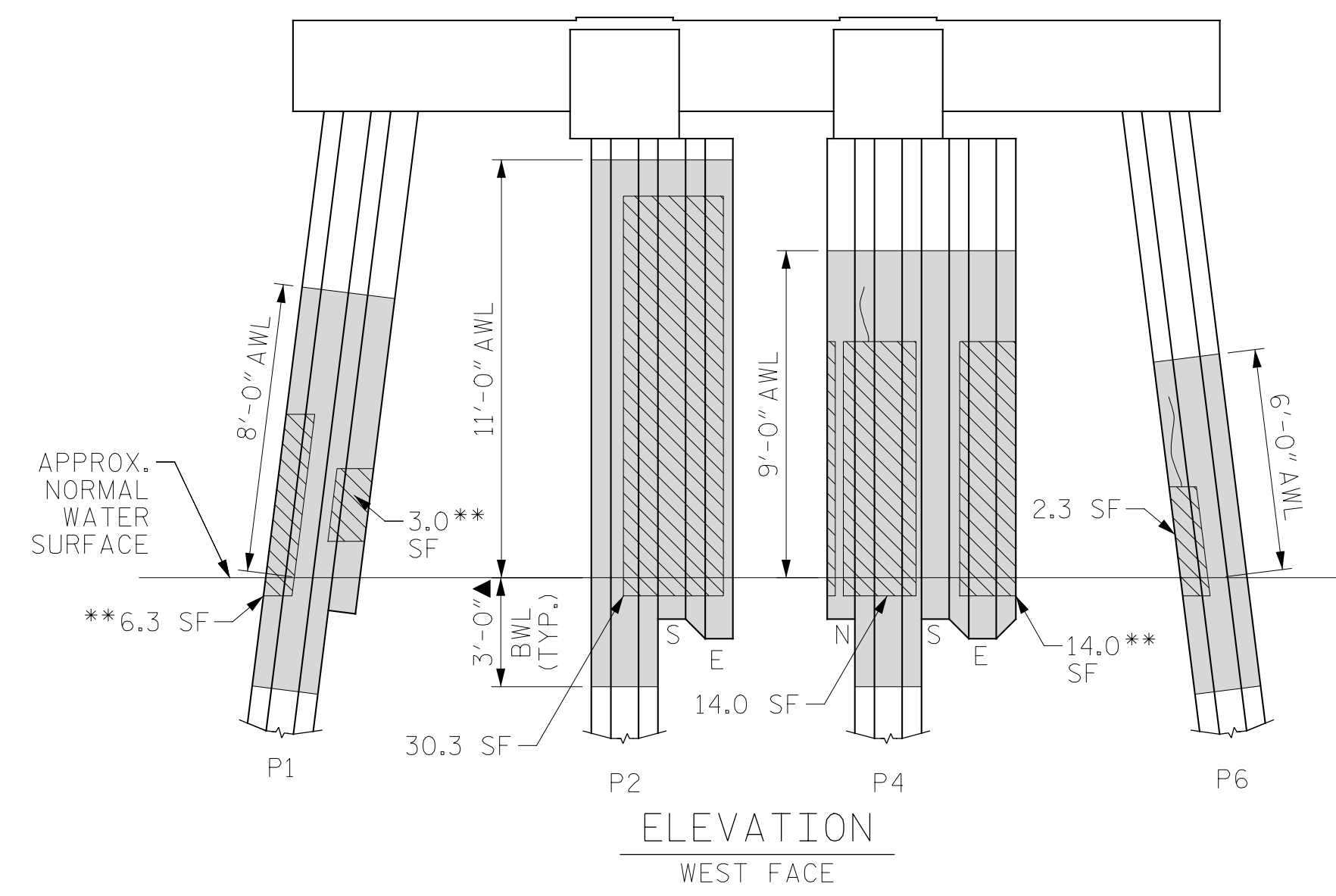
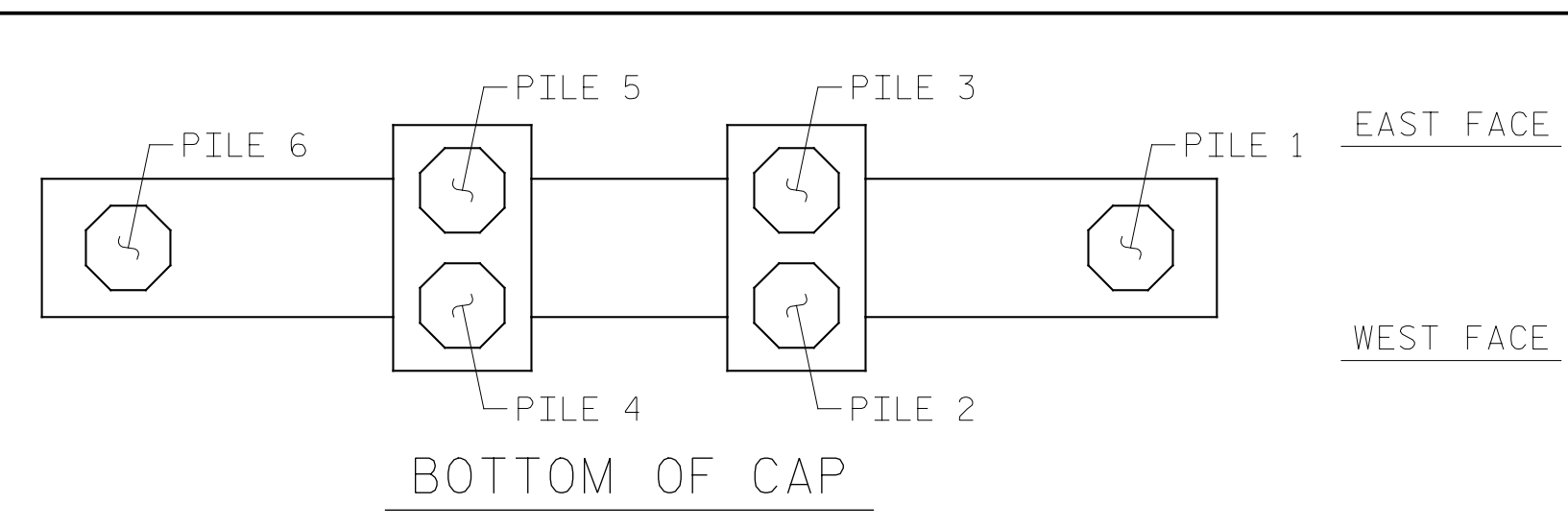
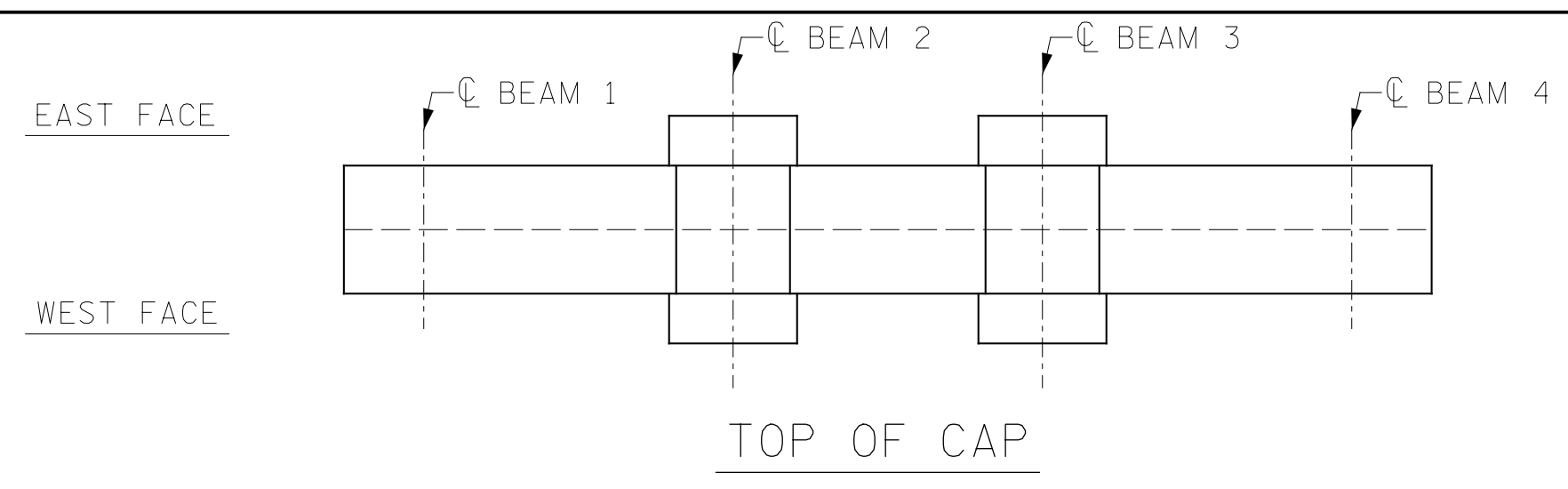
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.

FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.

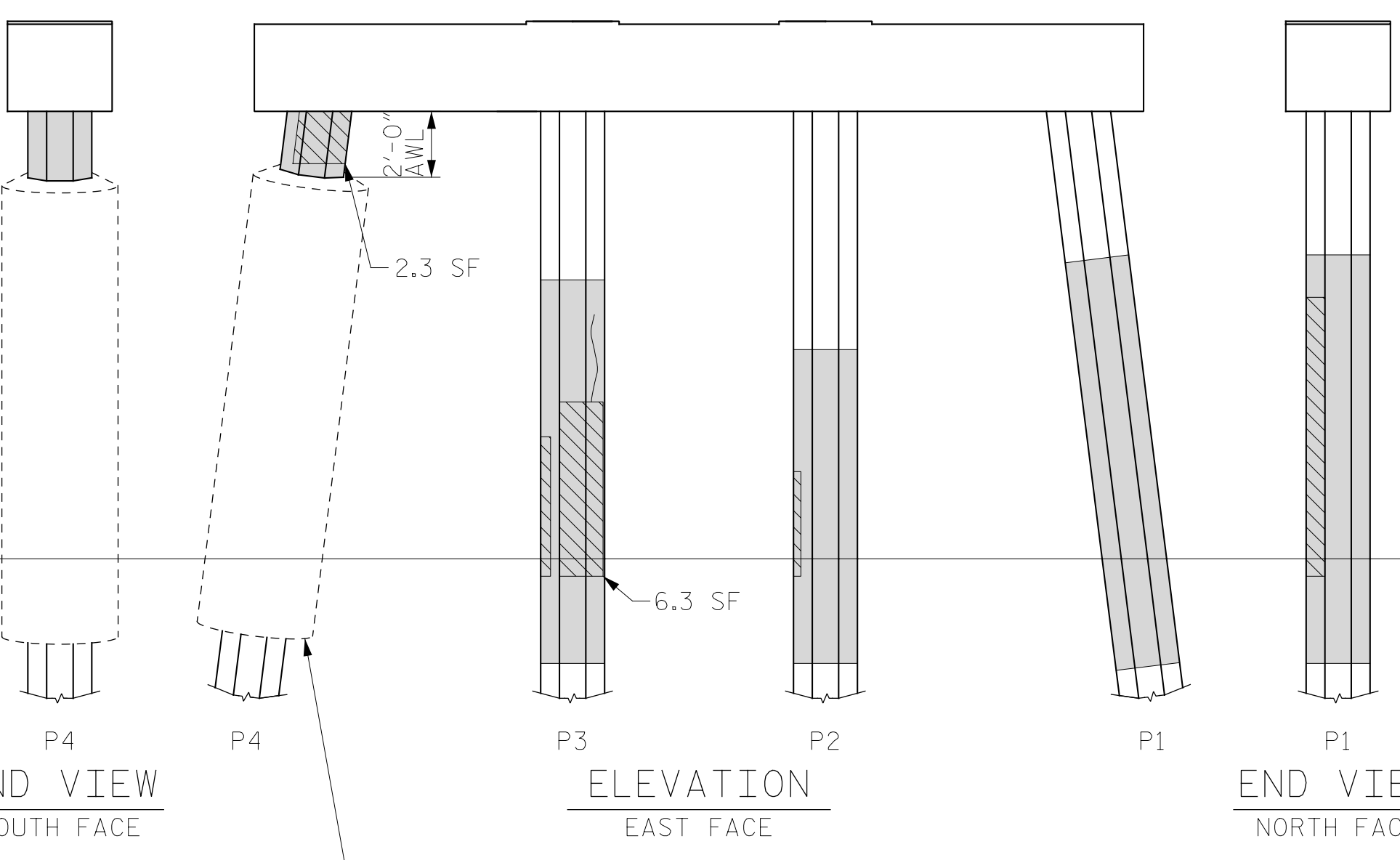
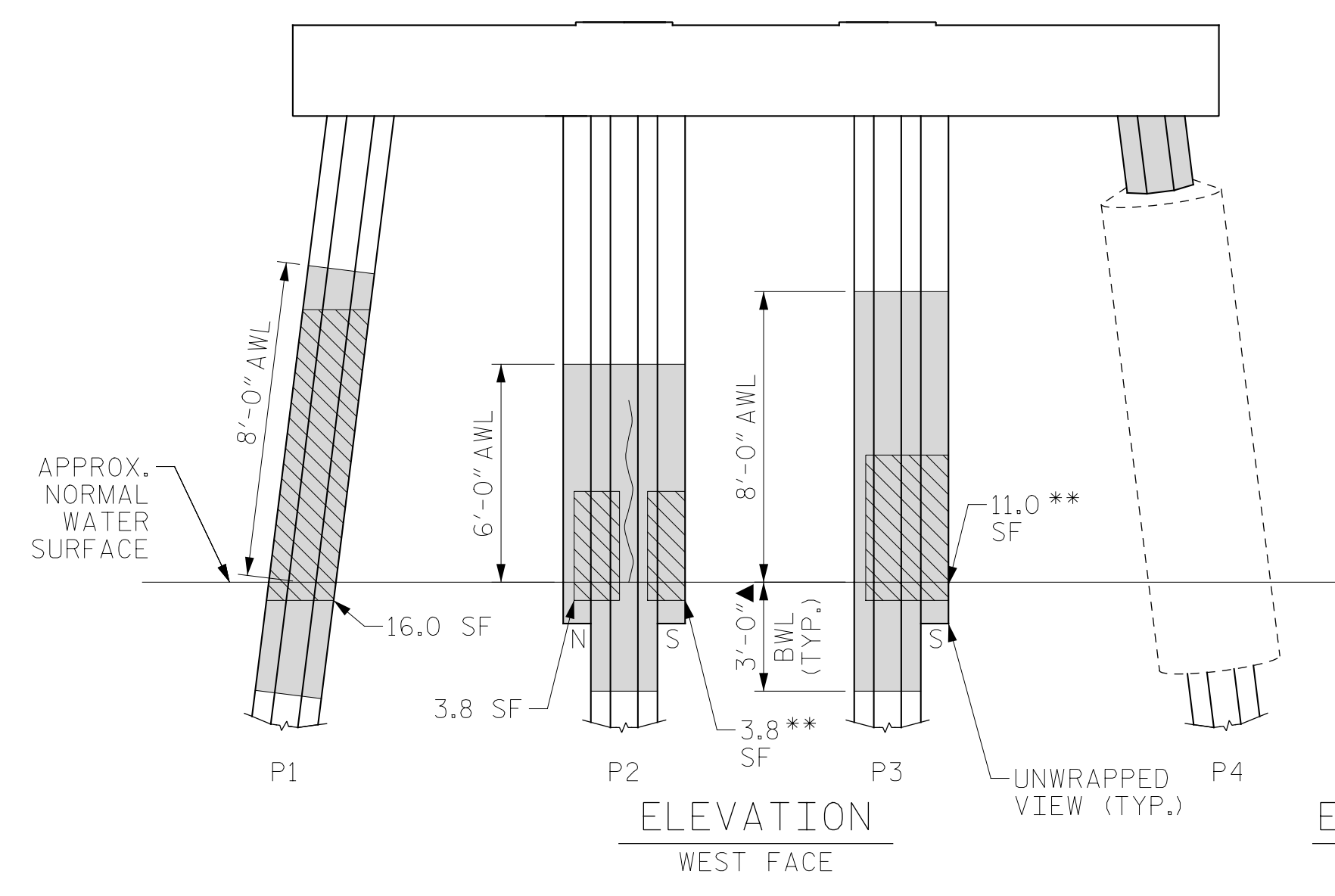
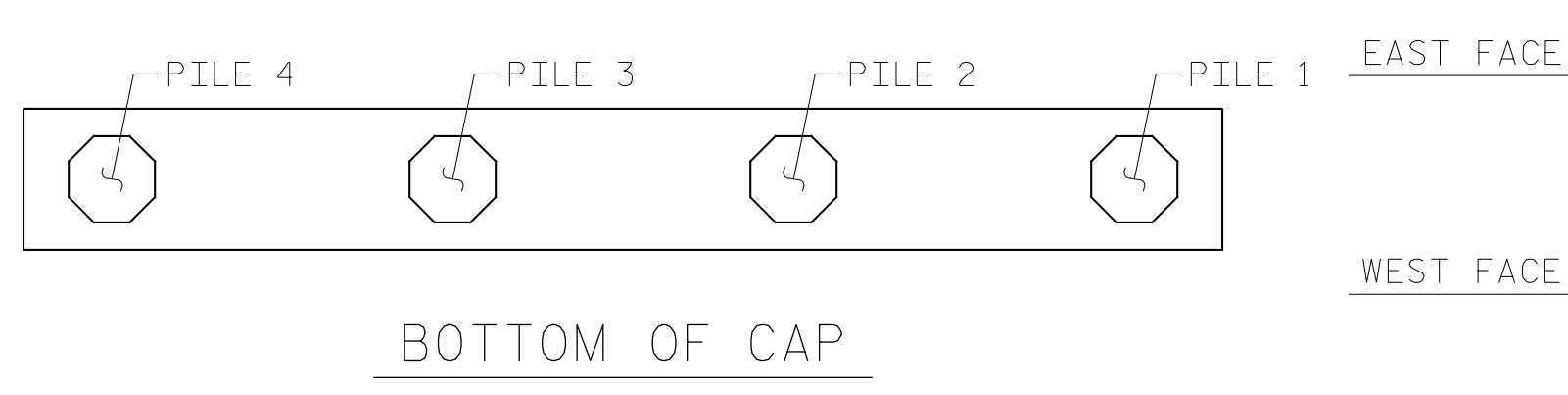
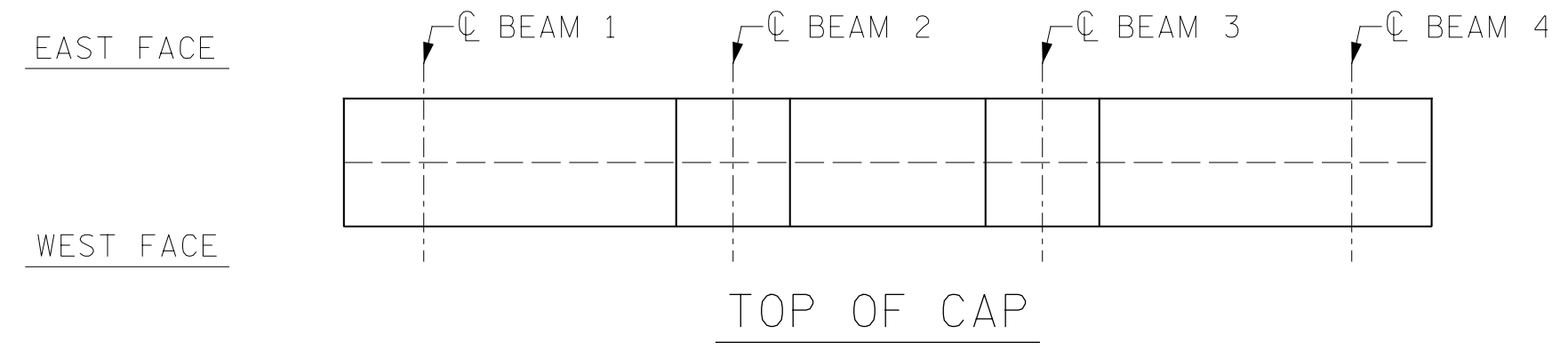
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.

FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.



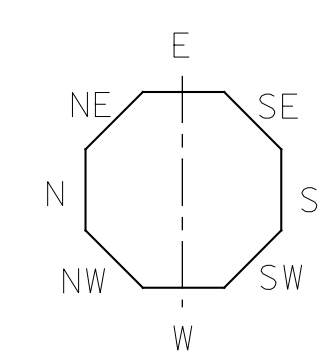
BENT 69

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 70

(AWL = ABOVE WATERLINE)
(BWL = BELOW WATERLINE)
(**QUANTITY INCLUDES ADJACENT REPAIRS)



ESTIMATED PILE CRACK QTY. TABLE

		DIRECTION							
		NW	W	SW	S	SE	E	NE	N
BENT 69	PILE 1	2	-	-	-	-	6	7	-
	PILE 2	4	-	-	-	-	7	-	-
	PILE 3	8	-	-	-	-	-	2	1
	PILE 4	2	-	-	-	-	-	-	-
	PILE 5	-	-	-	-	-	-	-	-
BENT 70	PILE 1	-	-	-	-	4	-	-	-
	PILE 2	3	5	-	-	-	-	-	-
	PILE 3	-	-	-	-	-	-	3	-
	PILE 4	-	-	-	-	-	-	-	-

NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
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▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Hatched Box] - FRP PROTECTIVE SYSTEM
- [Diagonal Lines] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS



DocuSigned by:
Eric B. Nelson, Jr. 7/14/2022
ACB89211974CD...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 69 & BENT 70

DRAWN BY: T. HARTLEY DATE: 2/2019
CHECKED BY: R. FISHER DATE: 3/2019



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REVISIONS						SHEET NO. S-150
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			355

AS-BUILT REPAIR QUANTITY TABLE

BENT 71				
CAP REPAIRS				
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS				
PILE CONCRETE RESTORATION	16.0 SF	6.3 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	126.5 SF			
FRP PROTECTIVE SYSTEM BWL	49.5 SF			

BENT 72				
CAP REPAIRS				
SHOTCRETE REPAIRS	- SF	- CF	SF	CF
EPOXY RESIN INJECTION	- LF			LF
PILE REPAIRS				
PILE CONCRETE RESTORATION	33.8 SF	13.6 CF	SF	CF
FRP PROTECTIVE SYSTEM AWL	176.0 SF			
FRP PROTECTIVE SYSTEM BWL	66.0 SF			

FOR CAP REPAIRS: VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

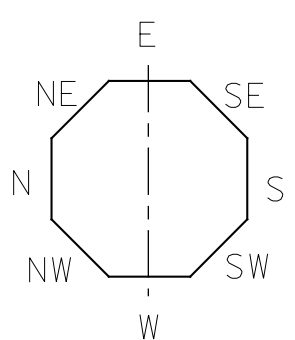
NOTES:
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR CONCRETE REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN & UNDERDECK REPAIR DETAILS" & "PILE CONCRETE RESTORATION DETAILS" SHEETS.
FOR PILE CONCRETE RESTORATION, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM, SEE SPECIAL PROVISIONS.
FOR FRP PROTECTIVE SYSTEM DETAILS AND UNDERWATER MORTAR REPAIRS, SEE "PILE FRP PROTECTIVE SYSTEM DETAILS" SHEET.

ESTIMATED PILE CRACK QTY. TABLE									
		NW	W	SW	S	SE	E	NE	N
BENT 71	PILE 1	-	-	-	-	2	-	5	-
	PILE 2	-	-	-	-	-	-	-	-
	PILE 3	-	6	-	6	6	-	-	-
	PILE 4	-	3	2	-	-	-	-	5
BENT 72	PILE 1	-	-	-	1	-	2	4	-
	PILE 2	-	-	8	6	-	6	-	4
	PILE 3	-	-	3	-	6	-	-	4
	PILE 4	-	-	3	-	-	-	-	5

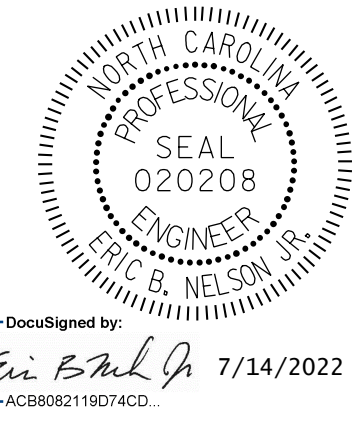
NOTE: FOR INFORMATION ON PILE CONDITION ONLY.

PROJECT NO. HB-0017
DARE COUNTY
 BRIDGE NO. 270009



▲ FRP PROTECTIVE SYSTEM BELOW WATERLINE MAY INCLUDE APPROVED UNDERWATER MORTAR REPAIRS

- ERI - EPOXY RESIN INJECTION
- [Grey Box] - FRP PROTECTIVE SYSTEM
- [Hatched Box] - PILE CONCRETE RESTORATION
- [Cross-hatched Box] - SHOTCRETE REPAIRS

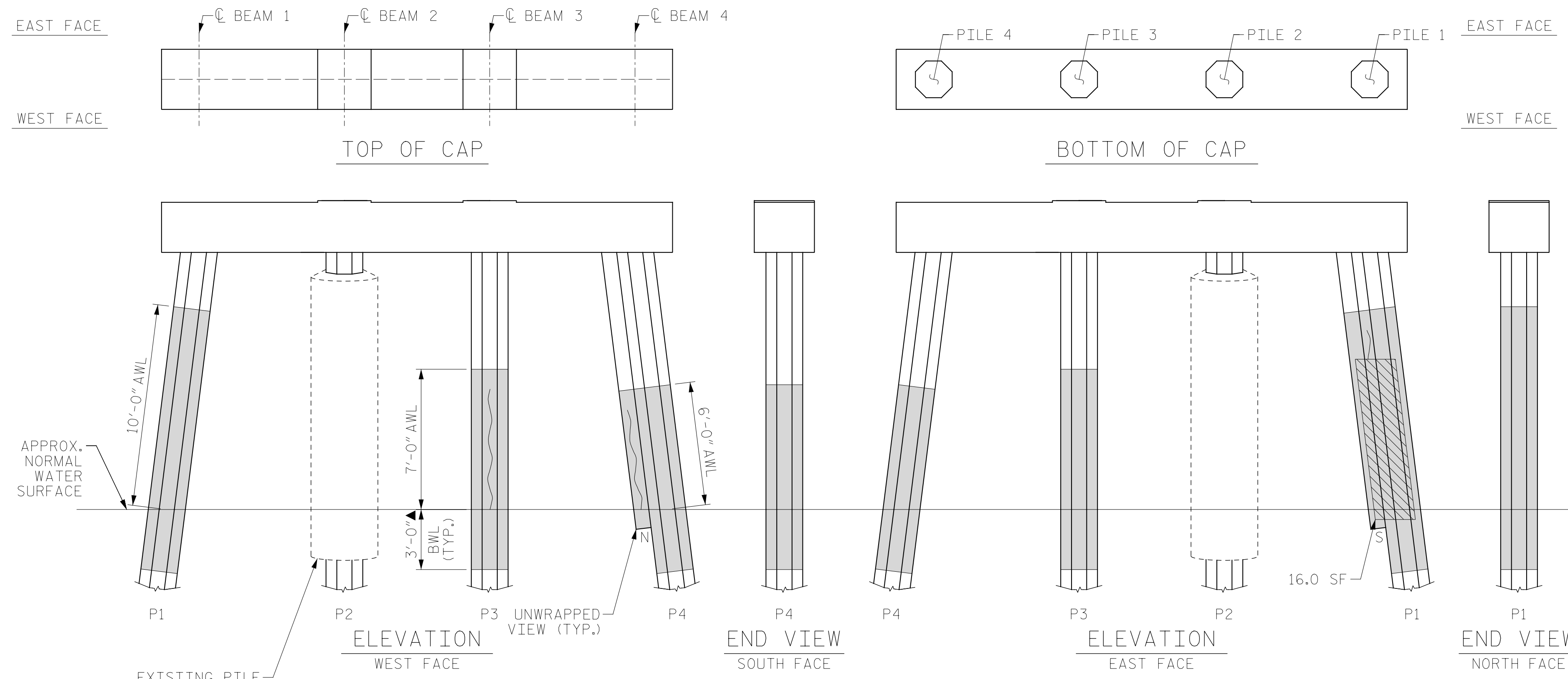


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 71 & BENT 72

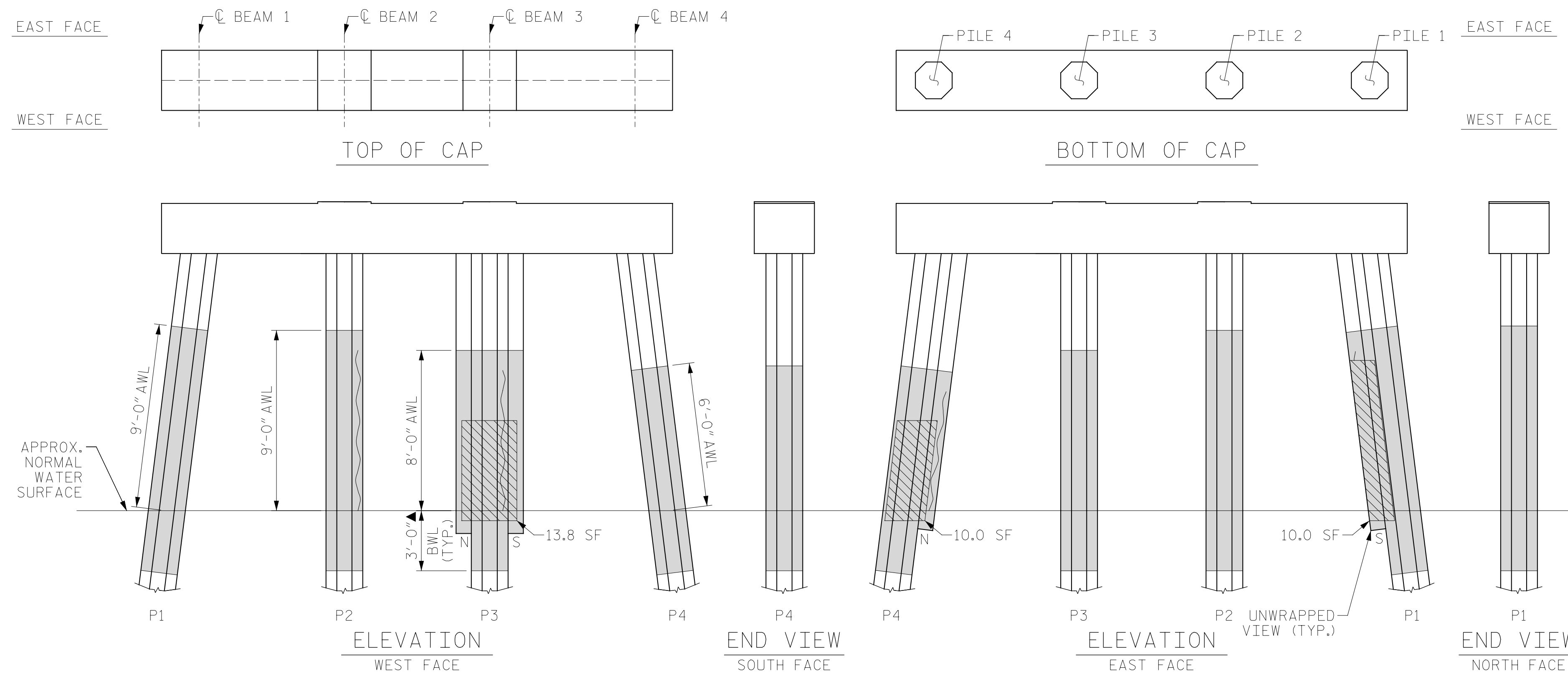
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			151
2			4			355

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BENT 71

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)



BENT 72

(AWL = ABOVE WATERLINE)
 (BWL = BELOW WATERLINE)
 (**QUANTITY INCLUDES ADJACENT REPAIRS)

DRAWN BY: T. HARTLEY DATE: 2/2019
 CHECKED BY: R. FISHER DATE: 3/2019