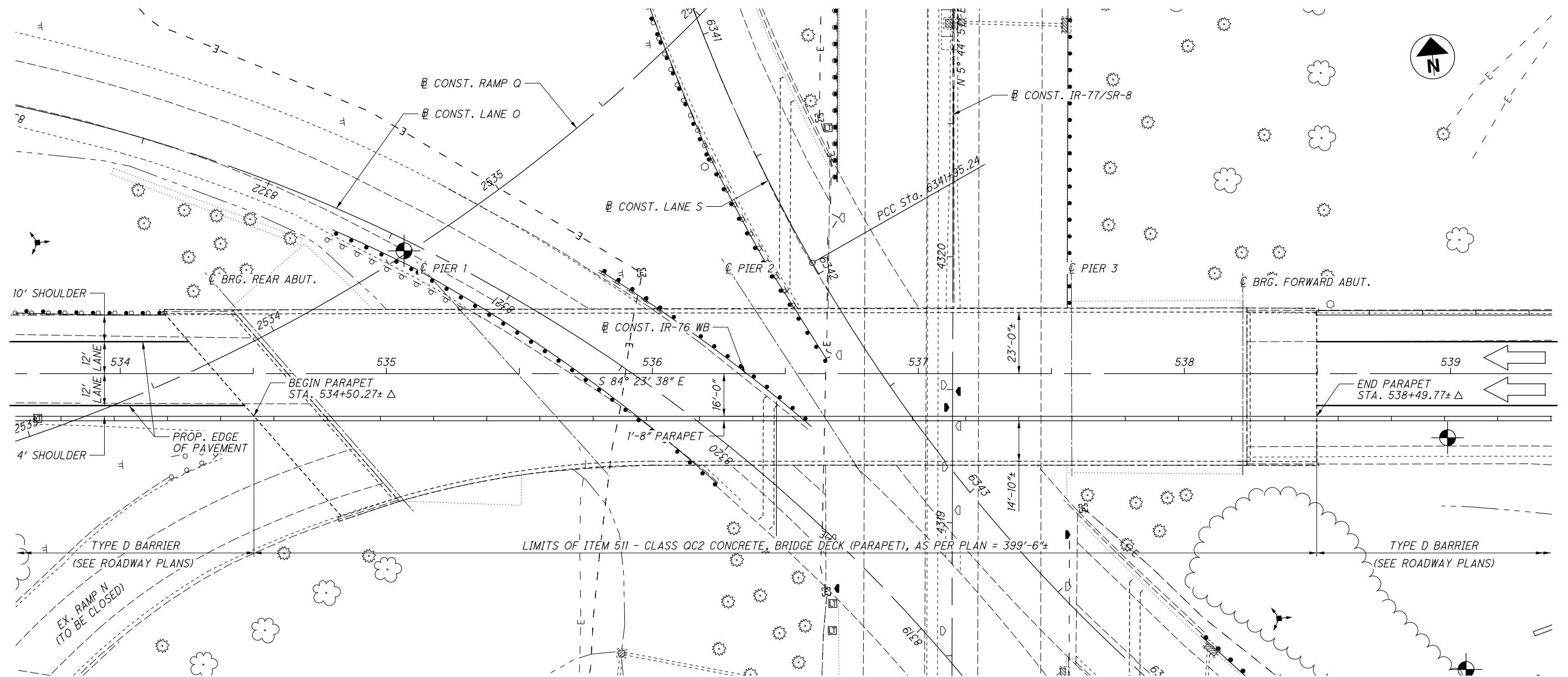


pw:\BncWise02\_na.int-bn.com:Projectwise10\Documents\pr55239\Sum\101402\Design\structures\Bridges\1-76 WB - BN\sheets\076\_1152L\_SG001.dgn Sheet 12/20/2019 9:45:02 AM watts



**PLAN**

**NOTES:**

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE.

**PROPOSED WORK**

CLOSE THE EXISTING RAMP N CONNECTION TO THE EXISTING BRIDGE WHILE MAINTAINING TRAFFIC ON IR-76 WB IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND DETAILS. CONSTRUCT NEW CONCRETE PARAPET TO FORM A PERMANENT CLOSURE OF THE EXISTING RAMP N LANE ON THE BRIDGE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL MAINTAIN BRIDGE DRAINAGE THROUGHOUT CONSTRUCTION.

**LEGEND:**

Δ - ALIGN WITH THE EDGE OF APPROACH SLAB

**EXISTING STRUCTURE**

TYPE: CONTINUOUS WELDED STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.  
 SPANS: 84'-2<sup>3</sup>/<sub>4</sub>" ±, 104'-4<sup>3</sup>/<sub>16</sub>" ±, 96'-1<sup>1</sup>/<sub>16</sub>" ±, 63'-8<sup>1</sup>/<sub>2</sub>" ±  
 ROADWAY: VARIES (55'-6" ± MIN. TOE/TOE PARAPETS)  
 LOADING: HS20-44 CASE I AND THE ALTERNATE MILITARY LOADING  
 SKEW: 42°00'00" ± RT. FWD. AT REAR ABUT.,  
 41°55'44" ± RT. FWD. AT PIER 1,  
 35°25'58" ± RT. FWD. AT PIER 2,  
 00°12'06" ± LT. FWD. AT PIER 3,  
 00°05'07" ± RT. FWD. AT FORWARD ABUT.  
 WEARING SURFACE: MICRO-SILICA CONCRETE OVERLAY  
 APPROACH SLABS: AS-1-81 (25'-0" ± LONG)  
 ALIGNMENT: MAINLINE - TANGENT  
 RAMP - COMPOUND CURVE  
 CROWN: VARIES  
 STRUCTURAL FILE NUMBER: 7706006  
 DATE BUILT: 1960  
 DISPOSITION: REHABILITATION (SEE PROPOSED WORK)

<b>BURGESS &amp; NIPLE</b> Engineers - Architects - Planners 5085 REED ROAD, COLUMBUS, OHIO 43220	REVIEWED DATE JCS 4/29/19	DESIGNED SJA	DRAWN JDG	STRUCTURE FILE NUMBER 7706006	
<b>GENERAL PLAN</b>		CHECKED ODW	BRIDGE NO. SUM-76-1151L CENTRAL INTERCHANGE WESTBOUND		
SUM-76/77/8- 10.99 / 11.54 / 0.00		PID No. 101402			
1 / 3					

pw:\BncWise02.no.int-bn.com:Projectwise10\Documents\pr55239\Sum\101402\Design\structures\Bridges\1-76 WB - BN\sheets\076\_1152L\_SQ001.dgn Sheet 12/20/2019 9:45:04 AM wotts

**GENERAL NOTES**

DESIGN DATA:

CONCRETE - CLASS QC2, COMPRESSIVE STRENGTH = 4.5 KSI  
REINFORCING STEEL - MINIMUM YIELD STRENGTH = 60 KSI

ITEM 511 - CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN:

CONSTRUCT A SINGLE-SLOPE, REINFORCED CONCRETE PARAPET AS SHOWN ON SHEET 3/3 AND AS SPECIFIED BELOW. THE REQUIREMENTS OF CMS 511 SHALL APPLY.

DEFLECTION JOINTS:

AS SOON AS THE FORMS ARE REMOVED, PERFORM 4-INCH SAWCUT AS SHOWN IN THE PLANS. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4". USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET.

SEAL THE PERIMETER OF ALL DEFLECTION JOINTS TO A MINIMUM DEPTH OF ONE INCH WITH POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

THE TOP COAT COLOR FOR THE EPOXY-URETHANE SEALER SHALL BE LIGHT NEUTRAL MEETING FEDERAL COLOR STANDARD NO. 595B-17778.

ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

SEAL THE 1" EXPANSION JOINTS AT EACH END OF THE PARAPET WITH NON-SAG POLYURETHANE SEALANT CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

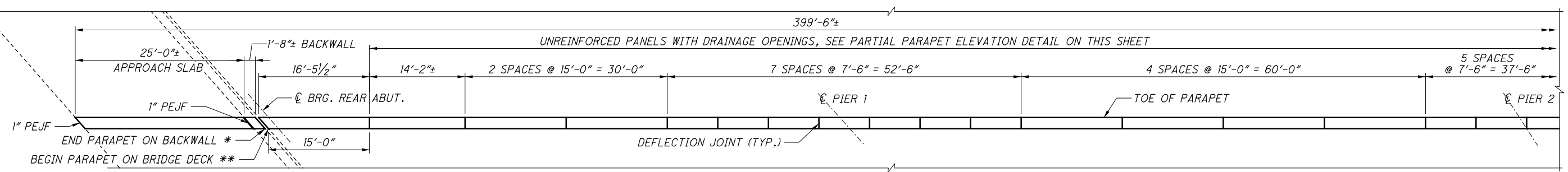
ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF ITEM 510, LOCATE EXISTING REINFORCING STEEL TO AVOID CUTTING BARS DURING THE DRILLING OPERATION USING NON-DESTRUCTIVE TESTING METHODS.

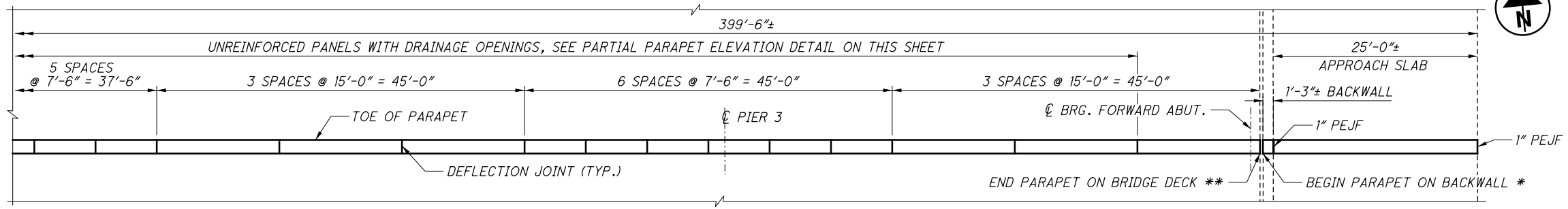
**ABBREVIATIONS**

- ABUT. = ABUTMENT
- BRG. = BEARING
- CONST. = CONSTRUCTION
- LT. FWD. = LEFT FORWARD
- MAX. = MAXIMUM
- PEJF = PREFORMED EXPANSION JOINT FILLER
- RT. FWD. = RIGHT FORWARD
- STA. = STATION
- TYP. = TYPICAL
- WB = WESTBOUND

pw:\BncWise02\_na.int-bn.com:Projectwise10\Documents\pr55239\SUM\101402\Design\structures\Bridges\1-76\_WB - BN\sheets\076\_1152L\_SA001.dgn Sheet 12/20/2019 9:45:05 AM watts



**PARAPET PLAN**



**PARAPET PLAN (CONTINUED)**

**LEGEND:**

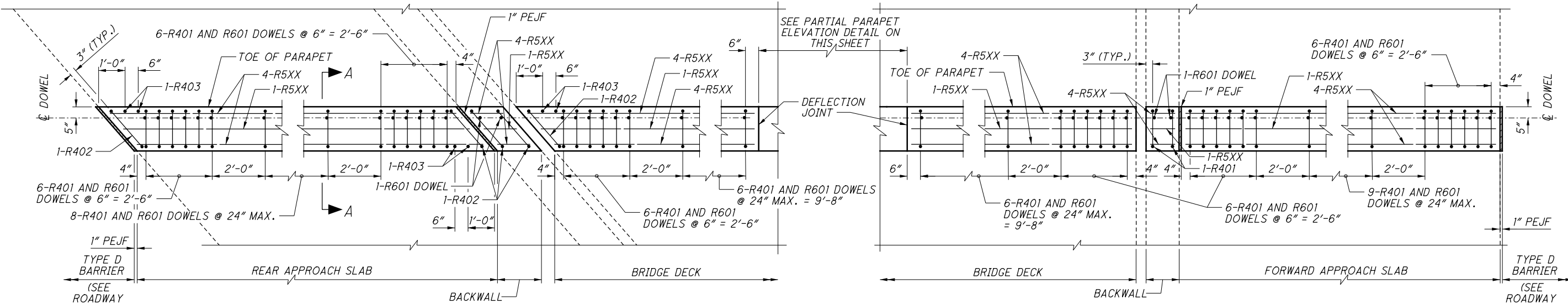
△ NOTE TO ODOT REVIEWER:  
LIMITS OF PROPOSED MICRO-SILICA CONCRETE OVERLAY TO BE COORDINATED WITH D/B PROJECT

\* = ALIGN WITH THE EDGE OF EXISTING 7"x4"x1/2" ANGLE

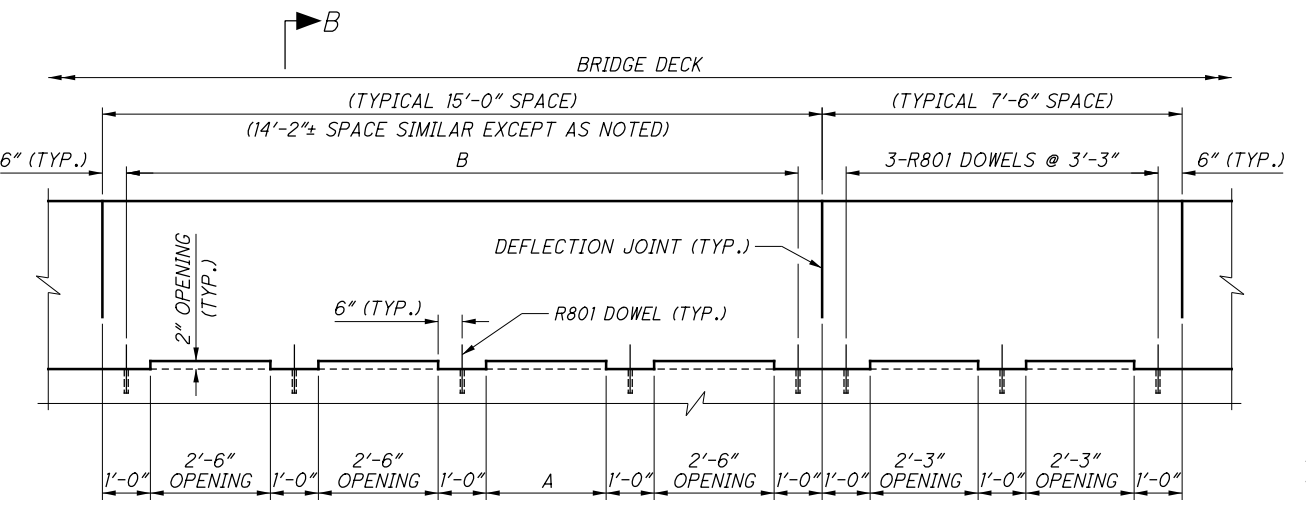
\*\* = ALIGN WITH THE EDGE OF EXISTING 6"x4"x1/2" ANGLE

A = 2'-6" IF 15'-0" SPACE OR 1'-8" IF 14'-2" SPACE

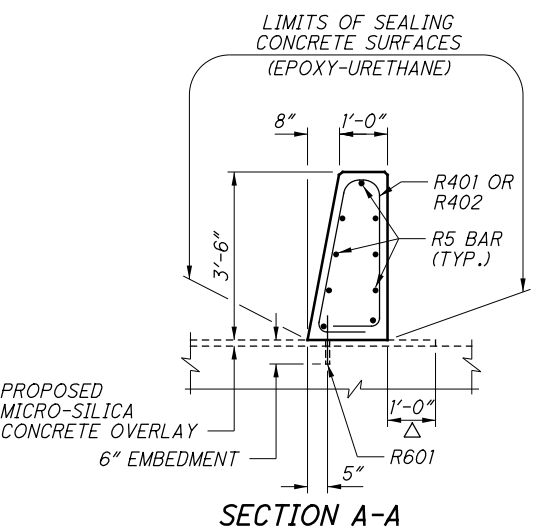
B = DOWEL SPACING IF 15'-0" SPACE:  
4 SPACES @ 3'-6"  
DOWEL SPACING IF 14'-2" SPACE:  
2 SPACES @ 3'-6", 1 SPACE @ 2'-8" AND 1 SPACE @ 3'-6"



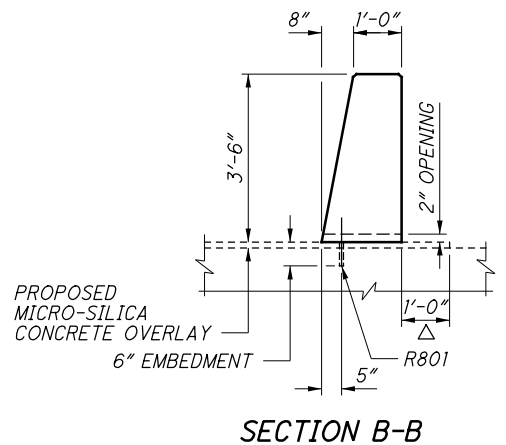
**PARTIAL PARAPET PLAN**



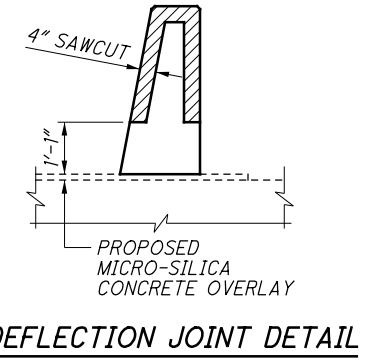
**PARTIAL PARAPET ELEVATION**  
(LOOKING AT OUTSIDE FACE OF PARAPET)



**SECTION A-A**



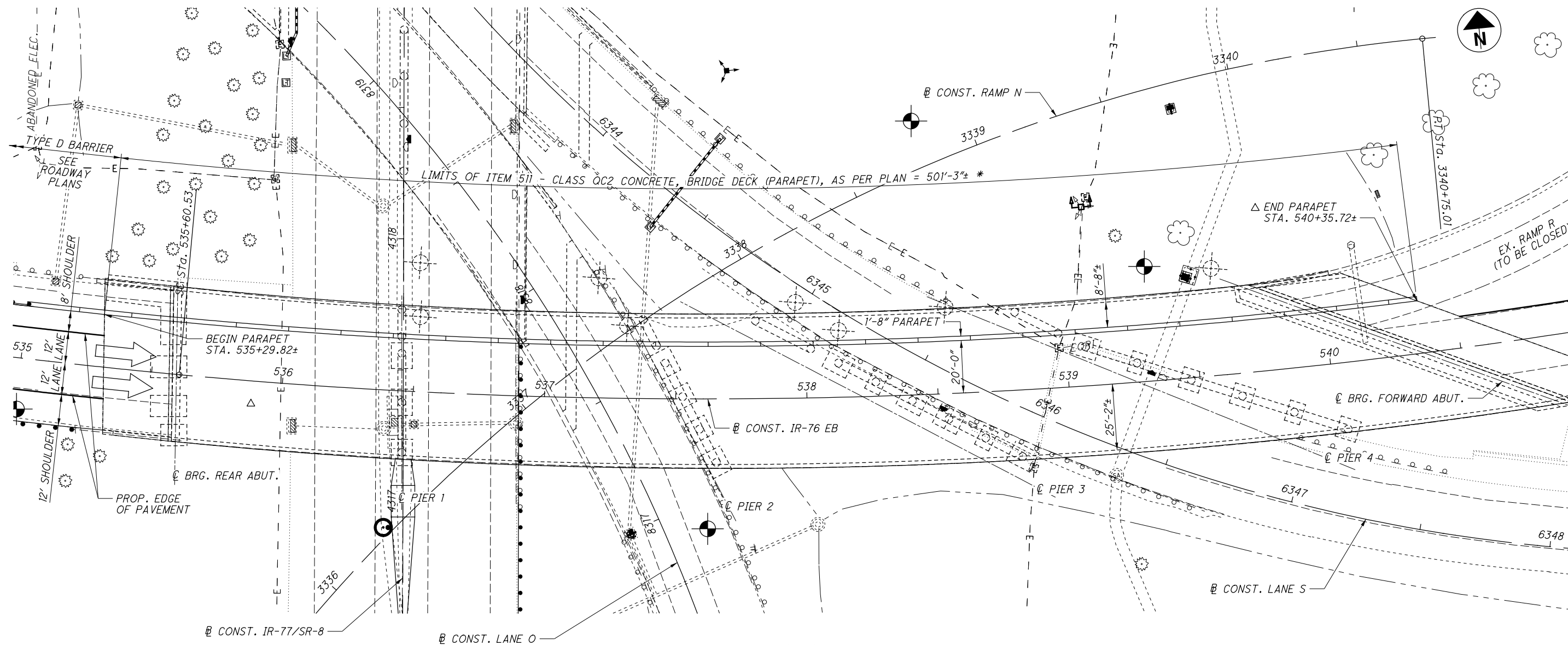
**SECTION B-B**



**DEFLECTION JOINT DETAIL**

**BURGESS & NIPLE**  
 Engineers Architects Planners  
 5085 REED ROAD, COLUMBUS, OHIO 43220  
 DATE: 4/29/19  
 REVIEWED: JCS  
 STRUCTURE FILE NUMBER: 7706006  
 DRAWN: JGD  
 CHECKED: ODW  
 DESIGNED: SJA  
 DATE: 4/29/19  
 REVIEWED: JCS  
 STRUCTURE FILE NUMBER: 7706006  
**PARAPET DETAILS**  
 BRIDGE NO. SUM-76-1151L  
 CENTRAL INTERCHANGE WESTBOUND  
**SUM-76/77/8-**  
**10.99 / 11.54 / 0.00**  
 PID No. 101402  
 3 / 3

p:\BncWise02\_na.int-bn.com:Projectwise10\Documents\pr55239\SUM\101402\Design\structures\Bridges\I-76 EB - BN\sheets\076\_1155R\_SG001.dgn Sheet 12/20/2019 1:09:02 PM stiff



PLAN

**IR-76 EB (EB-2) CURVE DATA:**

P.I. Sta. 541+79.24  
 $\Delta = 35^\circ 32' 35''$  (LT)  
 $D_c = 2^\circ 39' 00''$   
 $R = 2,162.10'$   
 $L_{s1} = 150.00'$   
 $L_{s2} = 200.00'$   
 $\theta_{s1} = 01^\circ 59' 15''$   
 $\theta_{s2} = 02^\circ 39' 00''$   
 $L_{T1} = 100.01'$   
 $L_{T2} = 133.35'$   
 $ST_1 = 50.01'$   
 $ST_2 = 66.68'$   
 $T_1 = 768.71'$   
 $T_2 = 792.65'$   
 $L_c = 1,166.25'$   
 $E = 108.98'$   
 $\Theta_{max} = \text{MATCH EX. (APPROX. 0.035)}$   
 T.S. Sta. 534+10.53  
 S.C. Sta. 535+60.53  
 C.S. Sta. 547+26.78  
 S.T. Sta. 549+26.78  
 $V_{DES} = \text{MATCH EX. (50 MPH)}$

**NOTES:**

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE.

**PROPOSED WORK**

CLOSE THE EXISTING RAMP R CONNECTION TO THE EXISTING BRIDGE WHILE MAINTAINING TRAFFIC ON IR-76 EB IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC PLANS AND DETAILS. CONSTRUCT NEW CONCRETE PARAPET TO FORM A PERMANENT CLOSURE OF THE EXISTING RAMP R LANE ON THE BRIDGE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL MAINTAIN BRIDGE DRAINAGE THROUGHOUT CONSTRUCTION.

**LEGEND:**

- $\Delta$  - ALIGN WITH THE EDGE OF APPROACH SLAB
- \* - MEASURED ALONG TOE OF PARAPET

**EXISTING STRUCTURE**

TYPE: CONTINUOUS WELDED STEEL GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.  
 SPANS:  $86'-10\frac{13}{16}'' \pm$ ,  $102'-9\frac{5}{8}'' \pm$ ,  $71'-7\frac{13}{16}'' \pm$ ,  $105'-3\frac{15}{16}'' \pm$ ,  $91'-0\frac{1}{8}'' \pm$  ALONG  $\text{IR-76}$  EASTBOUND  
 ROADWAY: VARIES ( $55'-6'' \pm$  MIN. TOE/TOE PARAPETS)  
 LOADING: HS20-44 CASE I AND THE ALTERNATE MILITARY LOADING  
 SKEW:  $0^\circ 53' 03'' \pm$  LT. FWD. AT REAR ABUT.,  
 $0^\circ 37' 00'' \pm$  LT. FWD. AT PIER 1,  
 $25^\circ 54' 44'' \pm$  RT. FWD. AT PIER 2,  
 $62^\circ 47' 05'' \pm$  RT. FWD. AT PIER 3,  
 $63^\circ 49' 09'' \pm$  RT. FWD. AT PIER 4,  
 $71^\circ 22' 13'' \pm$  RT. FWD. AT FORWARD ABUT.  
 WEARING SURFACE: MICRO-SILICA CONCRETE OVERLAY  
 APPROACH SLABS: AS-1-81 ( $25'-0'' \pm$  LONG)  
 ALIGNMENT: SPIRAL AND COMPOUND CURVE LEFT  
 SUPERELEVATION: 0.045 FT PER FT.  
 STRUCTURAL FILE NUMBER: 7706030  
 DATE BUILT: 1960  
 DISPOSITION: REHABILITATION (SEE PROPOSED WORK)

<b>BURGESS &amp; NIPLÉ</b> Engineers - Architects - Planners 5085 REED ROAD, COLUMBUS, OHIO 43220	DATE	4/29/19
	REVIEWED	JCS
	DRAWN	JDG
	DESIGNED	SJA
STRUCTURE FILE NUMBER	7706030	
CHECKED	BCS	
REVISED		
<b>GENERAL PLAN</b> BRIDGE NO. SUM-76-1154R CENTRAL INTERCHANGE EASTBOUND		
SUM-76/77/8- 10.99 / 11.54 / 0.00 PID No. 101402		
1 / 4		

pw:\BncWise02.no.int-bn.com:Projectwise10\Documents\pr55239\Sum\101402\Design\structures\Bridges\1-76 EB - BN\sheets\076\_1155R\_SQ001.dgn Sheet 12/20/2019 11:54:29 AM watts

**GENERAL NOTES**

DESIGN DATA:

CONCRETE - CLASS QC2, COMPRESSIVE STRENGTH = 4.5 KSI  
REINFORCING STEEL - MINIMUM YIELD STRENGTH = 60 KSI

ITEM 511 -CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN:

CONSTRUCT A SINGLE-SLOPE, REINFORCED CONCRETE PARAPET AS SHOWN ON SHEETS 3/4 AND 4/4 AND AS SPECIFIED BELOW. THE REQUIREMENTS OF CMS 511 SHALL APPLY.

DEFLECTION JOINTS:

AS SOON AS THE FORMS ARE REMOVED, PERFORM 4-INCH SAWCUT AS SHOWN IN THE PLANS. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4". USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET.

SEAL THE PERIMETER OF ALL DEFLECTION JOINTS TO A MINIMUM DEPTH OF ONE INCH WITH POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

THE TOP COAT COLOR FOR THE EPOXY-URETHANE SEALER SHALL BE LIGHT NEUTRAL MEETING FEDERAL COLOR STANDARD NO. 595B-17778.

ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN:

SEAL THE 1" EXPANSION JOINTS AT EACH END OF THE PARAPET WITH NON-SAG POLYURETHANE SEALANT CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF ITEM 510, LOCATE EXISTING REINFORCING STEEL TO AVOID CUTTING BARS DURING THE DRILLING OPERATION USING NON-DESTRUCTIVE TESTING METHODS.

**ABBREVIATIONS**

ABUT. = ABUTMENT  
BRG. = BEARING  
CONST. = CONSTRUCTION  
LT. FWD. = LEFT FORWARD  
MAX. = MAXIMUM  
PEJF = PREFORMED EXPANSION JOINT FILLER  
RT. FWD. = RIGHT FORWARD  
STA. = STATION  
TYP. = TYPICAL  
EB = EASTBOUND

**BURGESS & NIPLÉ**  
Engineers Architects Planners  
5085 REED ROAD, COLUMBUS, OHIO 43220

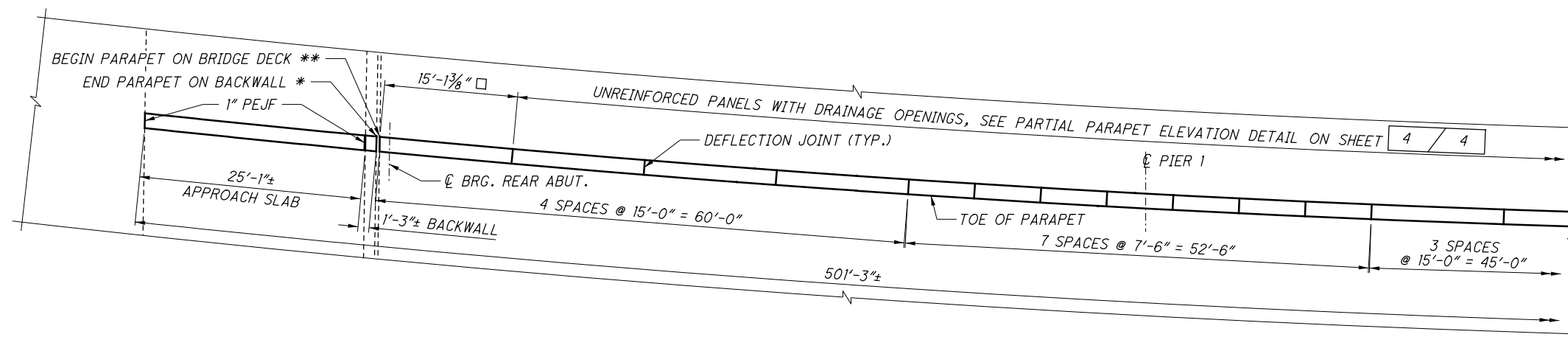
REVIEWED DATE  
JCS 4/29/19  
STRUCTURE FILE NUMBER  
7706030

DRAWN JUDGE  
JJDG REVISED  
DESIGNED SUJA  
SUA CHECKED  
BCS BCS

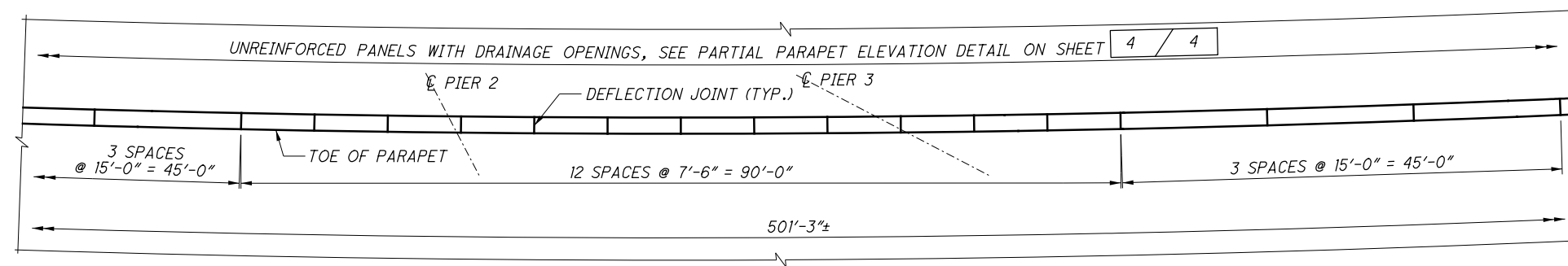
**ESTIMATED QUANTITIES AND GENERAL NOTES**  
BRIDGE NO. SUM-76-1154R  
CENTRAL INTERCHANGE EASTBOUND

SUM-76/77/8-  
10.99 / 11.54 / 0.00  
PID No. 101402

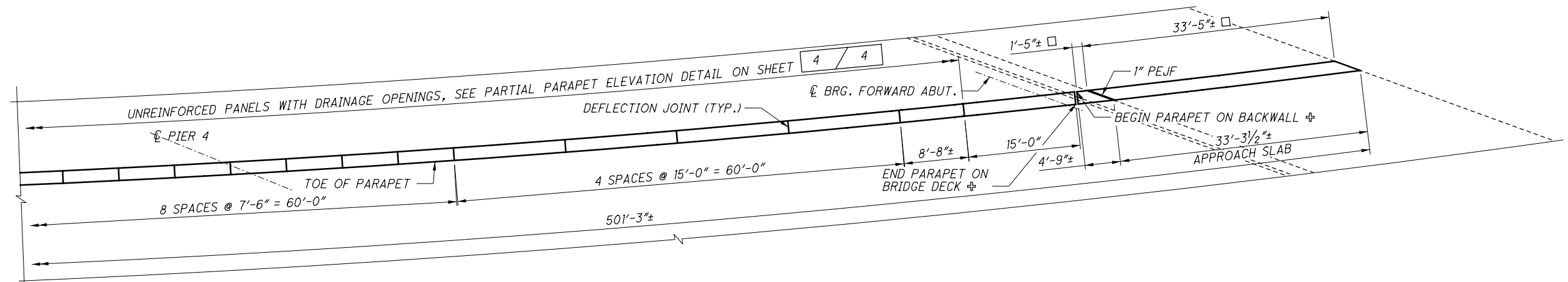
pw:\BncWise02\_na.int-bn.com:Projectwise10\Documents\pr55239\SUM\101402\Design\structures\Bridges\1-76 EB - BN\sheets\076\_1155R\_SA001.dgn Sheet 12/20/2019 11:54:30 AM watts



**PARAPET PLAN**



**PARAPET PLAN (CONTINUED)**



**PARAPET PLAN (CONTINUED)**



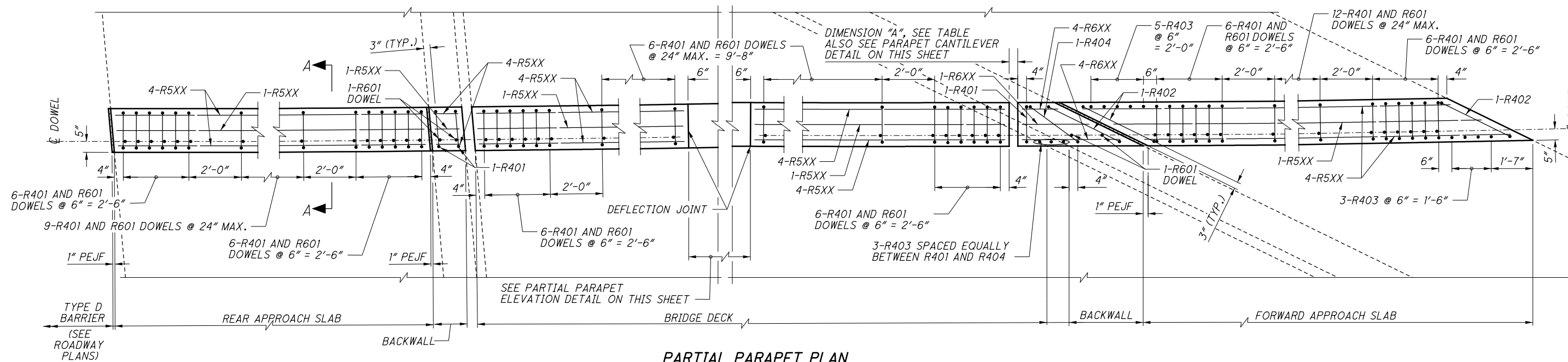
**NOTE:**

ALL LONGITUDINAL DIMENSIONS ARE MEASURED ALONG TOE OF PARAPET, UNLESS NOTED OTHERWISE.

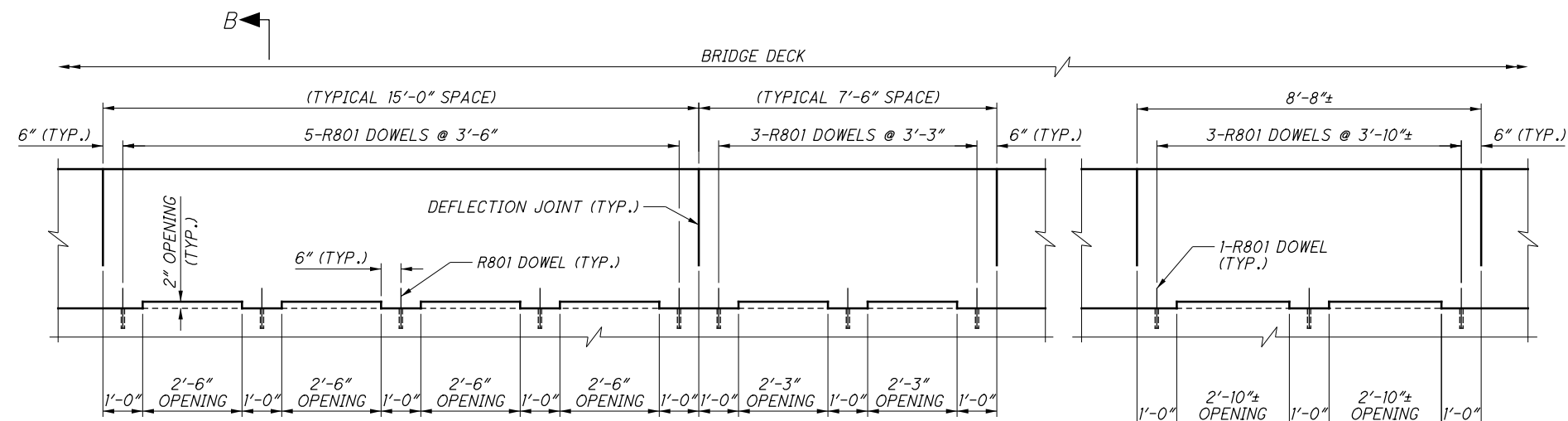
**LEGEND:**

- \* = ALIGN WITH THE EDGE OF EXISTING 7"x4"x1/2" ANGLE
- \*\* = ALIGN WITH THE EDGE OF EXISTING 6"x4"x1/2" ANGLE
- ⊕ = SEE SHEET 4 / 4 FOR DETAILS
- = MEASURED ALONG BACK FACE OF PARAPET

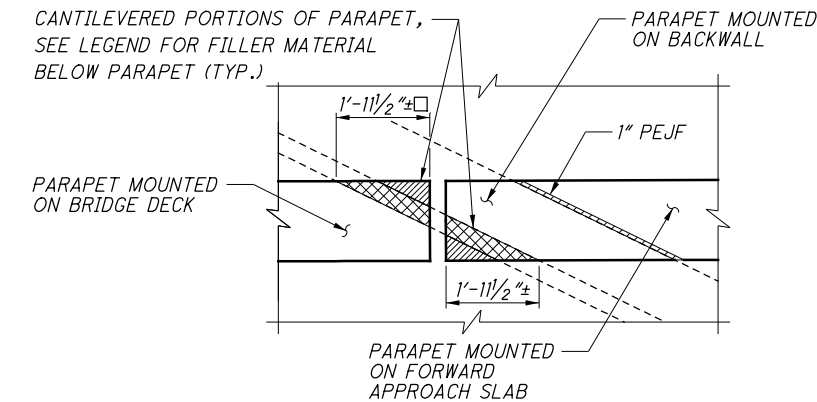
pw:\BncWise02\_na.int-bn.com:Projectwise10\Documents\pr55239\SUM\101402\Design\structures\Bridges\1-76 EB - BN\sheets\076\_1155R\_SA002.dgn Sheet 12/20/2019 11:54:31 AM watts



**PARTIAL PARAPET PLAN**



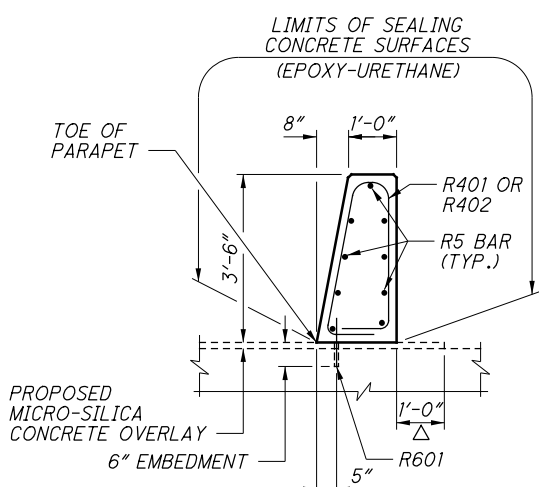
**PARTIAL PARAPET ELEVATION**  
(LOOKING AT INSIDE FACE OF PARAPET)



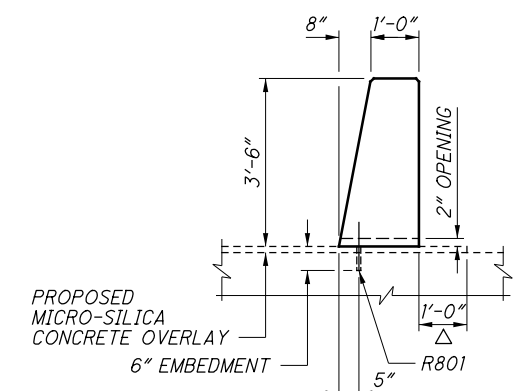
**PARAPET CANTILEVER DETAIL**  
AT FORWARD ABUTMENT

**NOTE:**  
ALL LONGITUDINAL DIMENSIONS ARE MEASURED ALONG TOE OF PARAPET, UNLESS NOTED OTHERWISE.

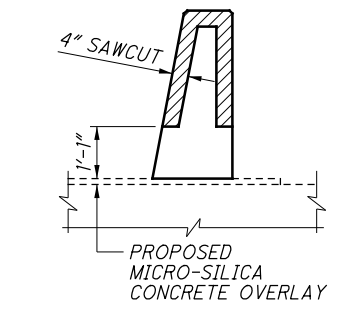
**LEGEND:**  
 △ NOTE TO ODOT REVIEWER: LIMITS OF PROPOSED MICRO-SILICA CONCRETE OVERLAY TO BE COORDINATED WITH D/B PROJECT  
 [Hatched Box] = 1" PEJF  
 [Cross-hatched Box] = REMOVABLE FORMING MATERIAL  
 □ = MEASURED ALONG BACK FACE OF PARAPET



**SECTION A-A**



**SECTION B-B**



**DEFLECTION JOINT DETAIL**

AMBIENT TEMP. F°	JOINT OPENING BETWEEN PARAPETS AT FORWARD ABUTMENT, DIMENSION "A"
30	4 3/4"
40	4 1/2"
50	4 1/4"
60	4"
70	3 3/4"
80	3 1/2"
90	3 1/4"