

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
NC	VA	GWMP 1A75, 77	98	143

## GENERAL NOTES

### A. SPECIFICATIONS:

1. Design (Of New Elements): Standard Specifications for Highway Bridges, AASHTO 1992, and Interim specifications, 1993 and 1994

2. Construction: - Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-96

### B. DESIGN LOADINGS:

1. Dead Loads: Unit Weight of Reinforced Concrete: 2,400 kg/m<sup>3</sup>

2. Live Loads (On New Elements): MS 18 with Impact

3. Thermal Forces: Ambient Temperature = 20°C

For Design: Temperature Rise = 12°C  
Temperature Fall = 27°C

For Joints: Temperature Rise = 18°C  
Temperature Fall = 32°C

### C. MATERIALS:

1. Concrete: Class D (AE) (Minimum 28 Day Compressive Strengths as Noted)

a. Precast Deck Panels, and Cast-in-Place Closure at the End of Deck: 38 MPa.

b. Bridge Curbs, Wingwalls, Wingwall Parapet, Wingwall Sidewalk, Top of Abutment Backwall: 28 MPa.

2. Concrete: Class E (AE)

a. Latex Modified Concrete Overlay: 28 MPa.

3. Reinforcing Steel: ASTM A 615M, Grade 400, Epoxy Coated.

Cover for reinforcing steel is 40 mm unless otherwise dimensioned.

Lap splices are 30 bar diameters unless otherwise dimensioned

All bar sizes shown on plans are metric bar sizes. Metric numbers used to identify reinforcement convert to English size reinforcement as follows

METRIC	ENGLISH
*20	*6
*15	*5
*10	*4

4. Prestressing Steel:

a. Strand: AASHTO M 203, Grade 270, Low Relaxation.

b. Prestressing Parameters (Strand):

Apparent Modulus (For Calculation of Elongations): 193,000 MPa

Maximum Jacking Stress: 1,490 MPa (80% Ultimate).

Maximum Stress At Anchor After Anchor Set: 1,303 MPa (70% Ultimate).

i. Pretensioning:

Friction Coefficient: 0.0

Wobble Coefficient: 0.0

Strand Diameter: 12.70 mm seven wire

ii. Post-Tensioning:

Anchor Set: 10 mm

Friction Coefficient: 0.25

Wobble Coefficient: 0.0015

Strand Diameter: 12.70 mm seven wire

c. Tendon Ducts: Corrugated Sheathing as per Section 553 In "Special Contract Requirements".

### D. ALLOWABLE STRESSES/ULTIMATE STRENGTH CAPACITIES :

1. Reinforced Concrete: As per AASHTO Allowable Stresses.

2. Prestressed Concrete:

a. Transverse Concrete Stress: 0.0 MPa, Minimum.

15 MPa, Compression.

0.0 MPa, Minimum (at Cast-in-Place Joints and Closure Pours)

b. Longitudinal Concrete Stress: 15 MPa, Compression.

3. Precast Deck Panel Casting and Erection: (Minimum Concrete Strengths and Panel Age)

a. Prior to Transferring Prestensioned Strands : 28 MPa.

b. Prior to Lifting the Panel : 28 MPa.

c. Prior to Stressing Longitudinal Post-Tensioning : 38 MPa. (Precast Elements)

14 MPa (C.I.P. Transverse Joint between Panels)

d. Minimum Age of Panels at Time of Erection : 28 Days or 38 MPa.

## SCOPE OF WORK

Perform the following work for the rehabilitation of the Dead Run and Turkey Run bridges:

### A. Turkey Run Northbound and Southbound, Dead Run Southbound

1. Remove the existing bridge rail. Remove the existing deck in sections and replace with precast concrete deck panels.

a. Removal of deck (including curbs and rail): Pay Item 20303K

b. Manufacture and placement of precast panels including the following items: Pay Item 55228

1. Concrete
2. Reinforcing Steel
3. Transverse Pretensioning Steel
4. Scuppers and Panel Hold-down Clips
5. Placement of grout pad under Panels
6. Placement of Concrete in Transverse Joints between Panels
7. Longitudinal Post-tensioning of Panels

c. Placement of cast-in-place end section of deck including the following items: Pay Item 55228

1. Concrete
2. Reinforcing Steel

2. Remove top of abutment backwalls and install new expansion dams.

a. Remove top of backwall: Pay Item 20309AB

b. Install new expansion dams and concrete for top of backwall

1. Expansion Dam: Pay Item 55502
2. Concrete: Pay Item 5520ID
3. Reinforcing Steel: Pay Item 55402

3. Remove concrete from tops of wingwalls, remove wingwall sidewalks, and reconstruct tops of wingwalls with a masonry-faced parapet as shown on the plans.

a. Remove tops of wingwalls and wingwall sidewalks: Pay Item 20309AB

b. Reconstruct tops of wingwalls with masonry-faced parapet

1. Concrete: Pay Item 5520ID
2. Reinforcing Steel: Pay Item 55402
3. Masonry Veneer: Pay Item 6200ICE

4. At the following locations, repair areas of spalled or deteriorated concrete as shown on the plans or directed by the CO: Pay Item 55209

- a. Dead Run Southbound: Abutment 1 backwall and breastwall
- b. Turkey Run Southbound: Abutment 2 backwall and breastwall

5. Place curbs on bridge deck: Pay Item 55206DU

6. Install new rail on bridge: Pay Item 5560IBC

7. Place latex modified concrete overlay on bridge deck: Pay Item 55207EE

8. Place Class 2 riprap at locations beneath bridge scuppers as directed by the CO: Pay Item 25102B

9. Remove and dispose of all electrical equipment related to the existing cathodic protection system: Pay Item 20304AL

### B. Dead Run Northbound

1. Remove existing bituminous bridge pavement: Pay Item 20303PFG

2. Remove top of abutment backwalls and ends of bridge deck as shown. Install new expansion dams.

a. Remove top of backwall and ends of deck: Pay Item 20309AB

b. Install new expansion dams and concrete for top of backwall and ends of deck

1. Expansion Dam: Pay Item 55502
2. Concrete: Pay Item 5520ID
3. Reinforcing Steel: Pay Item 55402

3. Remove concrete from tops of wingwalls, remove wingwall sidewalks, and reconstruct sidewalks and tops of wingwalls with a masonry-faced parapet as shown on the plans.

a. Remove tops of wingwalls and wingwall sidewalks: Pay Item 20309AB

b. Reconstruct sidewalks and tops of wingwalls with masonry-faced parapet

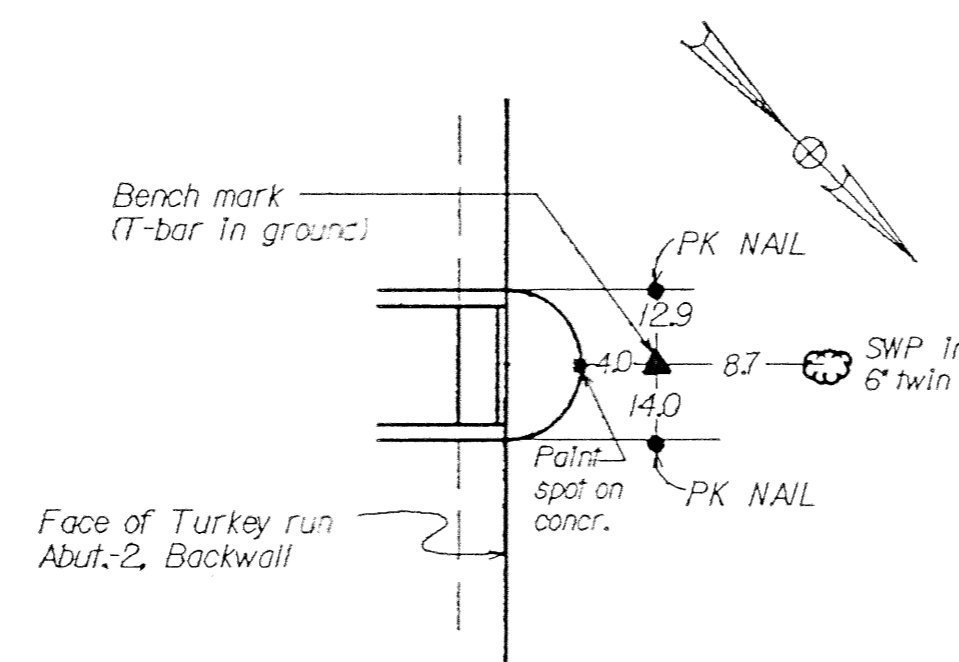
1. Concrete: Pay Item 5520ID
2. Reinforcing Steel: Pay Item 55402
3. Masonry Veneer: Pay Item 6200ICE

4. At the abutment 1 backwall and breastwall, repair areas of spalled or deteriorated concrete as shown on the plans or directed by the CO: Pay Item 55209

5. Place latex modified concrete overlay on bridge deck: Pay Item 55207EE

6. Place Class 2 riprap at locations beneath bridge scuppers as directed by the CO: Pay Item 25102B

7. Plug the existing scuppers.



BENCH MARK

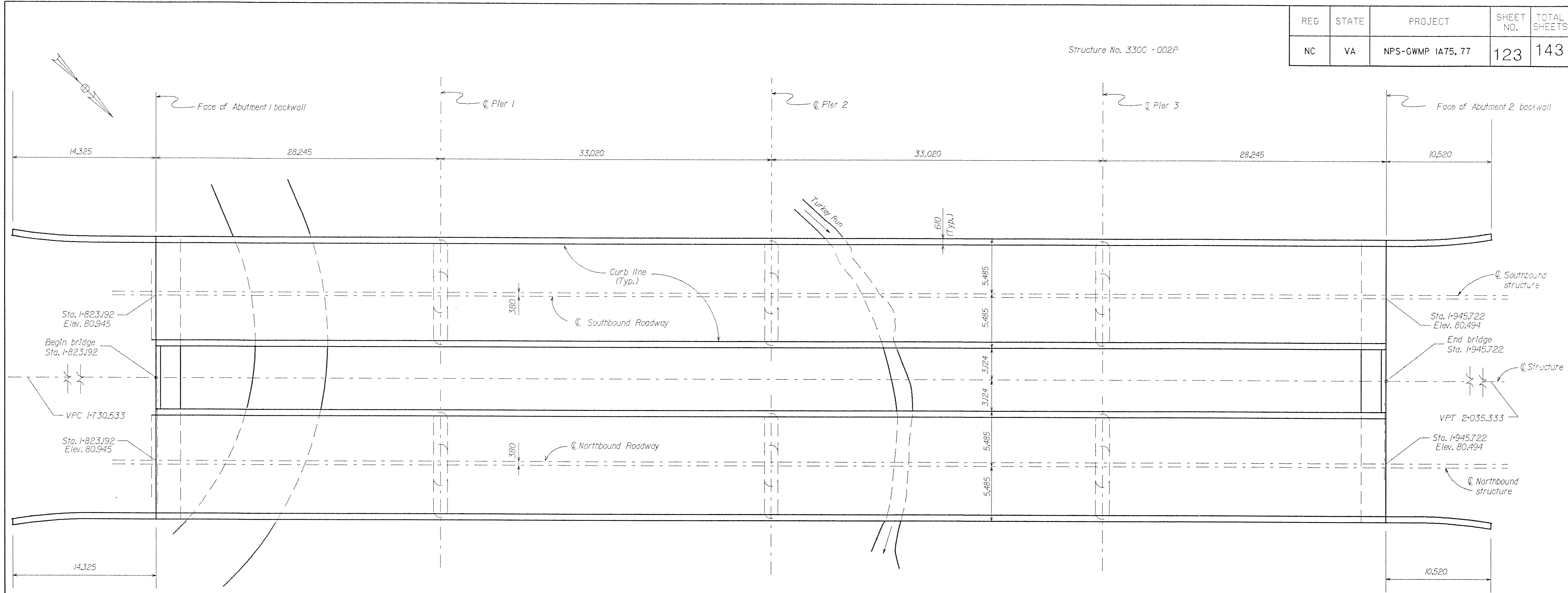
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
EASTERN FEDERAL LANDS HIGHWAY DIVISION  
GEORGE WASHINGTON MEMORIAL PARKWAY  
BRIDGES OVER TURKEY RUN AND DEAD RUN

## GENERAL NOTES

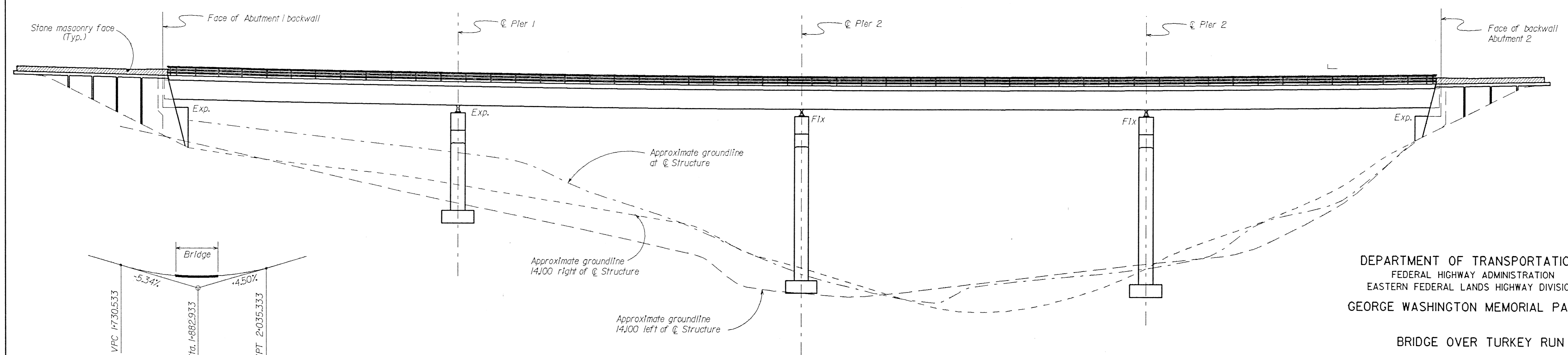
TEAM	LEADER:	Gary Jakovich	DATE	August 1995
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	No Scale
HHP	BSK	GSJ	Br. Dwg. No.	2 of 47

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
NC	VA	NPS-CWMP IAT5.77	123	143

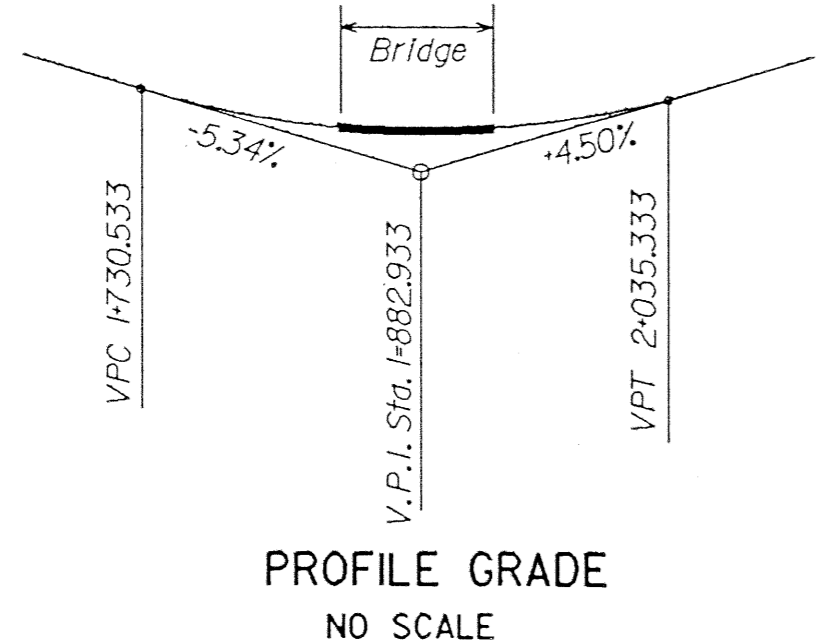
Structure No. 3300 - 002P



PLAN



ELEVATION

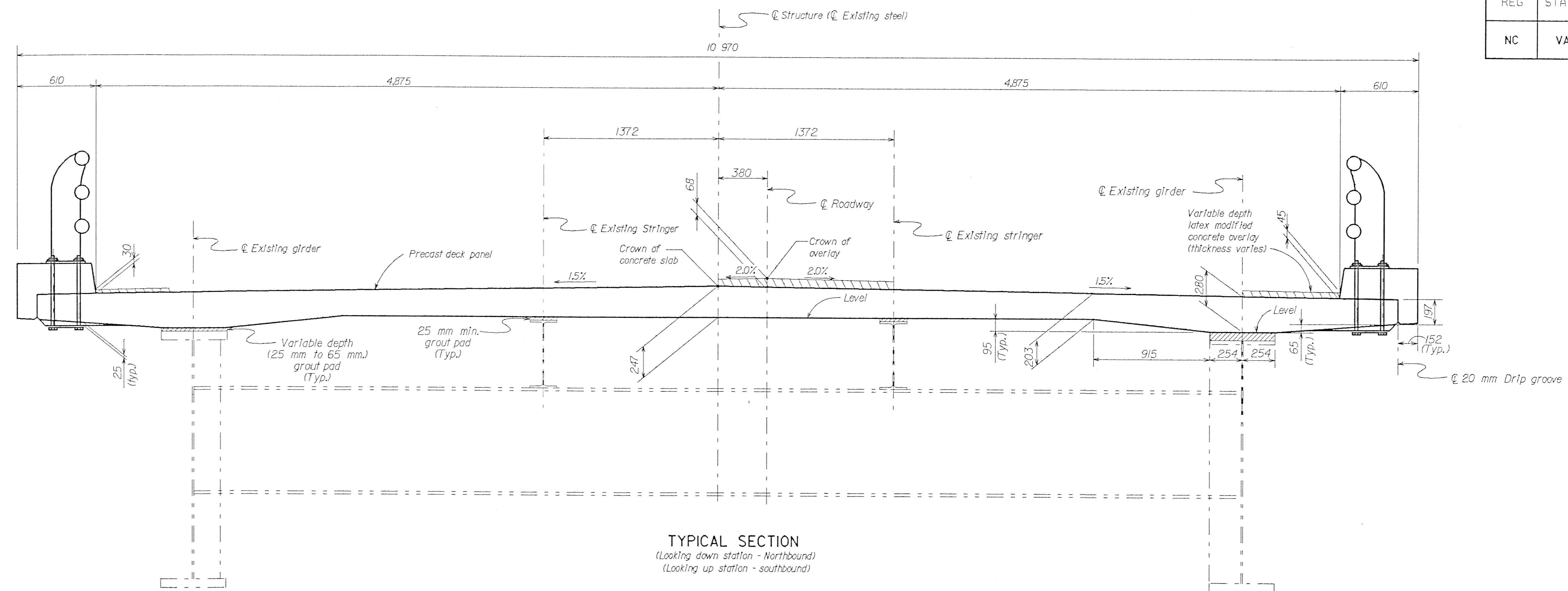


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EASTERN FEDERAL LANDS HIGHWAY DIVISION  
GEORGE WASHINGTON MEMORIAL PARKWAY

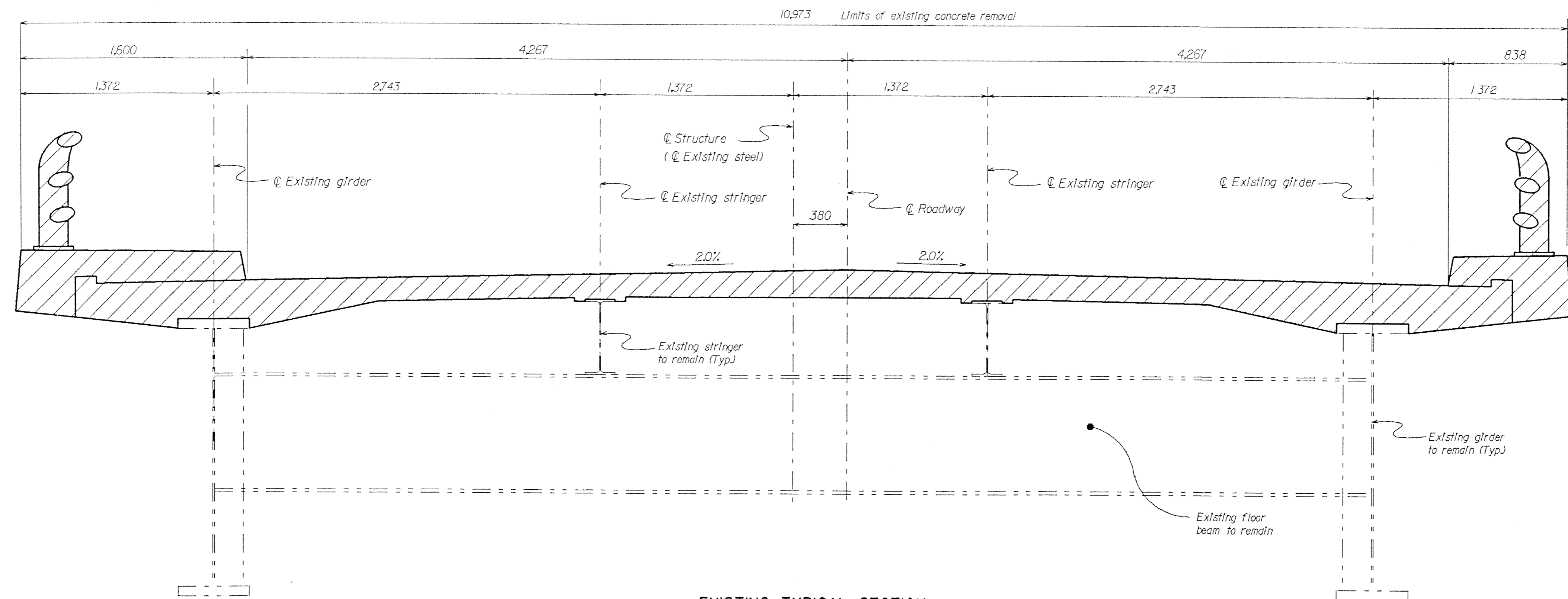
BRIDGE OVER TURKEY RUN  
PLAN AND ELEVATION

TEAM LEADER :		Gary Jakovitch	DATE	July 1994
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE No Scale	
HHP	HHP	GSJ	Br. Dwg. No. 27 of 47	

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
NC	VA	NPS-GWMP IA75, 77	124	143



**TYPICAL SECTION**  
 (Looking down station - Northbound)  
 (Looking up station - southbound)



**EXISTING TYPICAL SECTION**  
 (Looking down station - Northbound)  
 (Looking up station - Southbound)

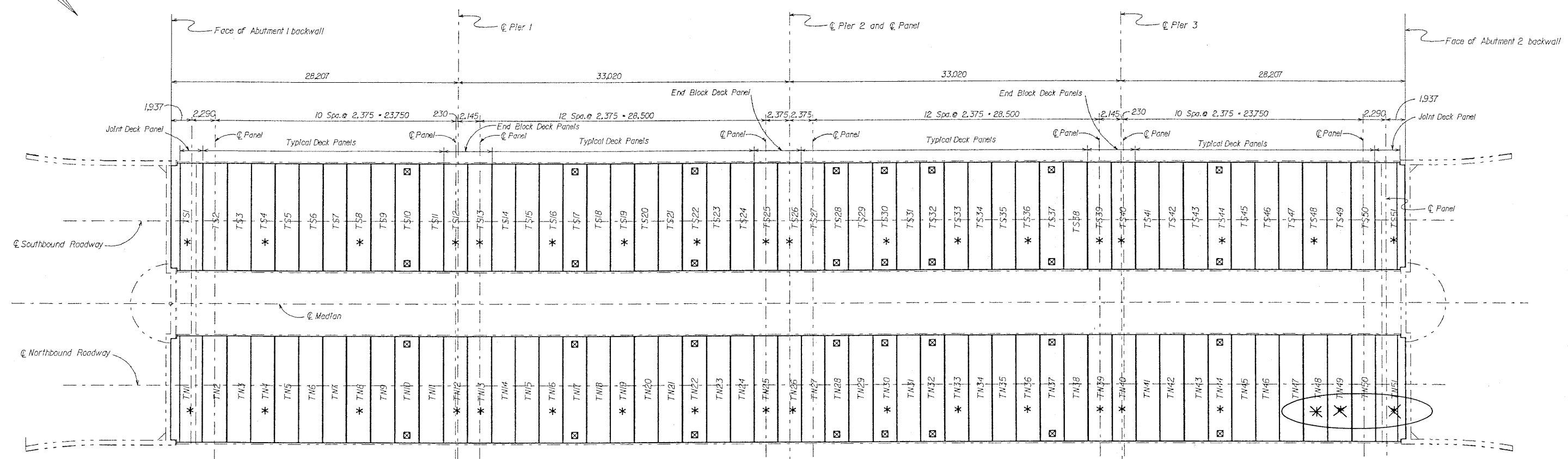
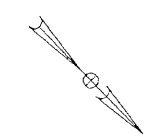
Existing deck, overlay, sidewalk, and railing to be removed

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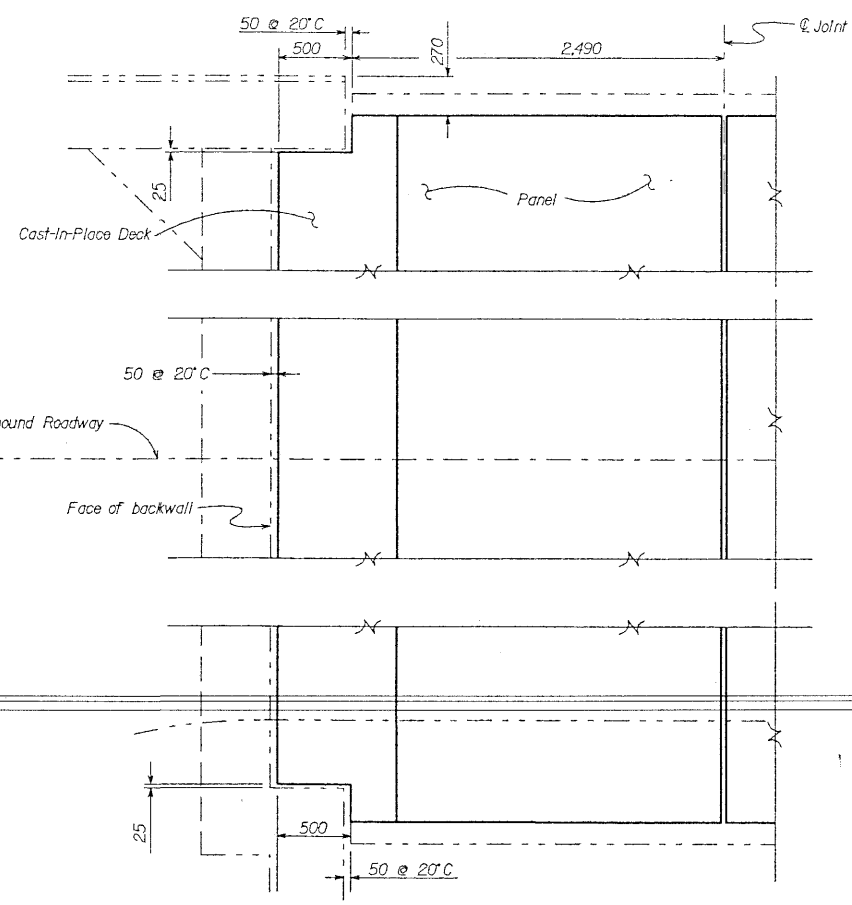
**BRIDGE OVER TURKEY RUN**  
**TYPICAL SECTION**

TEAM LEADER :		Gary Jakovch	DATE	July 1995
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE No Scale	
HHP	HHP/MGG	GSJ	Br. Dwg. No. 2B of 47	

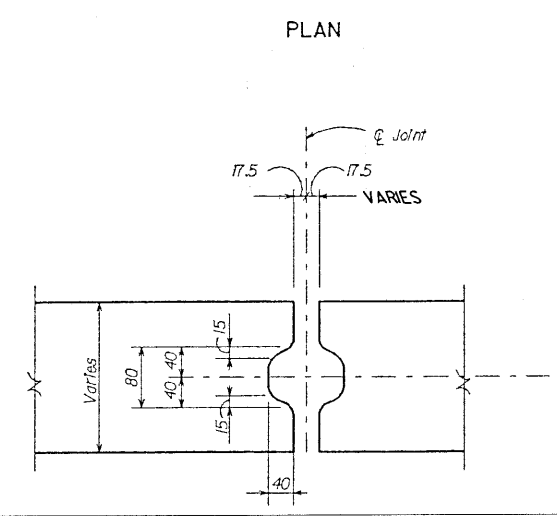
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
NC	VA	NPS-GWMP IA75, 77	125	143



- ☒ • Location of scuppers
- \* • Panels which are connected to the supporting beams with steel clips.



**JOINT DECK PANEL LOCATION DETAIL**  
Panel T\$1 shown. (T\$51, TN1 and TN51 is similar)



**TYPICAL JOINT DETAIL**

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BRIDGE OVER TURKEY RUN  
**DECK LAYOUT**

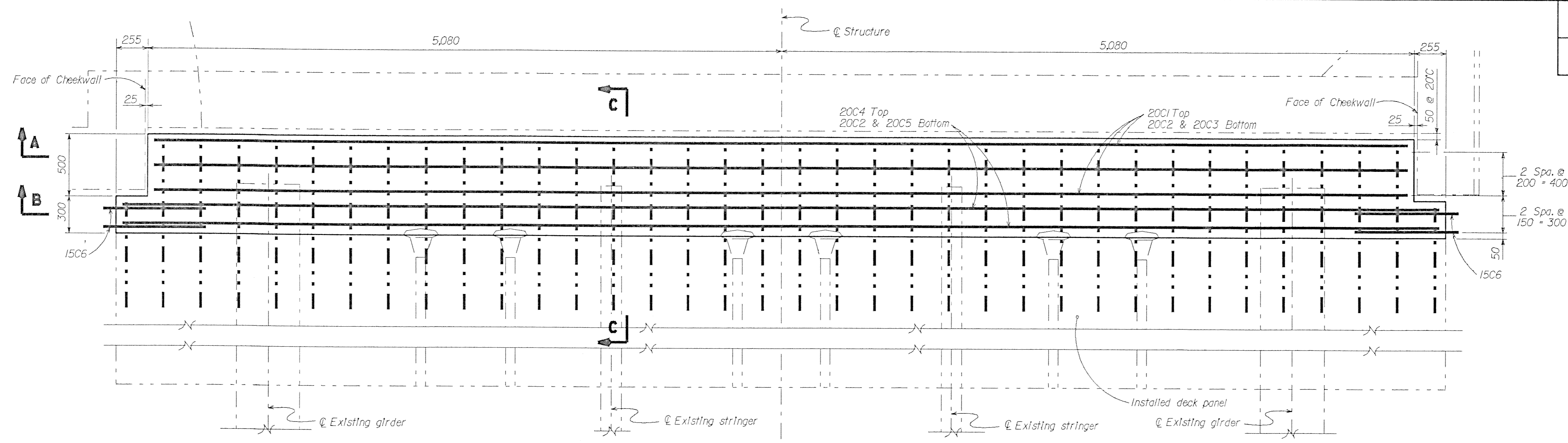
TEAM LEADER	Gary Jakovlich		DATE	August 1995
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE No Scale	
HHP	HHP	SLE	Br. Dwg. No. 29 of 47	





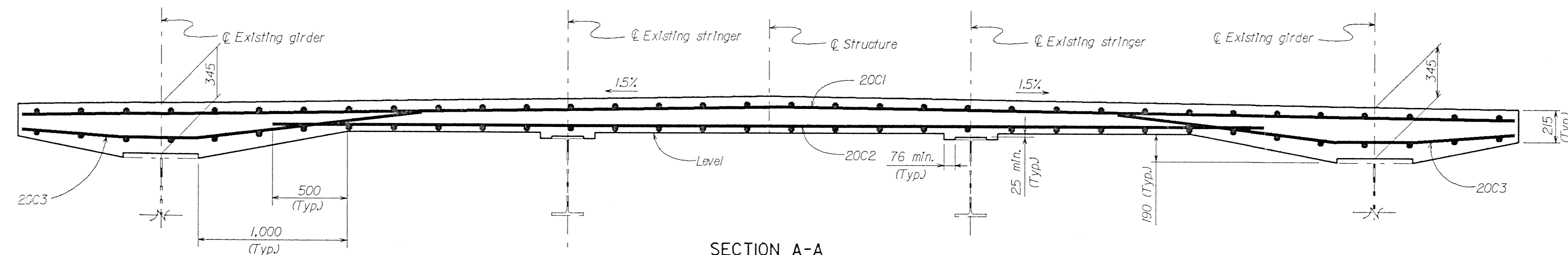


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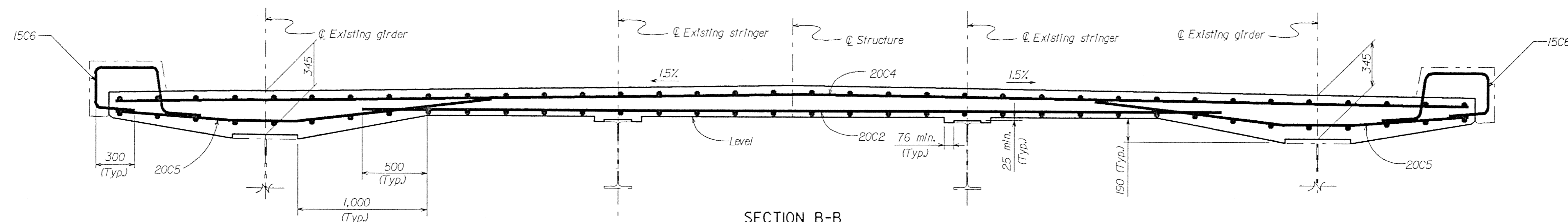


PLAN

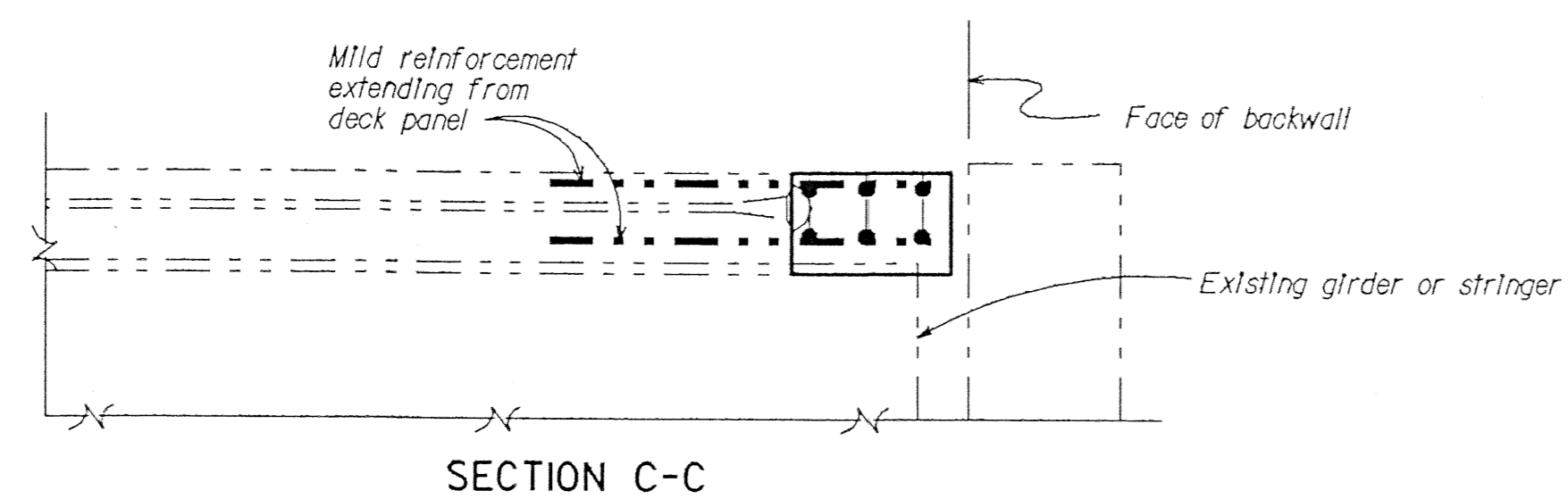
(Abutment #1 Southbound shown, all others similar)



SECTION A-A



SECTION B-B



SECTION C-C

Note:

20C3 and 20C5 bars have same shape as 15S3 bar on "Typical Deck Panel" sheet.  
15C6 bar has same shape as 15S4 bar on "Typical Deck Panel" sheet.

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 BRIDGES OVER TURKEY RUN  
 NORTHBOUND AND SOUTHBOUND  
**CAST-IN-PLACE DECK**

TEAM LEADER : Gary Jankovich		DATE July 1995	
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE As shown
HHP	HHP/MGG	GSJ	Br. Dwg. No. 36 of 47

br2p3 /br3pl/usqd3/gwmp/075/turkey/cast.dgn



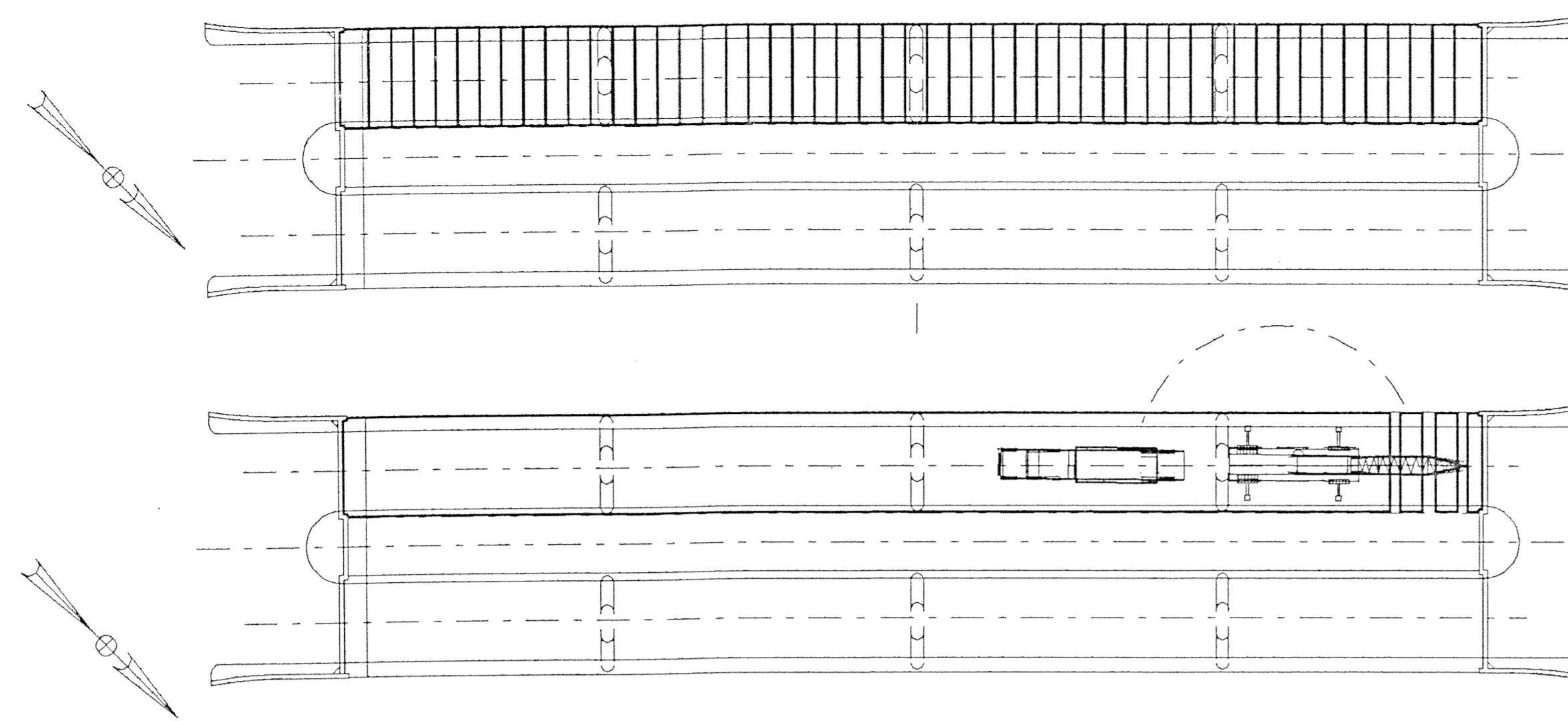




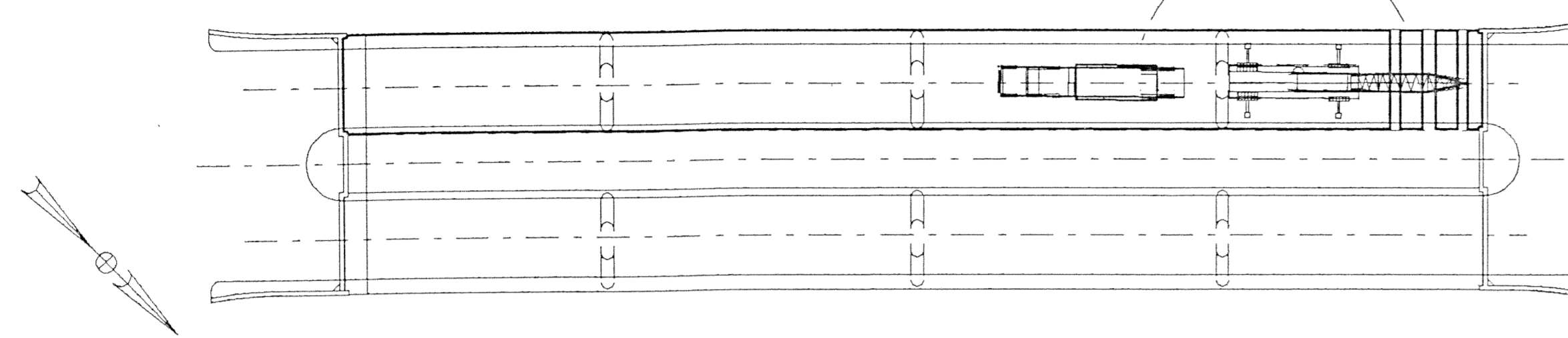




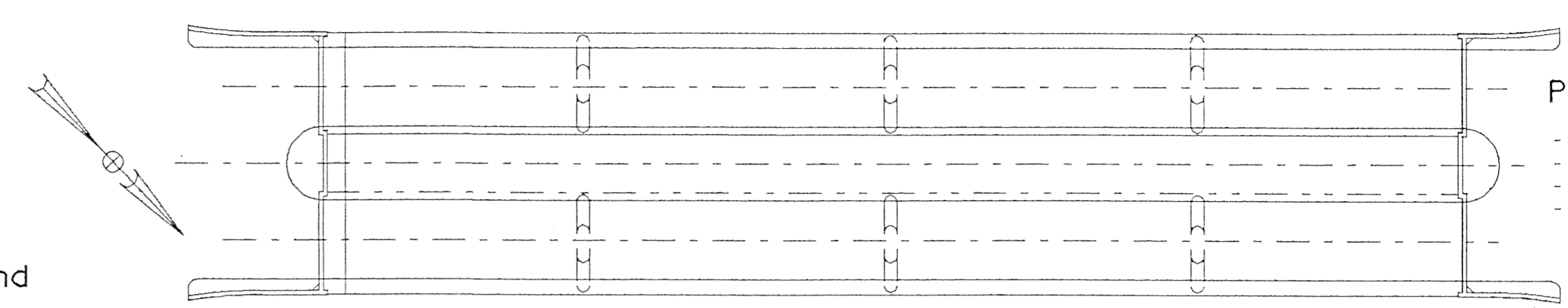
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
NC	VA	NPS-GWMP 1A75, 77	142	143



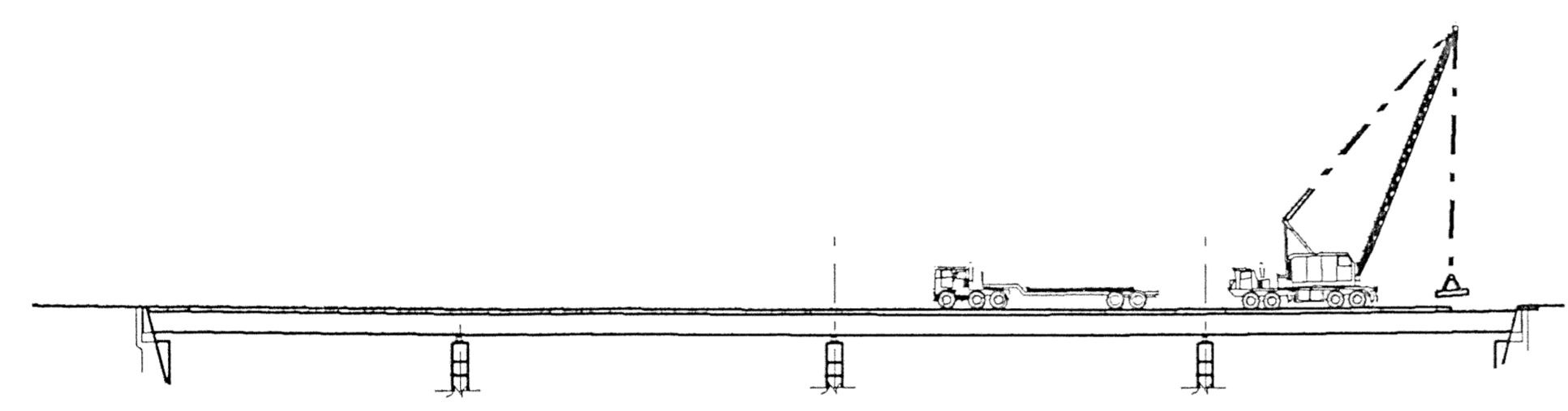
**PHASE 1 - Southbound**  
 - Cut existing deck.  
 - Remove existing rail on edges of bridge.



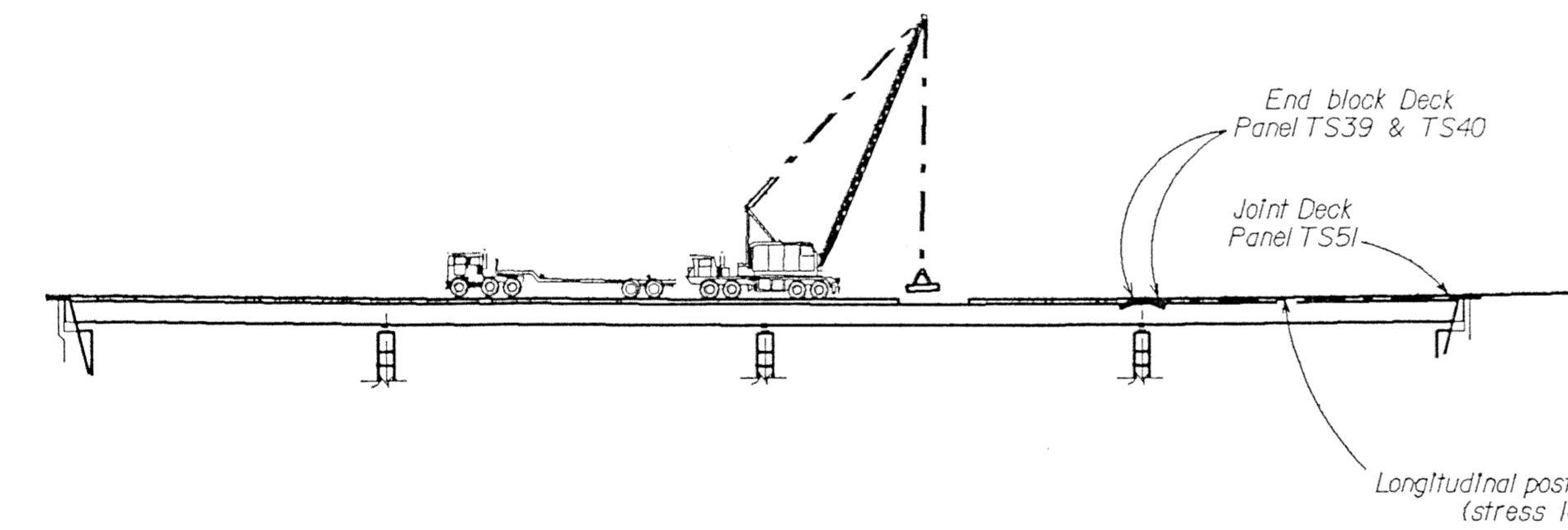
**PHASE 2 - Southbound**  
 (Reconstruct southbound bridge)  
 - Maintain crane and truck wheels on stringer lines.  
 - Maintain crane outriggers over girder lines.



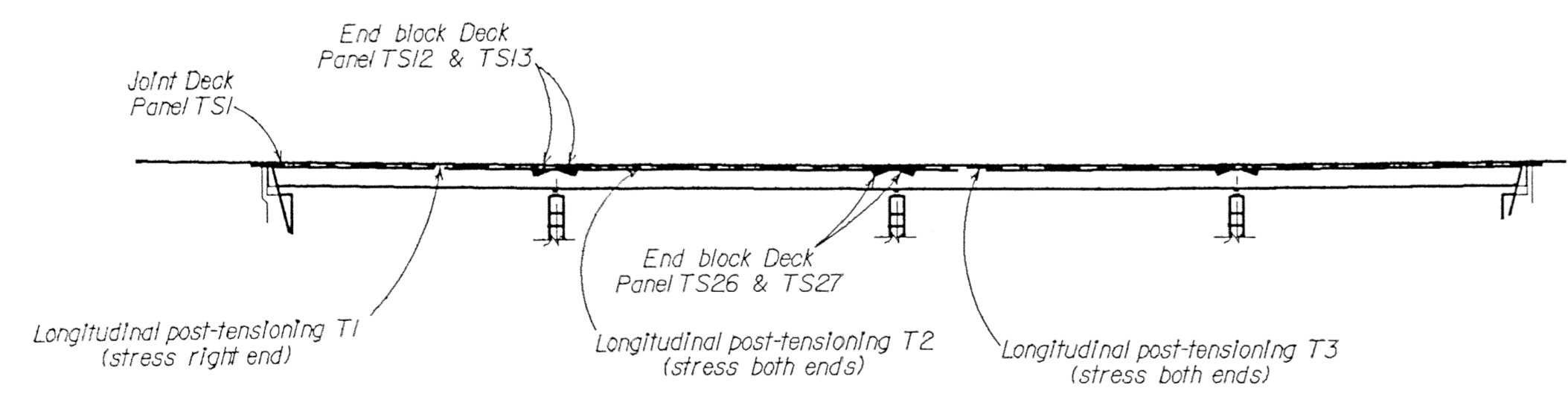
**PHASE 3 - Southbound**  
 - Construct curb and rail  
 - Install expansion joints  
 - Place latex modified concrete overlay  
 - Reconstruct approach sidewalks and rail



- Reconstruct Span 4  
 - Place steel plates over Abutment #2 expansion joint after first panel is in place  
 - Place steel plate over joint between new deck panel and existing concrete deck prior to opening the bridge to traffic



- Stress longitudinal tendon T4 (Span 4)  
 - Reconstruct Span 3  
 - Place steel plate over joint between new deck panel and existing concrete deck prior to opening the bridge to traffic



- Stress longitudinal tendon T3 (Span 3)  
 - Reconstruct spans 1 and 2 in same manner as spans 3 and 4  
 - Place steel plates over joints between new deck panel and existing concrete deck prior to opening the bridge to traffic  
 - Place steel plates over Abutment #2 expansion joint after last panel is in place  
 - Stress longitudinal tendons T1 (span 1) and T2 (Span 2) accordingly

Note:  
 Traffic control not shown

**PHASE 4 - Northbound**

- Follow same sequence as Southbound except start span 1 and reconstruct towards span 4.

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 BRIDGE OVER TURKEY RUN  
 NORTHBOUND AND SOUTHBOUND  
**BRIDGE CONSTRUCTION SEQUENCE**

TEAM LEADER :		Gary Jakovlch	DATE	March 1995
DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	No scale
HHP	TGR/HHP	GSJ	Br. Dwg. No. 46 of 47	