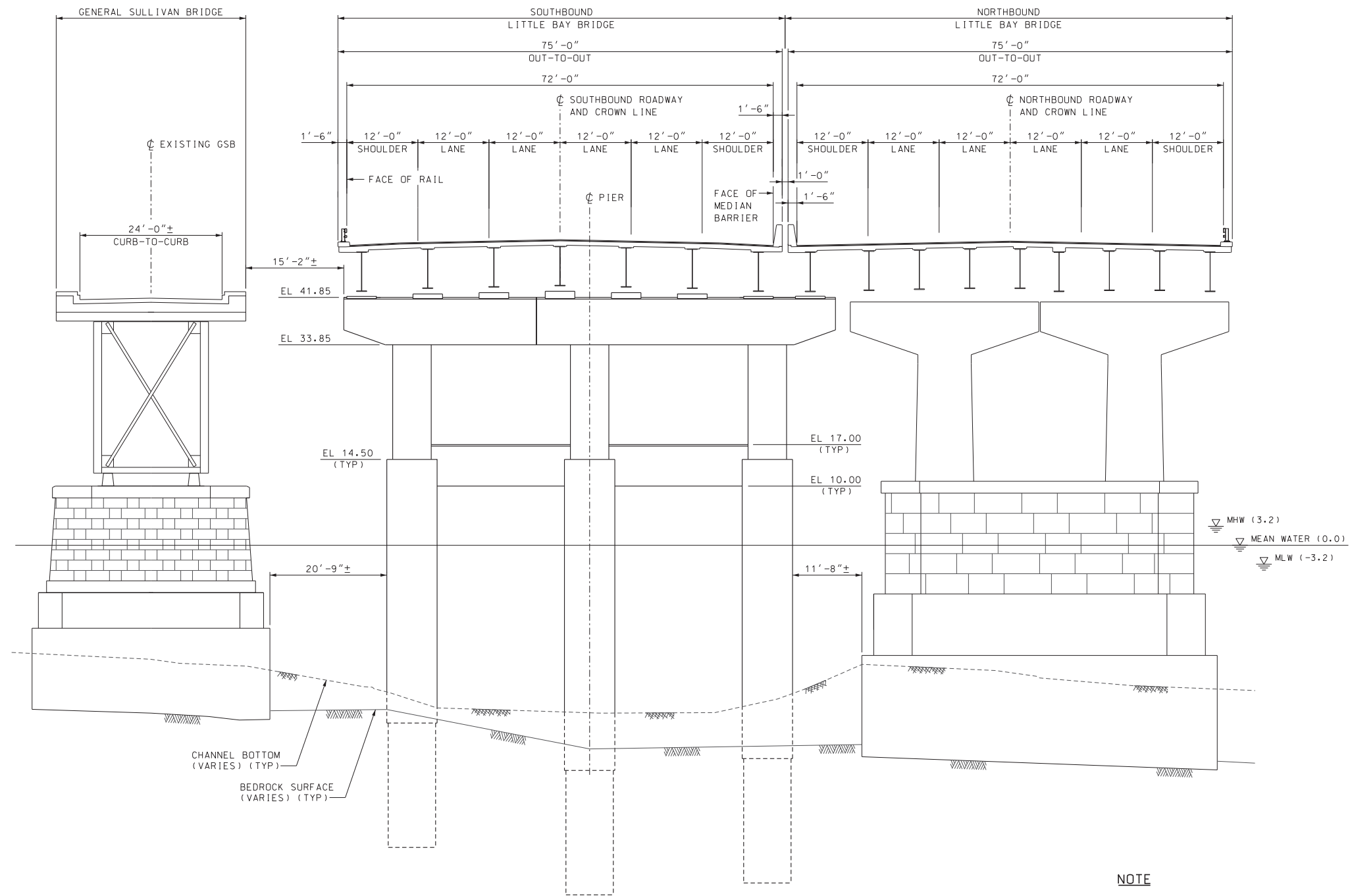


## **Appendix B – Reasonable Alternatives Typical Section Plans**

**EXISTING CONDITION**



**TYPICAL BRIDGE SECTION (PIERS 1, 2, 7 & 8) - EXISTING**

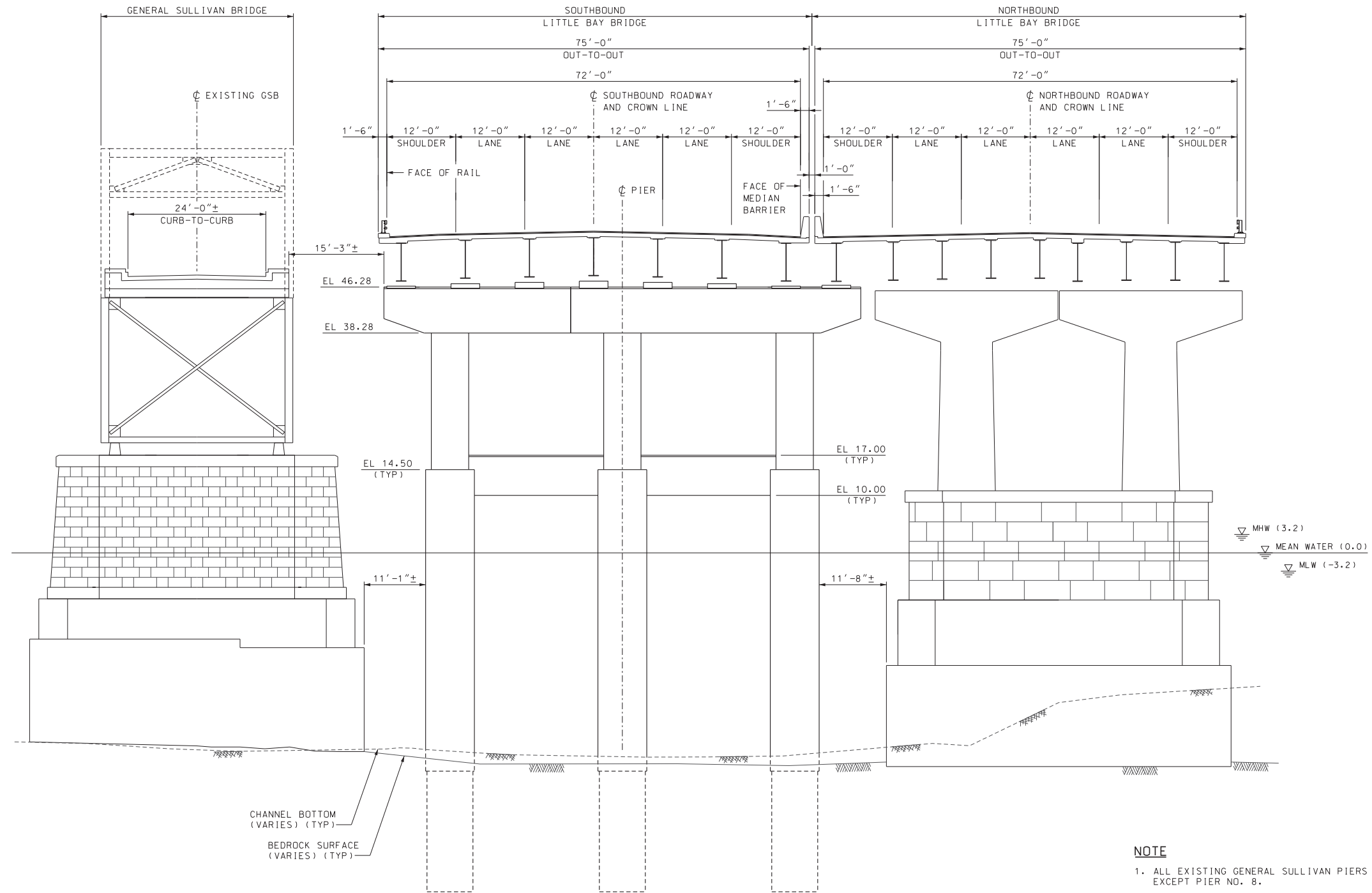
SCALE: 3/32" = 1'-0"

**NOTE**

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

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**EXISTING CONDITION**



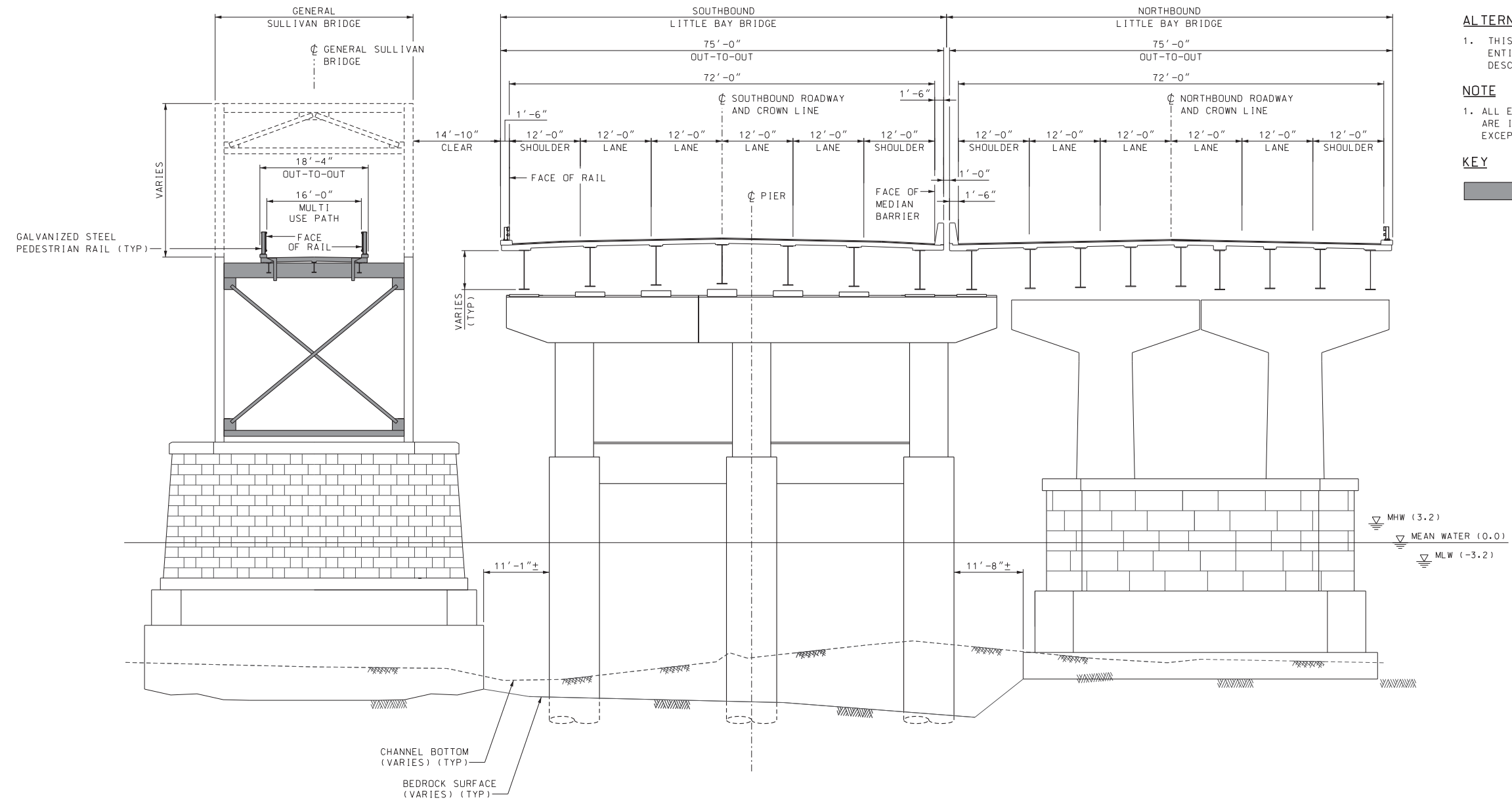
**NOTE**

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

**TYPICAL BRIDGE SECTION (PIERS 3, 4, 5, & 6) - EXISTING**

SCALE: 3/32" = 1'-0"

### ALTERNATIVE 1 - REHABILITATION OF GENERAL SULLIVAN BRIDGE



#### ALTERNATIVE 1 NOTES:

1. THIS ALTERNATIVE REHABILITATES THE ENTIRE GENERAL SULLIVAN BRIDGE AS DESCRIBED IN THE TS&L REPORT.

#### NOTE

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

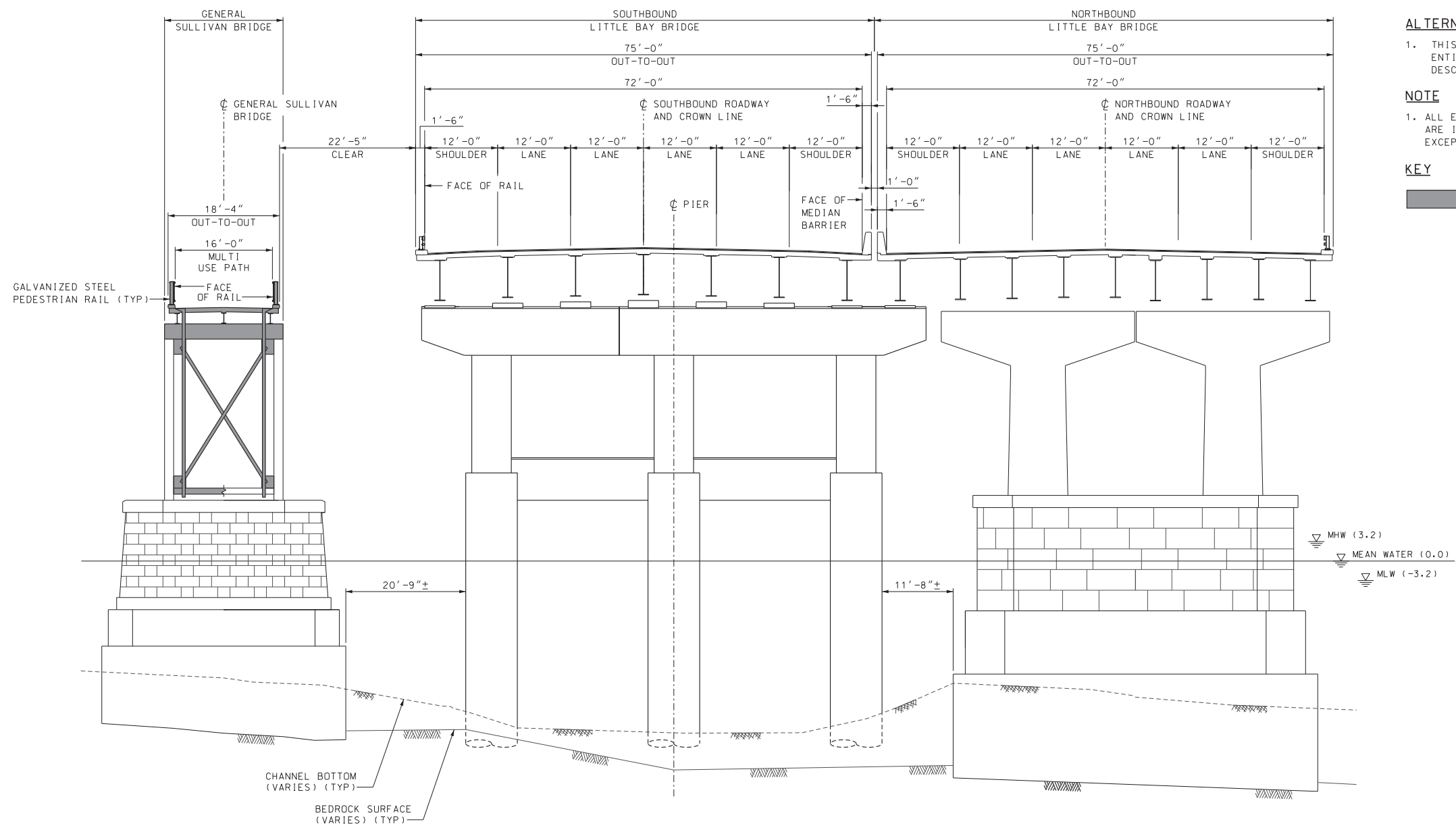
#### KEY

= NEW STRUCTURE

### TYPICAL BRIDGE SECTION (PIERS 3, 4, 5, & 6) - ALTERNATIVE 1

SCALE: 3/32" = 1'-0"

### ALTERNATIVE 1 - REHABILITATION OF GENERAL SULLIVAN BRIDGE



#### ALTERNATIVE 1 NOTES:

1. THIS ALTERNATIVE REHABILITATES THE ENTIRE GENERAL SULLIVAN BRIDGE AS DESCRIBED IN THE TS&L REPORT.

#### NOTE

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

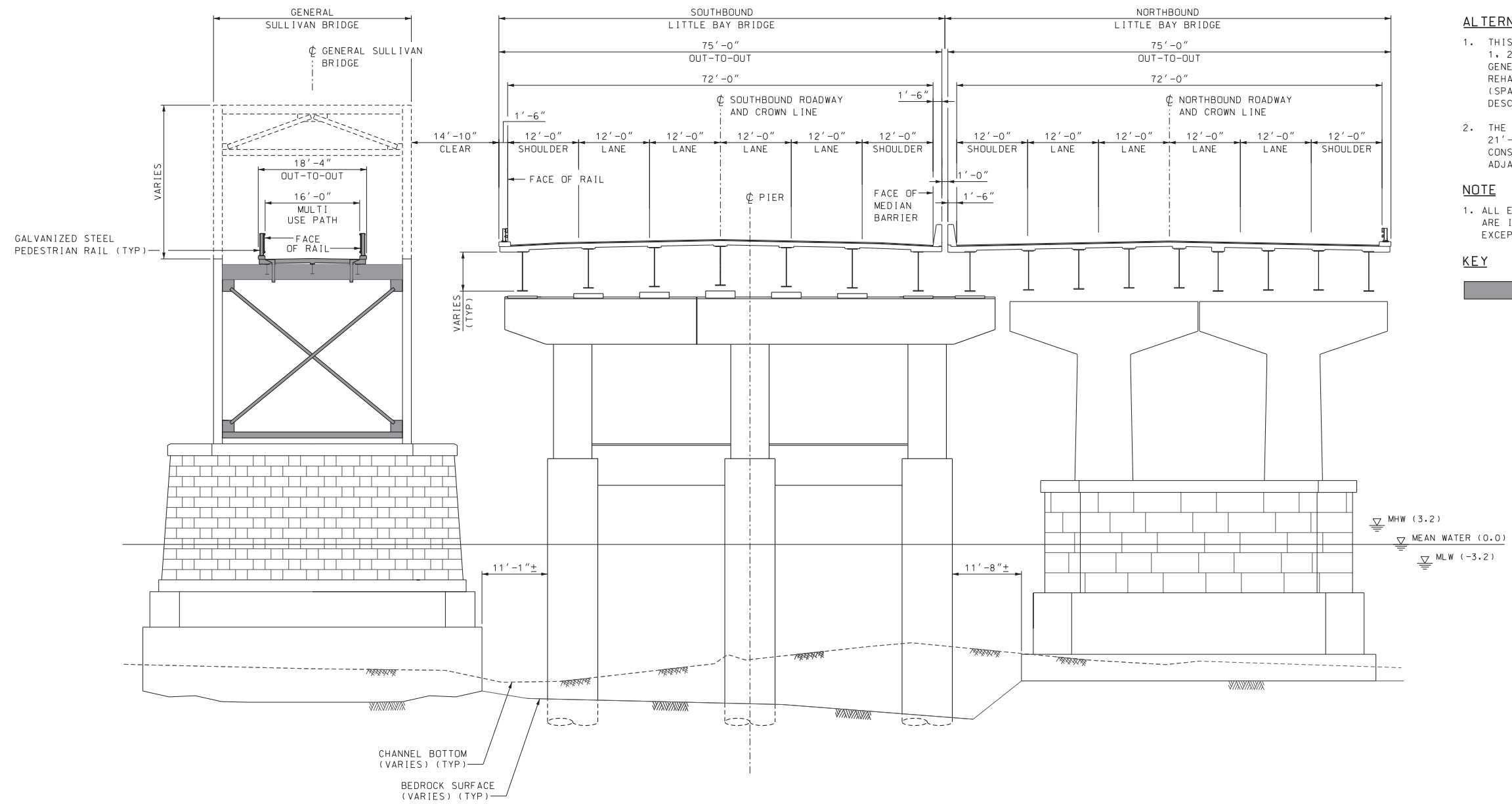
#### KEY

[Shaded Box] = NEW STRUCTURE

### TYPICAL BRIDGE SECTION (PIERS 1, 2, 7, & 8) - ALTERNATIVE 1

SCALE: 3/32" = 1'-0"

### ALTERNATIVE 3 - PARTIAL REHABILITATION



#### ALTERNATIVE 3 NOTES:

1. THIS ALTERNATIVE REPLACES SPANS 1, 2, 3, 7, 8, AND 9 OF THE GENERAL SULLIVAN BRIDGE AND REHABILITATES SPANS 4, 5 AND 6 (SPANS BETWEEN PIERS 3-6) AS DESCRIBED IN THE TS&L REPORT.
2. THE OUT-TO-OUT DECK WIDTH OF 21'-0" MATCHES INTO THE NEWLY CONSTRUCTED NORTH APPROACH BRIDGE ADJACENT TO DOVER POINT ROAD.

#### NOTE

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

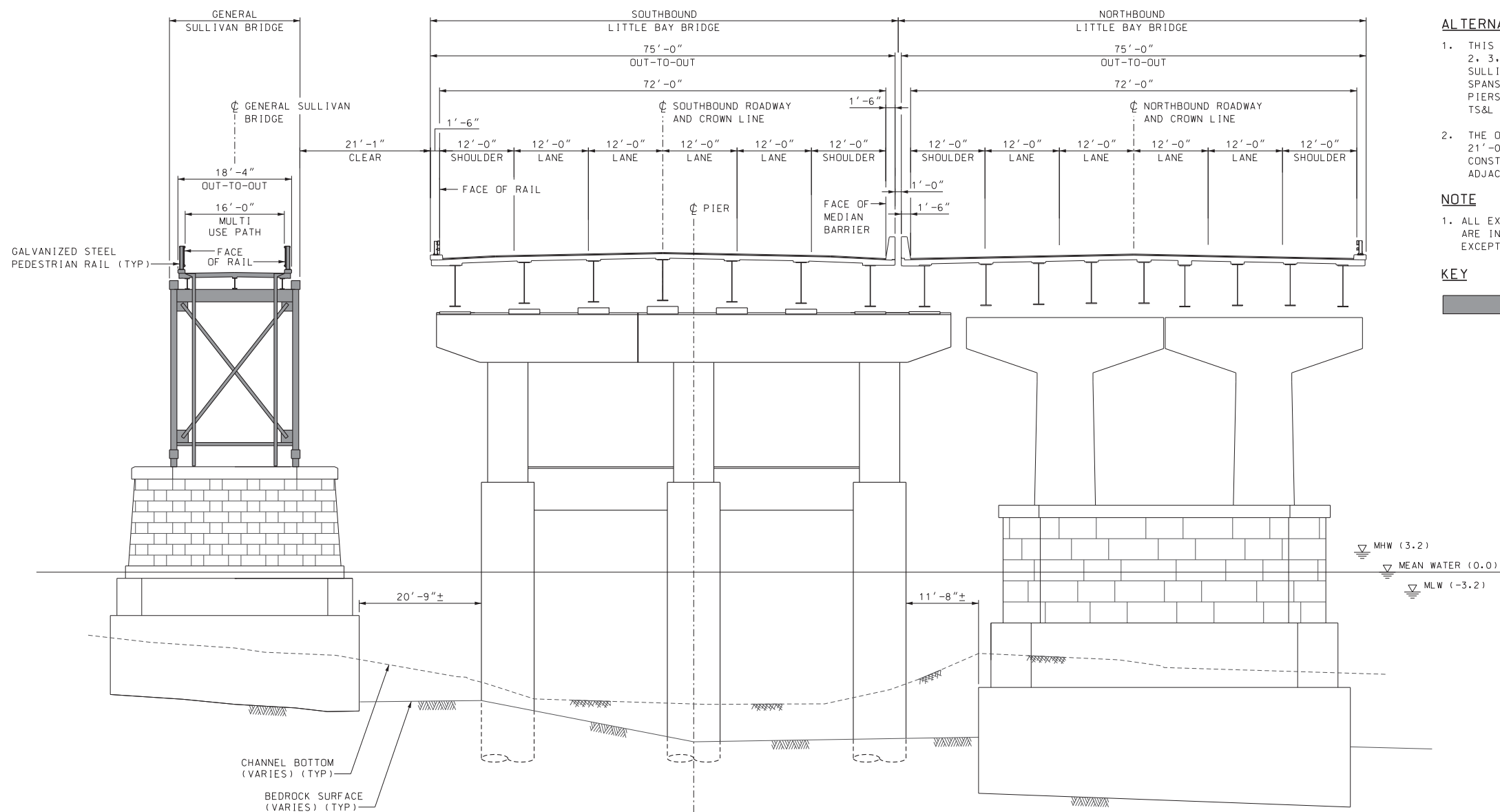
#### KEY

= NEW STRUCTURE

### TYPICAL BRIDGE SECTION (PIERS 3, 4, 5, & 6) - ALTERNATIVE 3

SCALE: 3/32" = 1'-0"

### ALTERNATIVE 3 - PARTIAL REHABILITATION



#### ALTERNATIVE 3 NOTES:

1. THIS ALTERNATIVE REPLACES SPANS 1, 2, 3, 7, 8, AND 9 OF THE GENERAL SULLIVAN BRIDGE AND REHABILITATES SPANS 4, 5 AND 6 (SPANS BETWEEN PIERS 3-6) AS DESCRIBED IN THE TS&L REPORT.
2. THE OUT-TO-OUT DECK WIDTH OF 21'-0" MATCHES INTO THE NEWLY CONSTRUCTED NORTH APPROACH BRIDGE ADJACENT TO DOVER POINT ROAD.

#### NOTE

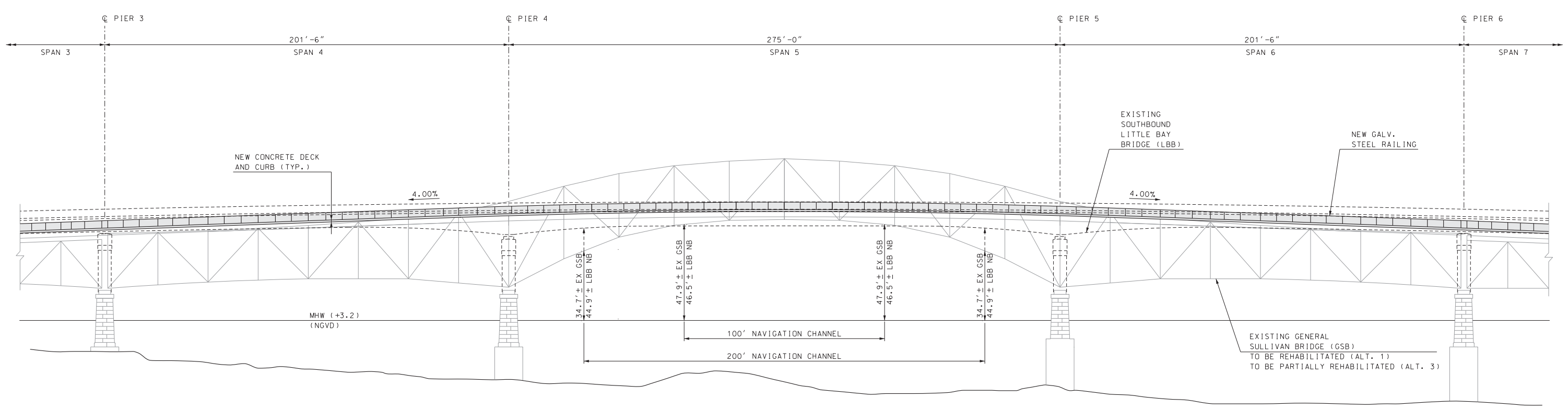
1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

#### KEY

= NEW STRUCTURE

### TYPICAL BRIDGE SECTION (PIERS 1, 2, 7, & 8) - ALTERNATIVE 3

SCALE: 3/32" = 1'-0"

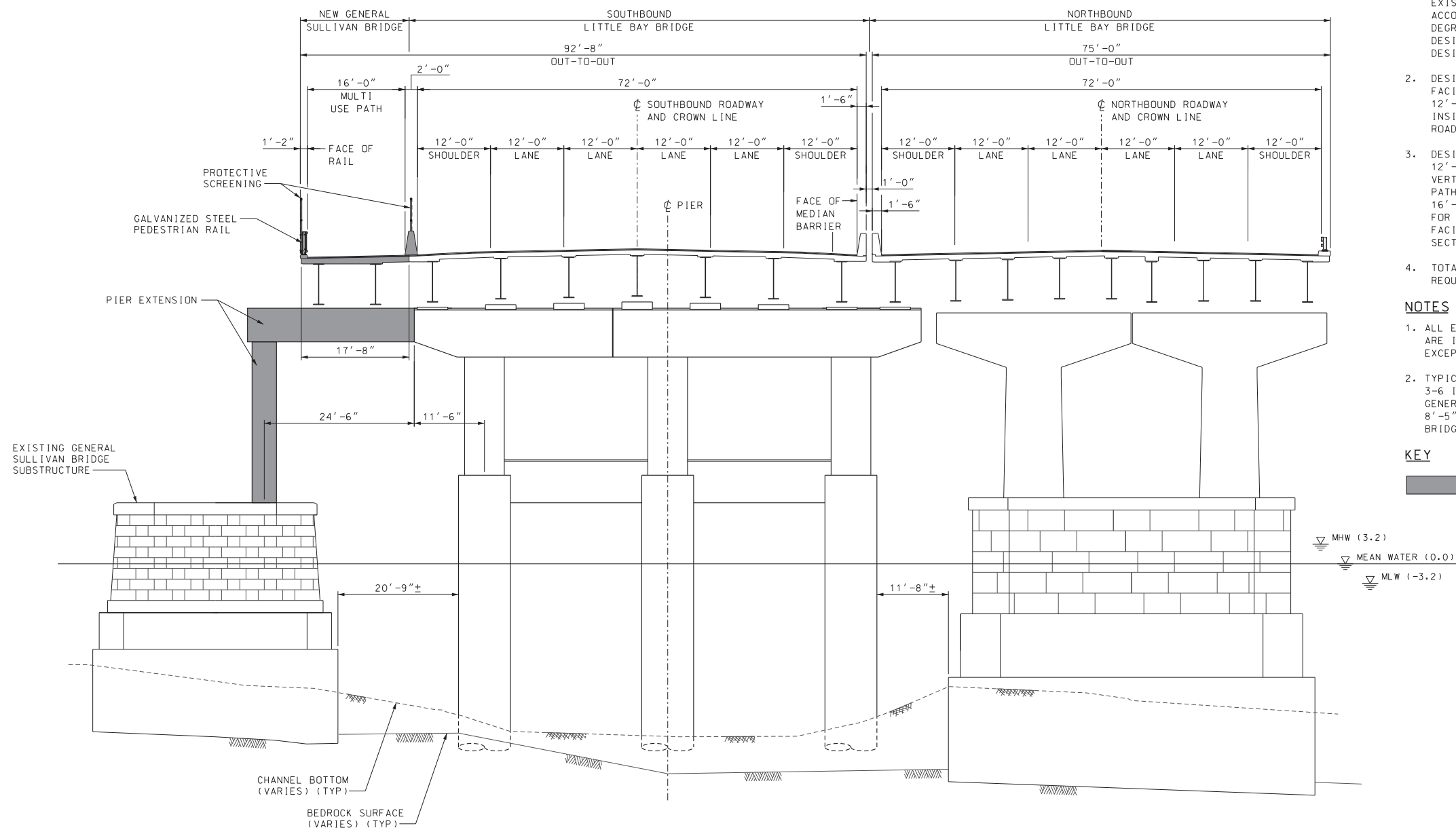


**NAVIGATIONAL CLEARANCES**  
**ELEVATION: ALTERNATIVES 1 & 3 - SPANS 4, 5, & 6**  
 ALT. 1 - REHABILITATION OF THE GENERAL SULLIVAN BRIDGE  
 ALT. 3 - PARTIAL REHABILITATION

**NOTE:**  
 1. VERTICAL NAVIGATIONAL CLEARANCE DIMENSIONS FOR THE NORTHBOUND LITTLE BAY BRIDGE CONTROL OVER THE SOUTHBOUND LITTLE BAY BRIDGE AND ARE DESCRIBED ON THIS SHEET ACCORDINGLY.



### ALTERNATIVE 6 - SOUTH BOUND LITTLE BAY BRIDGE - WIDEN DECK ON PIER EXTENSION



#### ALTERNATIVE 6 NOTES:

1. THIS ALTERNATIVE WIDENS THE EXISTING LITTLE BAY BRIDGE TO ACCOMMODATE A MULTI-USE PATH. THE DEGREE OF WIDENING IS BASED ON DESIRED ROADWAY PARAMETERS AND DESIRED MULTI-USE PATH WIDTH.
2. DESIRED ROADWAY PARAMETERS FOR THIS FACILITY ARE: (4) 12'-0" LANES, 12'-0" OUTSIDE SHOULDER AND 12'-0" INSIDE SHOULDER. TOTAL USABLE ROADWAY FOR VEHICLES = 72'-0".
3. DESIRED MULTI-USE PATH WIDTH IS: 12'-0" PATH, 2'-0" CLEARANCE TO VERTICAL ELEMENT ON BOTH SIDES OF PATH. TOTAL MULTI-USE PATH WIDTH = 16'-0". REFERENCE AASHTO "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 2012, 4TH EDITION", SECTIONS 5.2.1 AND 5.2.10.
4. TOTAL INCREASE IN BRIDGE WIDTH REQUIRED = 17'-8".

#### NOTES

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.
2. TYPICAL BRIDGE SECTION AT PIERS 3-6 IS SIMILAR EXCEPT EXISTING GENERAL SULLIVAN BRIDGE PIERS ARE 8'-5" CLOSER TO THE LITTLE BAY BRIDGE PIERS

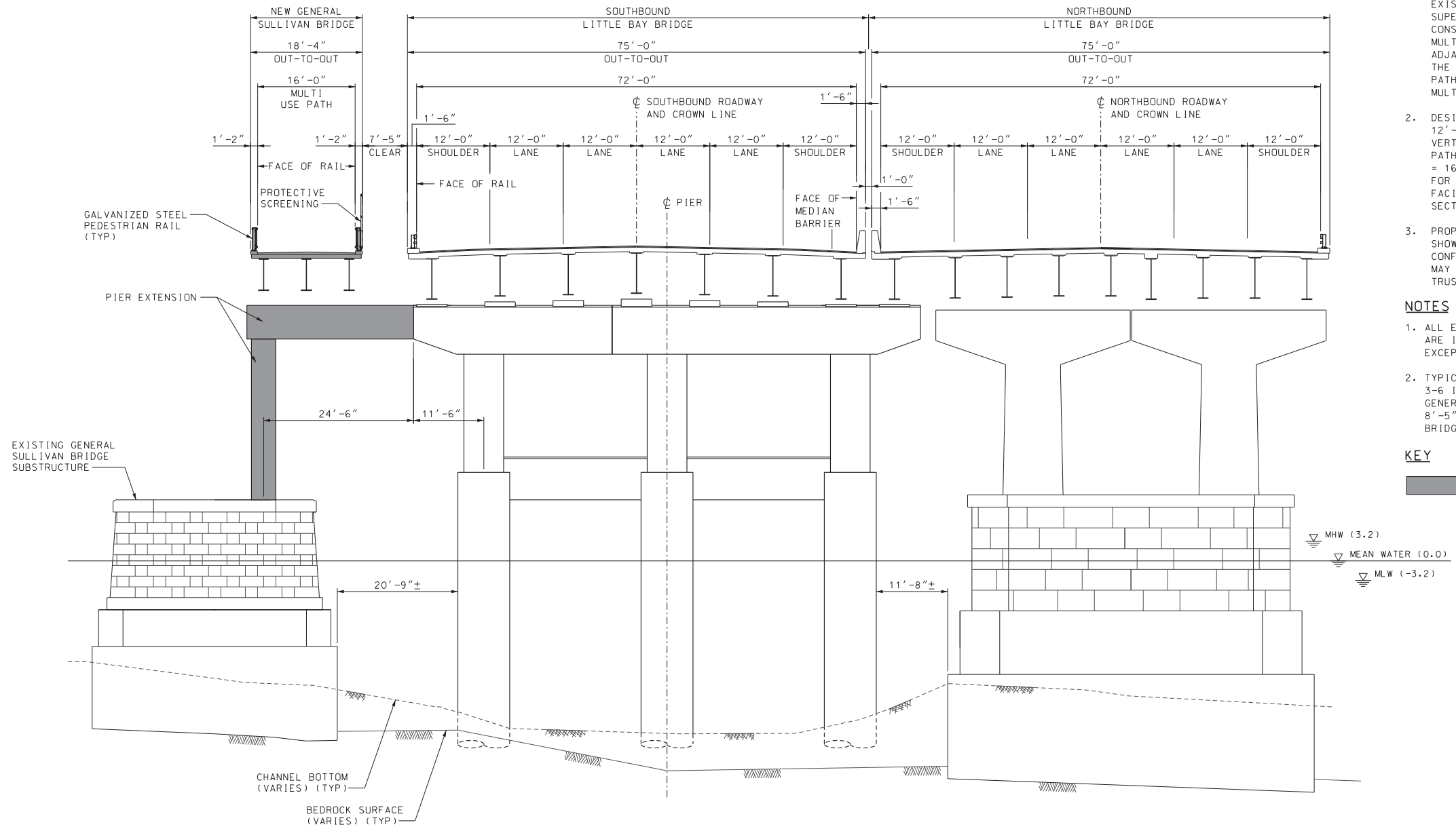
#### KEY

■ = NEW STRUCTURE

### TYPICAL BRIDGE SECTION (PIERS 1, 2, & 7) - ALTERNATIVE 6

SCALE: 3/32" = 1'-0"

### ALTERNATIVE 7 - SOUTHBOUND LITTLE BAY BRIDGE - INDEPENDENT DECK ON PER EXTENSION



#### ALTERNATIVE 7 NOTES:

1. THIS ALTERNATIVE LEAVES THE EXISTING LITTLE BAY BRIDGE SUPERSTRUCTURE AS IS AND CONSTRUCTS AN INDEPENDENT MULTI-USE PATH SUPERSTRUCTURE ADJACENT TO THE LITTLE BAY BRIDGE. THE WIDTH OF PROPOSED MULTI-USE PATH BRIDGE IS BASED ON DESIRED MULTI-USE PATH WIDTH.
2. DESIRED MULTI-USE PATH WIDTH IS: 12'-0" PATH, 2'-0" CLEARANCE TO VERTICAL ELEMENT ON BOTH SIDES OF PATH. TOTAL MULTI-USE PATH WIDTH = 16'-0". REFERENCE AASHTO "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 2012, 4TH EDITION", SECTIONS 5.2.1 AND 5.2.10.
3. PROPOSED ADJACENT SUPERSTRUCTURE SHOWN IS A STEEL GIRDER/SLAB CONFIGURATION. THIS ALTERNATIVE MAY ALSO CONSIDER A PRE-FABRICATED TRUSS OPTION.

#### NOTES

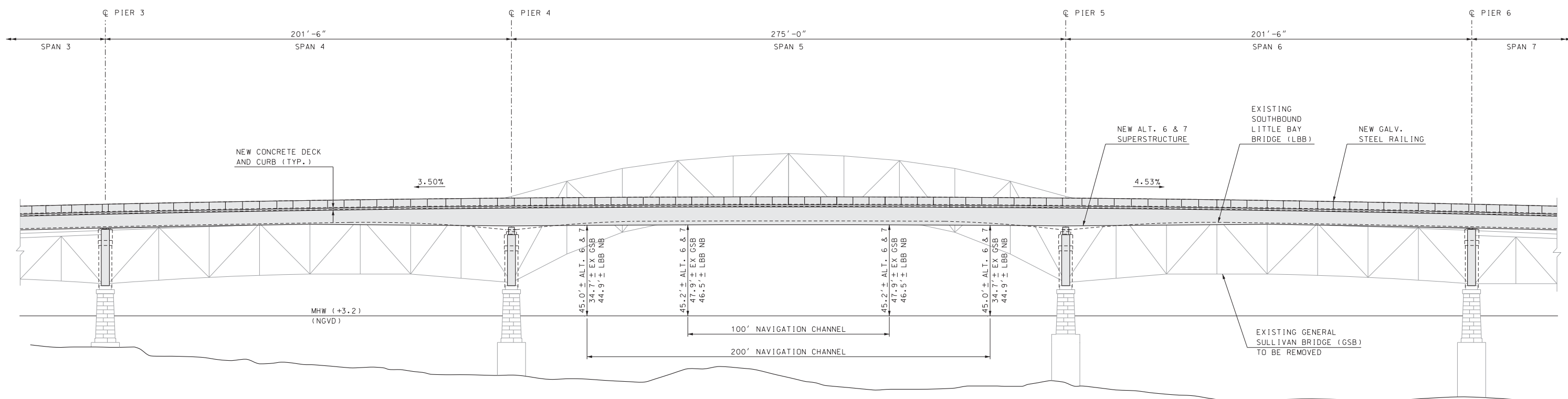
1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.
2. TYPICAL BRIDGE SECTION AT PIERS 3-6 IS SIMILAR EXCEPT EXISTING GENERAL SULLIVAN BRIDGE PIERS ARE 8'-5" CLOSER TO THE LITTLE BAY BRIDGE PIERS

#### KEY

■ = NEW STRUCTURE

### TYPICAL BRIDGE SECTION (PIERS 1, 2, & 7) - ALTERNATIVE 7

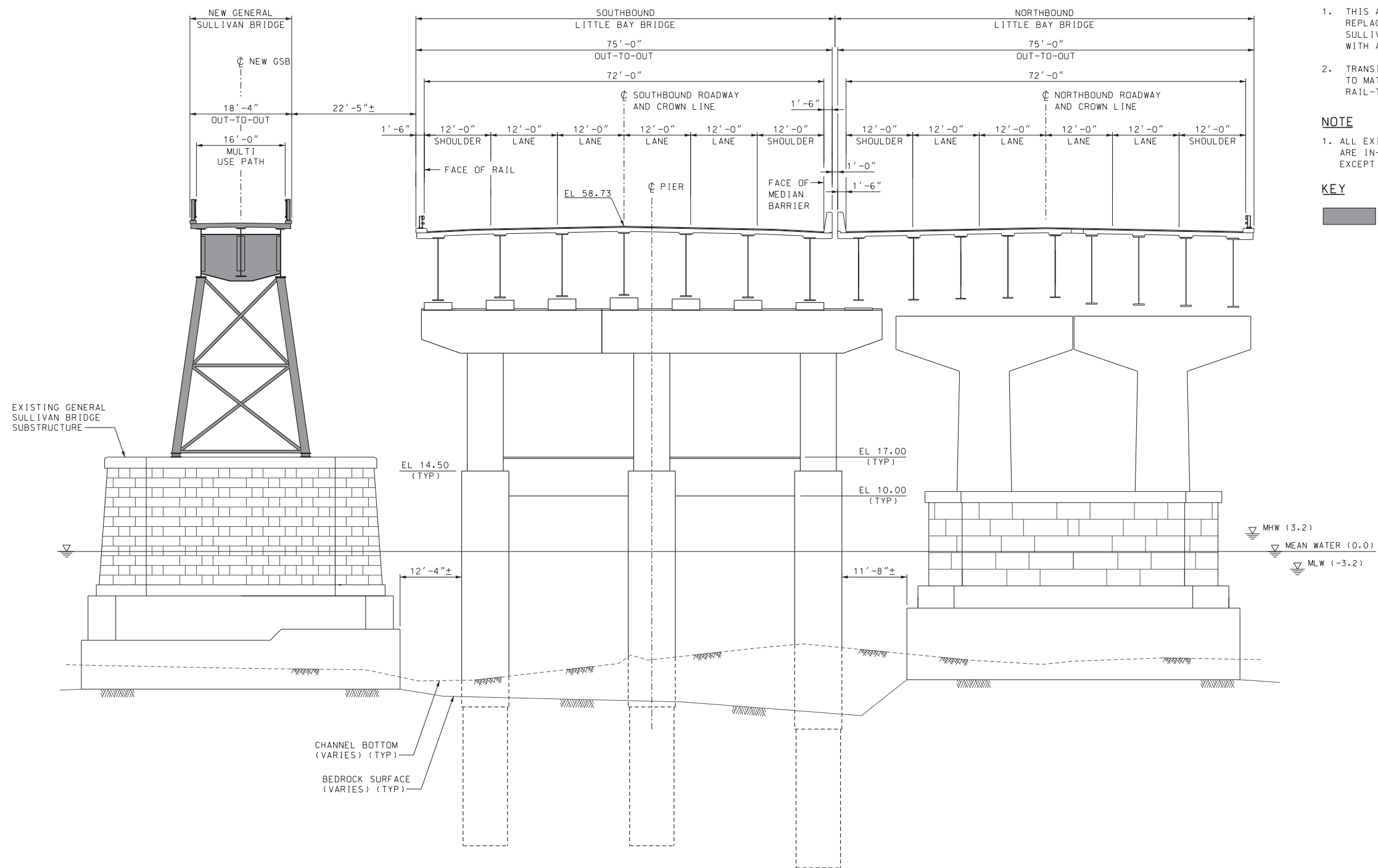
SCALE: 3/32" = 1'-0"



**NAVIGATIONAL CLEARANCES**  
**ELEVATION: ALTERNATIVES 6 & 7 - SPANS 4, 5, & 6**  
 ALT. 6 - SOUTHBOUND LITTLE BAY BRIDGE - WIDENED DECK ON PIER EXTENSION  
 ALT. 7 - SOUTHBOUND LITTLE BAY BRIDGE - IN DEPENDANT DECK ON PIER EXTENSION

**NOTE:**  
 1. VERTICAL NAVIGATIONAL CLEARANCE DIMENSIONS FOR THE NORTHBOUND LITTLE BAY BRIDGE CONTROL OVER THE SOUTHBOUND LITTLE BAY BRIDGE AND ARE DESCRIBED ON THIS SHEET ACCORDINGLY.

### ALTERNATIVE 9 - GENERAL SULLIVAN BRIDGE SUPERSTRUCTURE REPLACEMENT - GIRDER OPTION



#### ALTERNATIVE 9 NOTES:

1. THIS ALTERNATIVE COMPLETELY REPLACES THE EXISTING GENERAL SULLIVAN BRIDGE SUPERSTRUCTURE WITH A GIRDER/FRAME SYSTEM.
2. TRANSITION THE NORTH END OF SPAN 1 TO MATCH THE NORTH APPROACH BRIDGE RAIL-TO-RAIL WIDTH OF 21'-0".

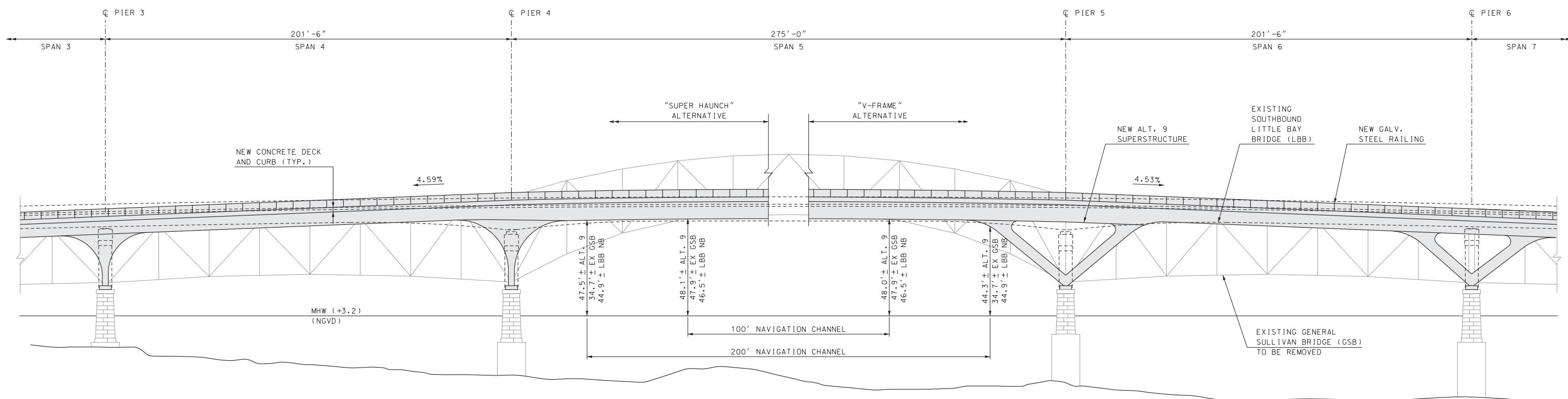
#### NOTE

1. ALL EXISTING GENERAL SULLIVAN PIERS ARE IN-LINE WITH LBB BRIDGE PIERS EXCEPT PIER NO. 8.

#### KEY

= NEW STRUCTURE

**ELEVATION**  
 SCALE: 3/32" = 1'-0"  
**TYPICAL BRIDGE SECTION (PIERS 4 & 5, OTHER PIERS SIMILAR) - ALTERNATIVE 9**  
 SCALE: 3/32" = 1'-0"



**NAVIGATIONAL CLEARANCES**  
**ELEVATION: ALTERNATIVE 9 - SPANS 4, 5, & 6**  
 SUPERSTRUCTURE REPLACEMENT - GIRDER OPTION

**NOTE:**  
 1. VERTICAL NAVIGATIONAL CLEARANCE DIMENSIONS FOR THE NORTHBOUND LITTLE BAY BRIDGE CONTROL OVER THE SOUTHBOUND LITTLE BAY BRIDGE AND ARE DESCRIBED ON THIS SHEET ACCORDINGLY.