

STATE	ROUTE	FEDERAL AID	STATE	ROUTE	PROJECT	NO.
VA.	—	N/A		11		1



# CITY OF SALEM, VIRGINIA

## PROPOSED BRIDGE SIDEWALK REPAIR OF APPERSON DRIVE OVER ROANOKE RIVER



Location Map  
Not to scale

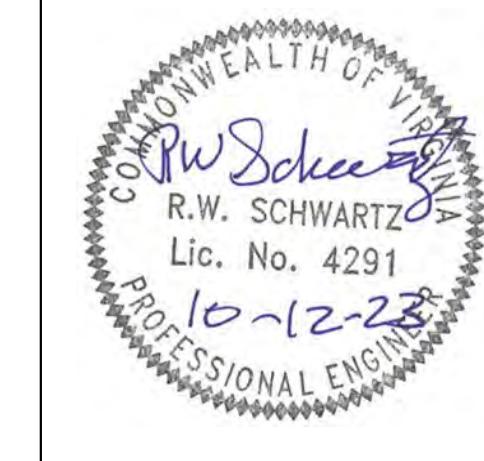
## General construction note:

This project shall be constructed in accordance with Supplemental Specifications, VDOT Road and Bridge Specifications dated 2020 and the VDOT Road and Bridge Standards, 2016.

## Legend:

- Existing object lines
- Proposed object lines
- Existing reinf. steel
- Proposed reinf. steel
- Cutting plane line
- Center line
- Hidden lines

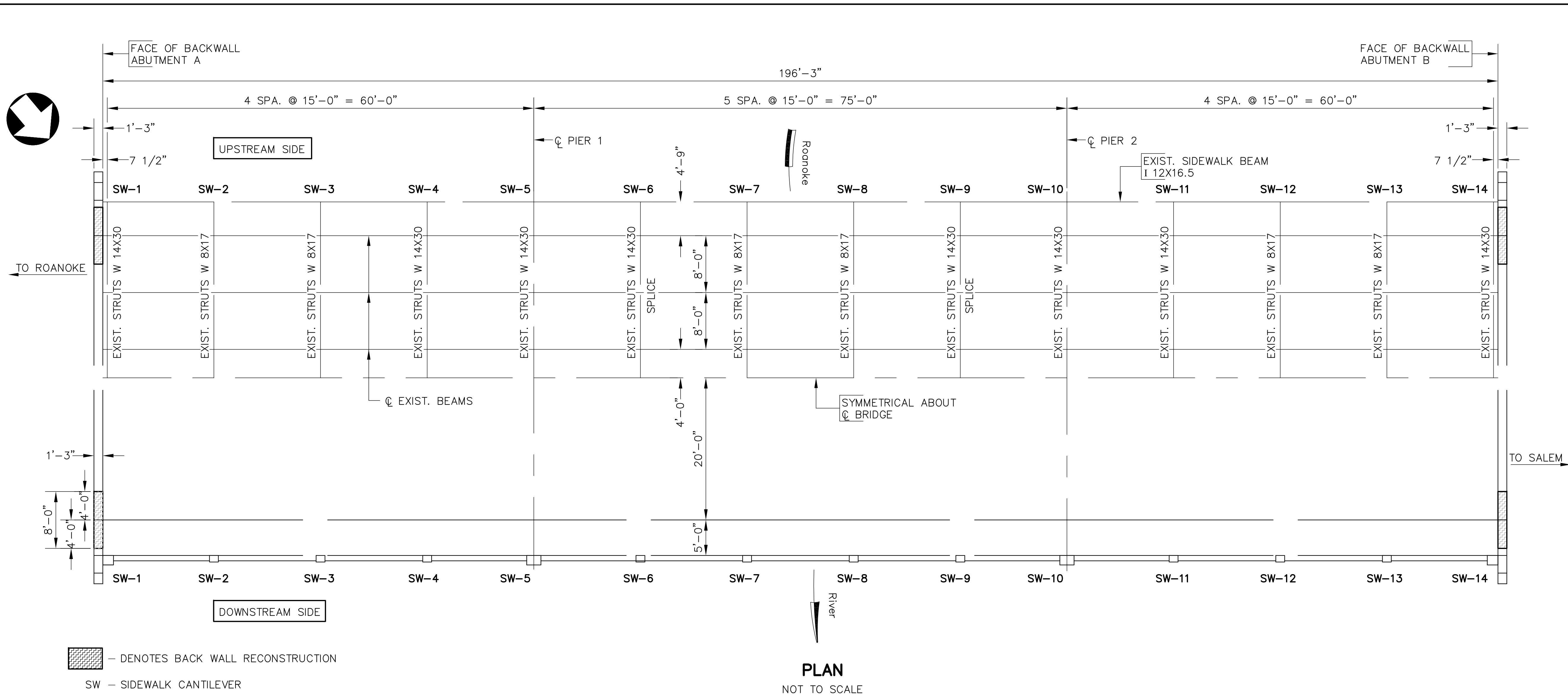
PLANS REVISED	SHEET NO.	DATE:



**S** SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VA.

APPERSON DRIVE OVER  
ROANOKE RIVER  
CITY OF SALEM, VA  
COVER

DESIGNED BY: RWS	DRAWN BY: RES	CHECKED BY: RWS
SCALE: As shown		PLAN NO.:
COMM. NO. 2023010	DATE: OCTOBER 11, 2023	SHEET 1 OF 15

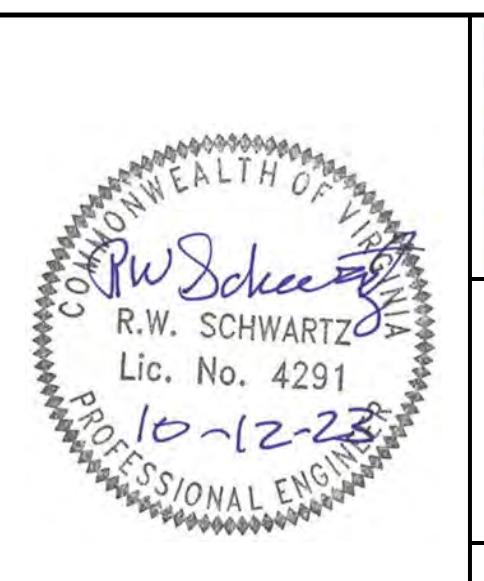


ESTIMATED QUANTITIES			
Item	Units	Quantity	
Mobilization	LS	1	
Maintenance of Traffic	LS	1	
Abutment Back Wall Reconstruction $\otimes$	LF	36	
Silicone Joint Sealer (1 1/16"±)	LF	36	
Sidewalk Tension Assembly $\otimes$	EA	28	
Scab Plate Assembly $\otimes$	EA	12	
Curb Block Replacement	EA	6	
Shotcrete, Type B	SF	100	
Strut Repair	LS	1	

⊗ – Denotes items to be paid for on basis of plan quantities in accordance with current road and bridge specifications.

LS = Lump Sum

INDEX OF SHEETS	
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1	COVER
2	PLAN, QUANTITY TABLE & INDEX OF SHEETS
3	GENERAL NOTES
4	PARTIAL TRANSVERSE SECTION (ABUTMENTS & PIERS)
5	PARTIAL TRANSVERSE SECTION (SPLICES, SW-4 & SW-11)
6	PARTIAL TRANSVERSE SECTION (W 8X17 STRUT) & STRUT REPAIR
7	SCAB PLATE ASSEMBLY & SHOTCRETE DETAIL
8	SIDEWALK TENSION ASSEMBLY
9	ABUTMENT BACK WALL RECONSTRUCTION, SILICONE JOINT SEALER (1 1/16"±) & CURB BLOCK REPLACEMENT
10	STAGE 1 TRAFFIC CONTROL
11	STAGE 1 TRAFFIC CONTROL
12	STAGE 1 TRAFFIC CONTROL
13	STAGE 2 TRAFFIC CONTROL
14	STAGE 2 TRAFFIC CONTROL
15	STAGE 2 TRAFFIC CONTROL



**SCHWARTZ & ASSOCIATES, INC.  
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LYNCHBURG, VA.**

**APPERSON DRIVE OVER ROANOKE RIVER  
CITY OF SALEM, VA  
PLAN, QUANTITY TABLE &  
INDEX OF SHEETS**

	DESIGNED BY: RWS	DRAWN BY: RES	CHECKED BY: RWS
	SCALE: NOT TO SCALE		PLAN NO.: NA
COMM. NO. 2023010	DATE: OCTOBER 11, 2023	SHEET: 2	OF 15

**GENERAL NOTE:**

Widths: 5'-0" sidewalk, 40'-0" Roadway, 5'-0" sidewalk. Overall width 50'-0" face-to-face of rails.

Span layout: 60'-7½" - 75'-0" - 60'-7½" steel beam spans.

Capacity: H20 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2020.

Design: AASHTO Specifications for Highway Bridge, 1941.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2016; including all current revisions.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

This project is to be constructed in accordance with the Virginia Department of Transportation Work Area Protection Manual, August 2011 and current revisions.

All reinforcing steel shall be deformed and shall conform to ASTM A615 Grade 60 except for reinforcing steels noted as CRR (corrosion resistant reinforcement) which shall conform to applicable specifications noted on the special provisions. All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

Corrosion resistant reinforcing (CRR) steels shall conform to one or more of the three classes listed in the special provision. The minimum yield strength shall be 100 ksi for low carbon/chromium and 60 ksi for stainless clad steel or solid stainless steel. The class(es) of CRR steel(s) required on the project is/are noted on plan sheets and in the reinforcing steel schedule. Corrosion resistant reinforcing steel, Class II or Class III, may be substituted for Class I. Corrosion resistant reinforcing steel, Class III, may be substituted for Class II.

Bridge No. of existing bridge is 1800.

Existing as-built bridge plans (Plan no. 086-07) are available from Schwartz & Associates, Inc..

The locations and limits of all surface repairs on superstructure shall be determined by the Engineer.

All existing concrete removed shall be removed to horizontal and vertical planes and to sound concrete and pneumatic hammers shall be worked at an angle of 45 to 60 degrees.

Contractor shall exercise extreme caution when removing existing concrete so that none of the portion of the structure or reinforcing steel to remain in place is damaged. Existing concrete shall be removed with pneumatic hammer (max. weight 35 lbs.) except use 15 lb. hammer for final trim work. Pneumatic hammers shall be worked at an angle of 45 to 60 degrees (Section 412.03 (a)).

No open flames or welding will be allowed on this project due to a gas line that is attached to the bridge.

The Contractor shall submit to the Engineer a detailed plan for containing construction related material (i.e. sand & shot blasting media, concrete debris, uncured concrete, tools, materials, etc.) and preventing its falling onto or around the Roanoke River, or any other area accessible to pedestrians. This work shall be included in the price bid for appropriate bid items.

Bolt holes in new material that are required to match the existing holes shall be drilled full size in the field using the existing holes as a template.

The contractor shall use all new bolts, washers and nuts.

The Contractor shall plan and execute the work such that no more than 10,000 square feet of land disturbance occurs at any given time.

The Contractor shall provide the Engineer safe access to all areas of work throughout course of construction and for final inspection after all work is complete.

All areas disturbed during this project, not covered by other notes, shall be restored to its original or better conditions as directed by the engineer. All costs for this work shall be included in other items.

All temporary erosion and siltation control shall be in accordance with the Virginia Erosion and Sediment Control Handbook, these drawings & Contract Documents.

All costs for maintenance of all erosion and siltation control items, as directed by the Engineer, shall be included in the appropriate bid items.

All costs for covering or removing existing signs during construction & uncovering or re-erecting signs at project completion shall be included in the lump sum bid item "Maintenance of Traffic."

Dimensions of existing structures shown on the plans are taken from as-built drawings dated August 25th, 1942. The contractor shall verify in the field all dimensions necessary for construction of the project. Plans for the existing bridge are available from Schwartz & Associates, Inc..

Before proceeding with any work within or adjacent to the existing structure, the contractor shall become familiar with existing conditions. During construction operations, it shall be the contractor's responsibility to maintain the integrity of the existing structure where the existing structure is modified to accommodate new construction, and to protect from damage those portions of the structure which are to remain.

All of the concrete within a span lane that is to be removed shall be removed before recasting any concrete within that span lane unless otherwise directed by the engineer.

The use of stay-in-place forms will not be permitted.

Contractor shall take extreme caution in his operations so that no damage is done to utilities in the vicinity of bridge or on the bridge.

The contractor shall verify, in field all dimensions, skew and elevations before beginning construction and before submitting shop drawings.

All open repair areas shall be covered completely with  $\frac{1}{2}$ " minimum thick steel plates before contractor leaves the site each day (as directed by the engineer) and uncovered when the contractor returns. All costs shall be included in other bid items.

**I. TRAFFIC CONTROL:**

Cost of pavement line eradication and pavement message marking eradication (permanent & temporary) shall be included in the lump sum bid item "Maintenance of Traffic."

All new concrete shall have obtained full design strength before allowing traffic on new portion of structure.

Bridge shall be constructed in two stages as shown on these contract drawings.

**II. CONCRETE**

All concrete used for repairs, except for shotcrete repairs, shall be A4 P&R.

Cost of adhesive anchors shall be included in unit price bid for item where used.

In areas of the structure where existing concrete is to be removed and replaced by new class A4 concrete, and where new concrete is cast against existing concrete, the requirements of Section 412 of the Specifications shall apply, except as amended below:

1. Whenever existing reinforcing bars are exposed, concrete shall be removed no less than 1 inch behind the bar.
2. Existing concrete shall be removed as shown on the plan details or as directed by the Engineer, to horizontal and vertical planes only, and to sound concrete, taking care not to damage the existing reinforcing steel.
3. Within twenty-four hours prior to placing new concrete, exposed reinforcing steel and faces of existing concrete shall be cleaned by abrasive blast cleaning. Reinforcing steel shall be blasted until corroded steel material and foreign material are removed to clean white metal. Concrete material shall be blasted for a time sufficient to expose sound concrete and coarse aggregate.
4. Immediately prior to placing new concrete, exposed reinforcing steel and faces of existing concrete shall be cleaned of all dust and debris.
5. The perimeter of all surface repair areas shall be saw cut rectangular pattern.

All costs related to bonding construction joints, as shown on these contract drawings, shall be included in cost bid for that concrete item.

The locations and limits of all surface repairs shall be determined by the Engineer.

Prior to casting Concrete and Shotcrete, contractor shall pre-wet existing concrete surfaces with water for a minimum of 2 hours. All costs shall be included in the appropriate item.

**III. BLASTING - GENERAL**

All concrete areas blasted shall be blasted for a time sufficient to expose sound concrete and coarse aggregate, unless otherwise noted. They shall be blasted using an abrasive material or a mixture of water (8,000 psi min.) and abrasive.

All reinforcing steel areas blasted shall be blasted until all concrete, rust, scale, corroded steel material and foreign material are removed to clean white metal.

**IV. REINFORCING STEEL:**

When drilling for adhesive anchors, extreme caution shall be taken in order that existing reinforcing steel is not damaged. Any reinforcing steel damaged shall be corrected at the Contractor's expense.

Great care shall be taken during the removal of concrete in the superstructure in order that the existing reinforcing steel to be re-used is not damaged.

Any existing reinforcing steel that is to remain in structure and is damaged in superstructure remodeling, as determined by the engineer, shall be corrected at the Contractor's expense.

All exposed reinforcing steel in concrete remodeling areas shall be blasted and covered with bonding epoxy immediately prior to recasting concrete.

**V. EPOXIES:**

All new concrete cast in structure shall be bonded to existing concrete with bonding epoxy (except shotcrete). Bonding epoxy used on structure shall be Sika Armatec 110 (or approved equivalent) unless otherwise noted on plans.

All costs related to bonding construction joints, as shown on these contract drawings, shall be included in cost bid for other items.

**VI. STRUCTURAL STEEL:**

Regardless of the relative humidity under the bridge deck, the contractor will not be permitted to apply paint to structural steel when there is condensation on the structural steel or when it is raining.

The contractor shall immediately notify the engineer of any cracks found in structural steel while working on this project.

All structural steel including , Strut Repair, Bolts, Nuts, Washers, Sidewalk Tension & Scab Plate Assemblies, shall be painted with Paint System B and Finish Color shall Match existing Bridge Color.

All structural steel including , Sidewalk Tension & Scab Plate Assemblies shall be Shop Primed.

**VII. INCIDENTALS:**

The locations of existing utilities, including underground utilities, is indicated on the drawings insofar as their existence and location were known at the time of preparation of the drawings. However, nothing in these contract documents shall be construed as a guarantee that such utilities are in the location indicated or that they actually exist, or that other utilities are not within the area of operations. The Contractor shall make all necessary investigations to determine the existence and locations of such utilities. The Contractor shall pay for any damage to and for maintenance and protection of existing utilities and structures.

All costs for grading, shaping, seeding, fertilizing, liming, overseeding, furnishing & placing topsoil and mulching, in disturbed areas of the project shall be included in other bid items. Contractor shall replace all damaged shrubs, flowers, etc. any shrubs or flowers damaged shall be replaced with the original size and type that was damaged. All costs shall be included in other bid items.

The costs of any necessary construction surveying shall be included in unit price bid for other items in contract.

Silicone Joint Sealer shall be Black Color.

**VIII. OPERATIONS:****1. SHOTCRETE:**

The Contractor shall prepare a minimum of 100 sq. ft. of the shotcrete areas so that they will be ready for viewing at one time. Contractor shall then shotcrete a minimum of 100 sq. ft. of the areas in one continuous operation.

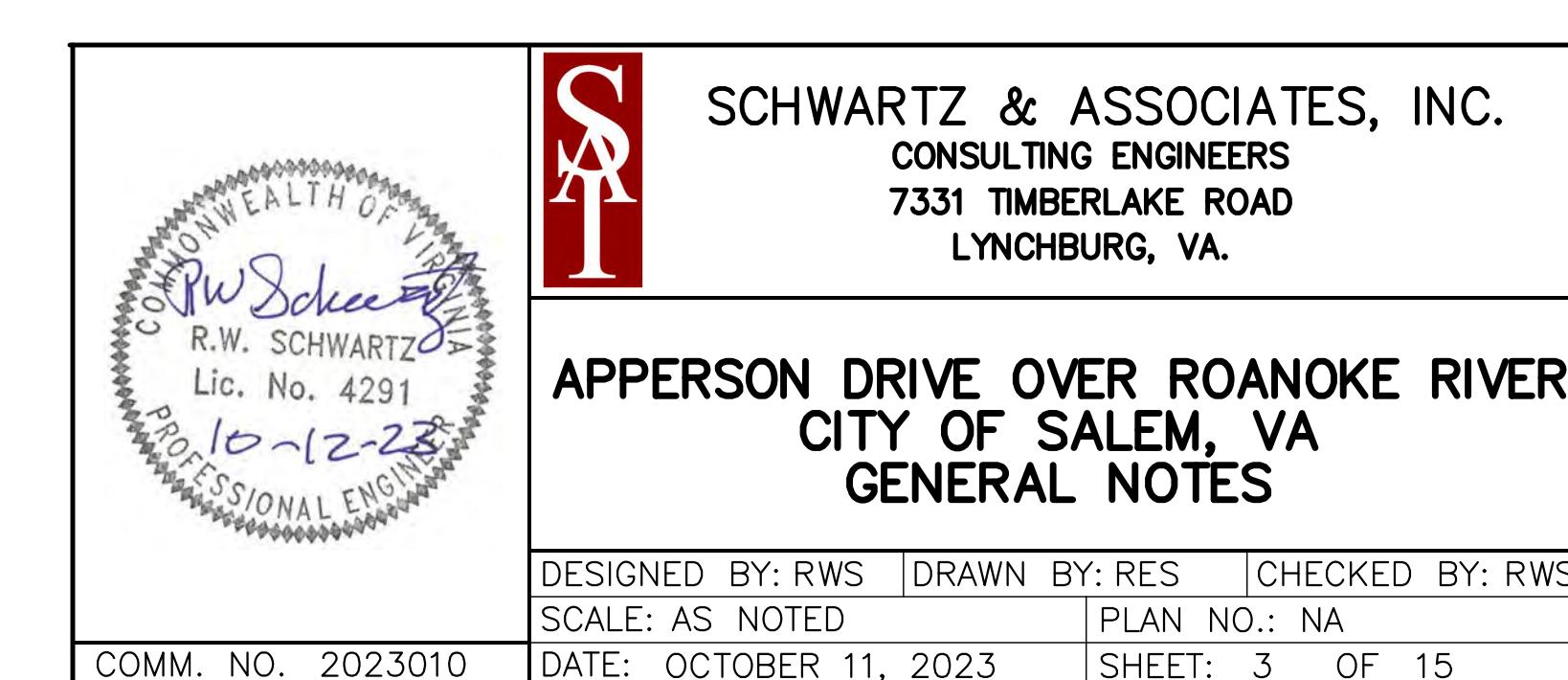
**2. CLASS A4 CONCRETE:**

All Class A4 concrete cast in each repair stage (Stage 1 or 2) shall be cast in no more than one continuous operations per stage.

**SEQUENCE OF CONSTRUCTION:**

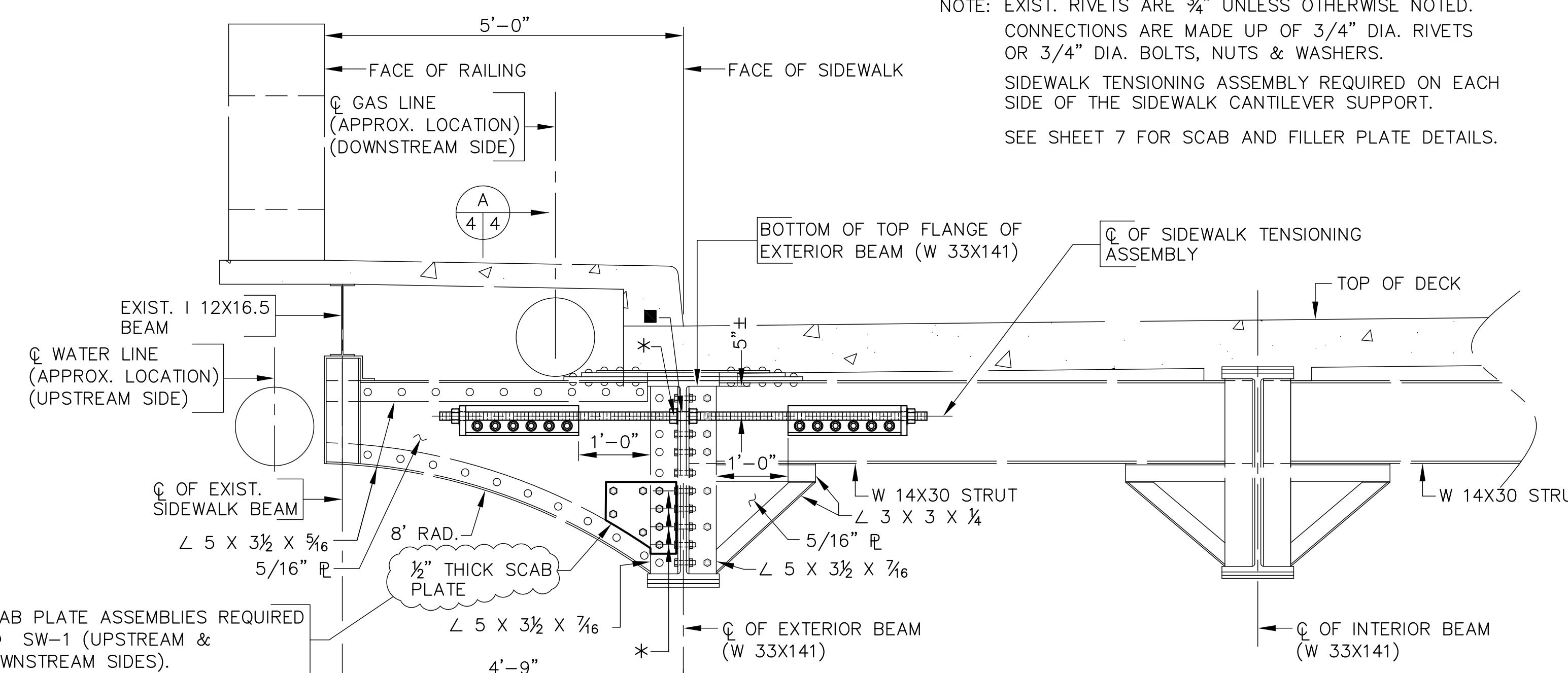
1. INSTALL STAGE 1 TRAFFIC CONTROL.
2. ABUTMENT BACK WALL RECONSTRUCTION.
3. STRUT REPAIR.
4. INSTALL SCAB PLATE ASSEMBLIES.
5. INSTALL SIDEWALK TENSION ASSEMBLIES.
6. PAINT SCAB PLATE AND TENSION ASSEMBLIES.
7. SHOTCRETE AND CURB BLOCK REPLACEMENT.
8. INSTALL SILICONE JOINT SEALER.
9. REMOVE STAGE 1 TRAFFIC CONTROL AND INSTALL STAGE 2 TRAFFIC CONTROL.
10. REPEAT STEPS 2, 4, 5, 6, 7 & 8.
11. COMPLETE ALL INCIDENTAL ITEMS.
12. REMOVE ALL TRAFFIC CONTROL.
13. GENERAL CLEAN UP.

UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER IN WRITING, THE CONTRACTOR SHALL PLAN AND PROSECUTE WORK IN ACCORDANCE WITH THE ABOVE NOTED CONSTRUCTION SEQUENCE.



\*— REMOVE EXISTING RIVET OR BOLT, NUT &amp; WASHER.

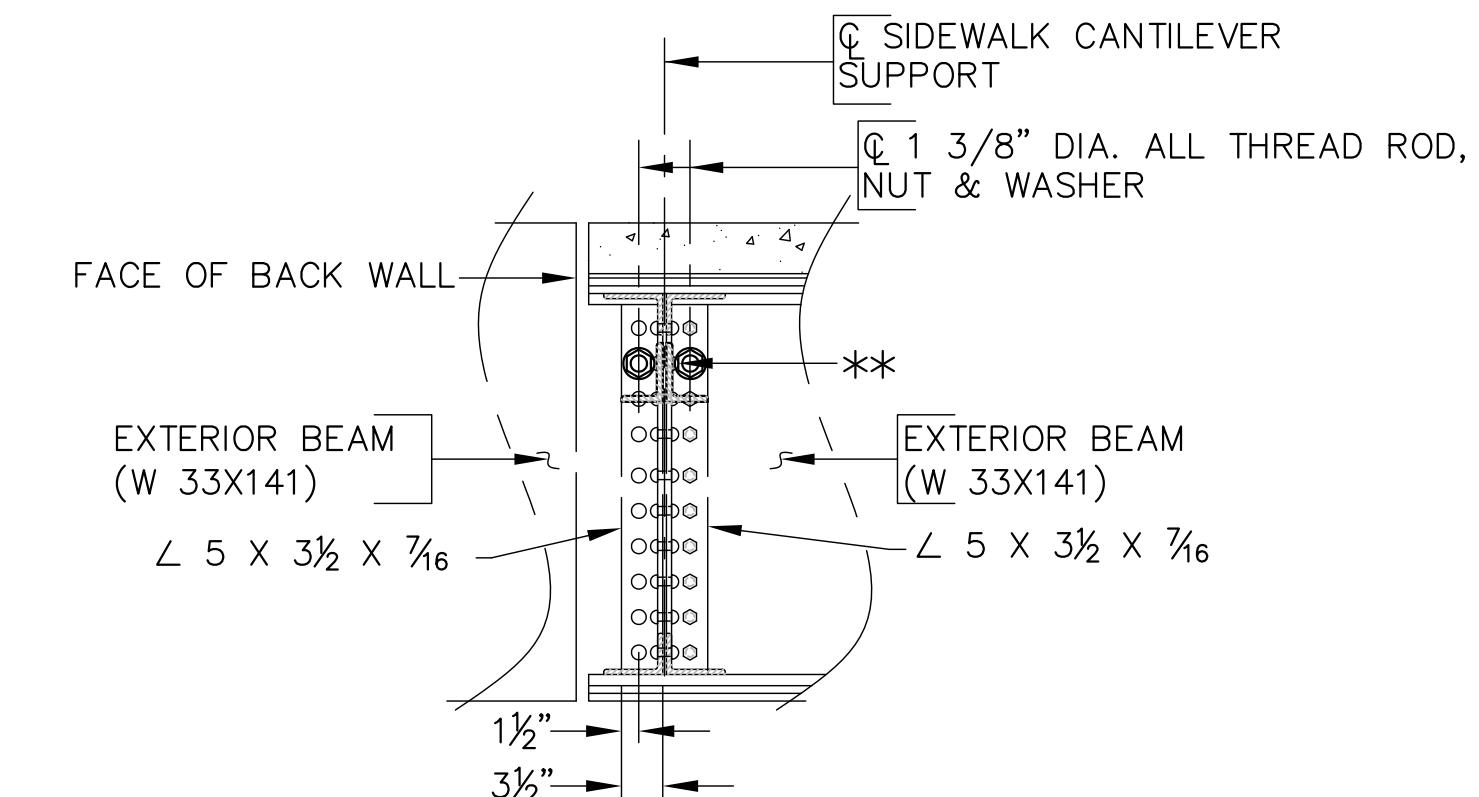
■— CONTRACTOR SHALL ENLARGE EXISTING HOLE TO 1½" DIA.



NOTE: EXIST. RIVETS ARE  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.  
CONNECTIONS ARE MADE UP OF  $\frac{3}{4}$ " DIA. RIVETS  
OR  $\frac{3}{4}$ " DIA. BOLTS, NUTS & WASHERS.  
SIDEWALK TENSIONING ASSEMBLY REQUIRED ON EACH  
SIDE OF THE SIDEWALK CANTILEVER SUPPORT.

SEE SHEET 7 FOR SCAB AND FILLER PLATE DETAILS.

\*\*— IF EXISTING RIVET OR  $\frac{3}{4}$ " DIA. BOLT INTERFERES WITH  
THE NEW  $1\frac{3}{8}$ " DIA. ALL THREAD ROD, THE  
CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR  
BOLT AND REPLACE IT WITH A HS  $\frac{3}{4}$ " DIA. BOLT,  
WASHER AND LOW PROFILE NUT.



SECTION A-414

NOT TO SCALE

PARTIAL TRANSVERSE SECTION  
SIDEWALK CANTILEVER SUPPORT @ ABUTMENTS (SW-1 & SW-14),  
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE:  $3/4"$  =  $1'-0"$ 

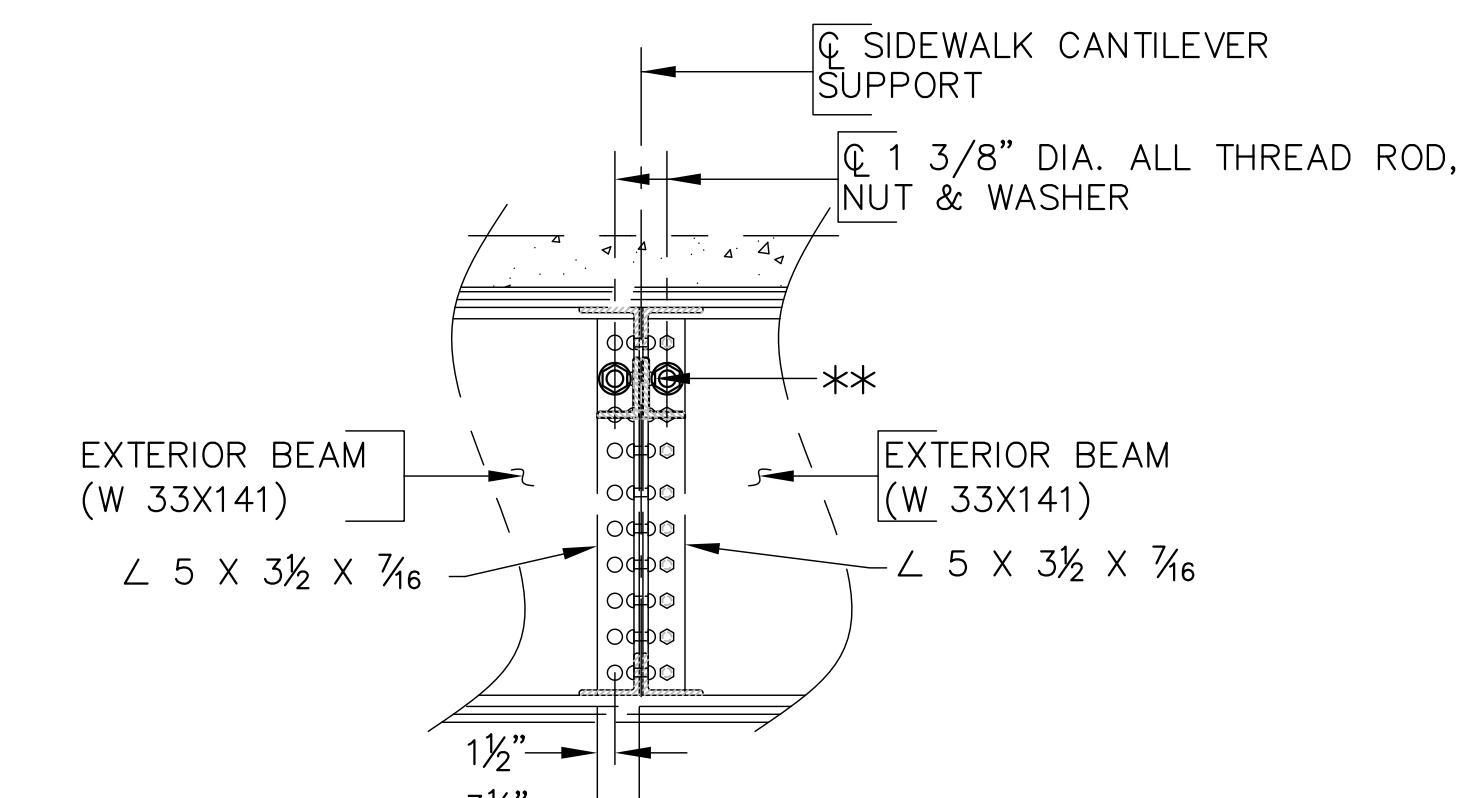
\*— REMOVE EXISTING RIVET OR BOLT, NUT &amp; WASHER.

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CONNECTIONS ARE MADE UP OF  $\frac{3}{4}$ " DIA. RIVETS  
OR  $\frac{3}{4}$ " DIA. BOLTS, NUTS & WASHERS.  
SIDEWALK TENSIONING ASSEMBLY REQUIRED ON EACH  
SIDE OF THE SIDEWALK CANTILEVER SUPPORT.

▲— REMOVE EXISTING STIFFENER PLATES, BOTH SIDES OF  
STRUT.

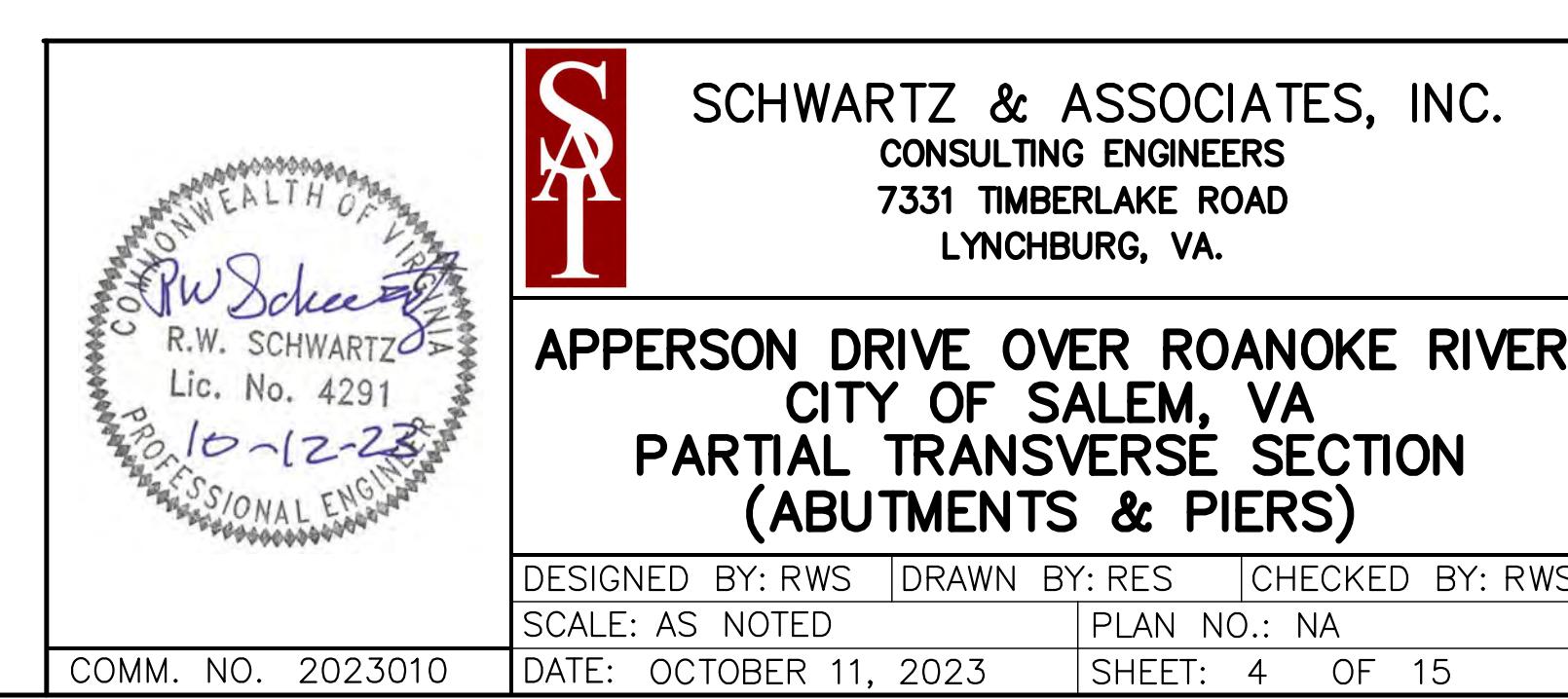
\*\*— IF EXISTING RIVET OR  $\frac{3}{4}$ " DIA. BOLT INTERFERES WITH  
THE NEW  $1\frac{3}{8}$ " DIA. ALL THREAD ROD, THE  
CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR  
BOLT AND REPLACE IT WITH A HS  $\frac{3}{4}$ " DIA. BOLT,  
WASHER AND LOW PROFILE NUT.



SECTION B-414

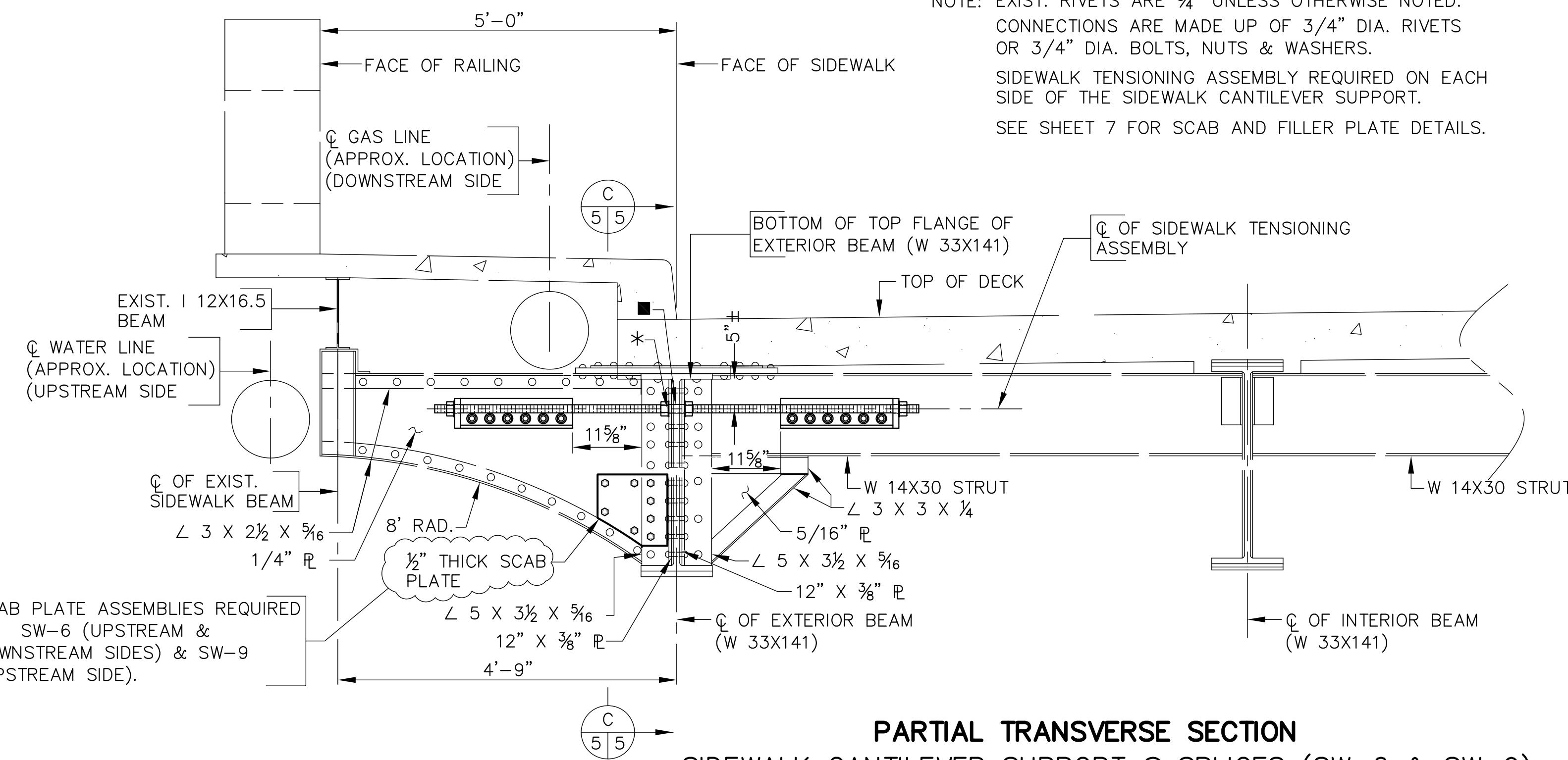
NOT TO SCALE

PARTIAL TRANSVERSE SECTION  
SIDEWALK CANTILEVER SUPPORT @ PIERS (SW-5 & SW-10),  
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE:  $3/4"$  =  $1'-0"$ 

\*— REMOVE EXISTING RIVET OR BOLT, NUT & WASHER.

■— CONTRACTOR SHALL ENLARGE EXISTING HOLE TO 1½" DIA.

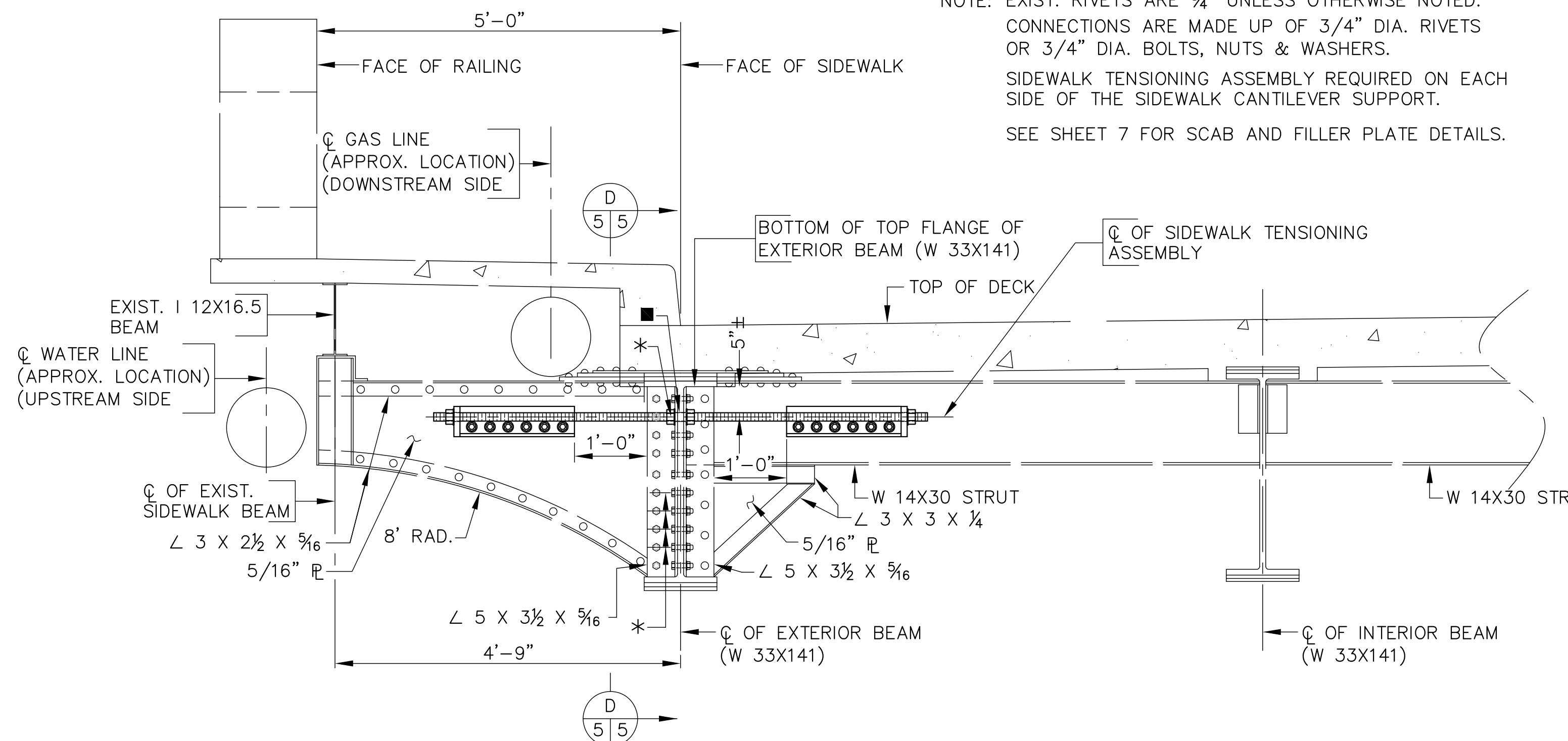


**PARTIAL TRANSVERSE SECTION**  
SIDEWALK CANTILEVER SUPPORT @ SPLICES (SW-6 & SW-9),  
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE: 3/4" = 1'-0"

\*— REMOVE EXISTING RIVET OR BOLT, NUT & WASHER.

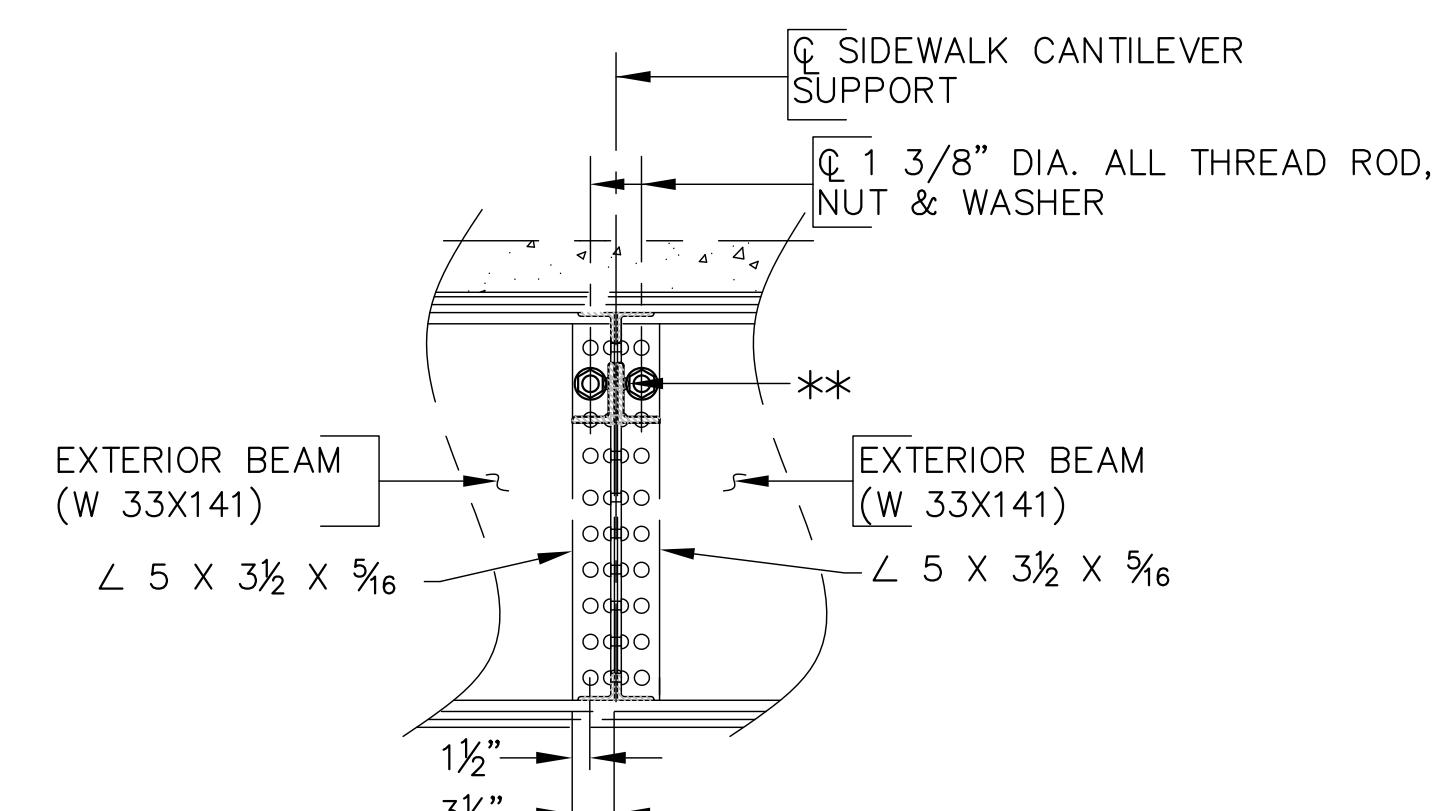
■— CONTRACTOR SHALL ENLARGE EXISTING HOLE TO 1½" DIA.



**PARTIAL TRANSVERSE SECTION**  
SIDEWALK CANTILEVER SUPPORT (SW-4 & SW-11),  
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE: 3/4" = 1'-0"

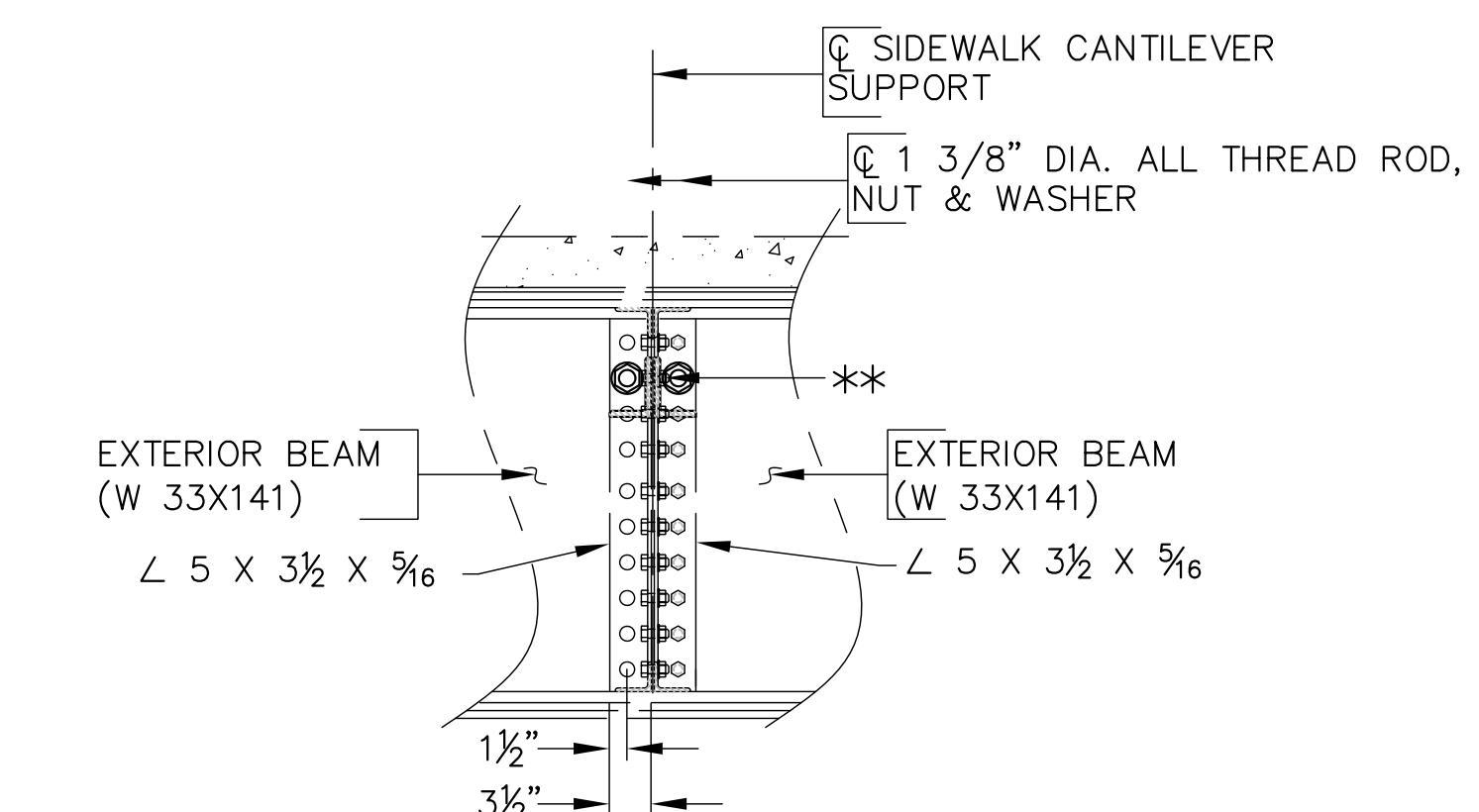
\*\*— IF EXISTING RIVET OR ¾" DIA. BOLT INTERFERES WITH THE NEW 1 ¾" DIA. ALL THREAD ROD, THE CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR BOLT AND REPLACE IT WITH A HS ¾" DIA. BOLT, WASHER AND LOW PROFILE NUT.



**SECTION C 515**

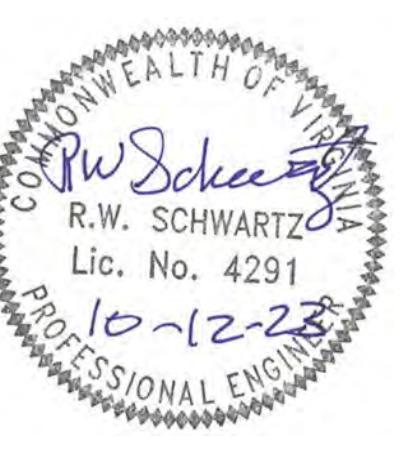
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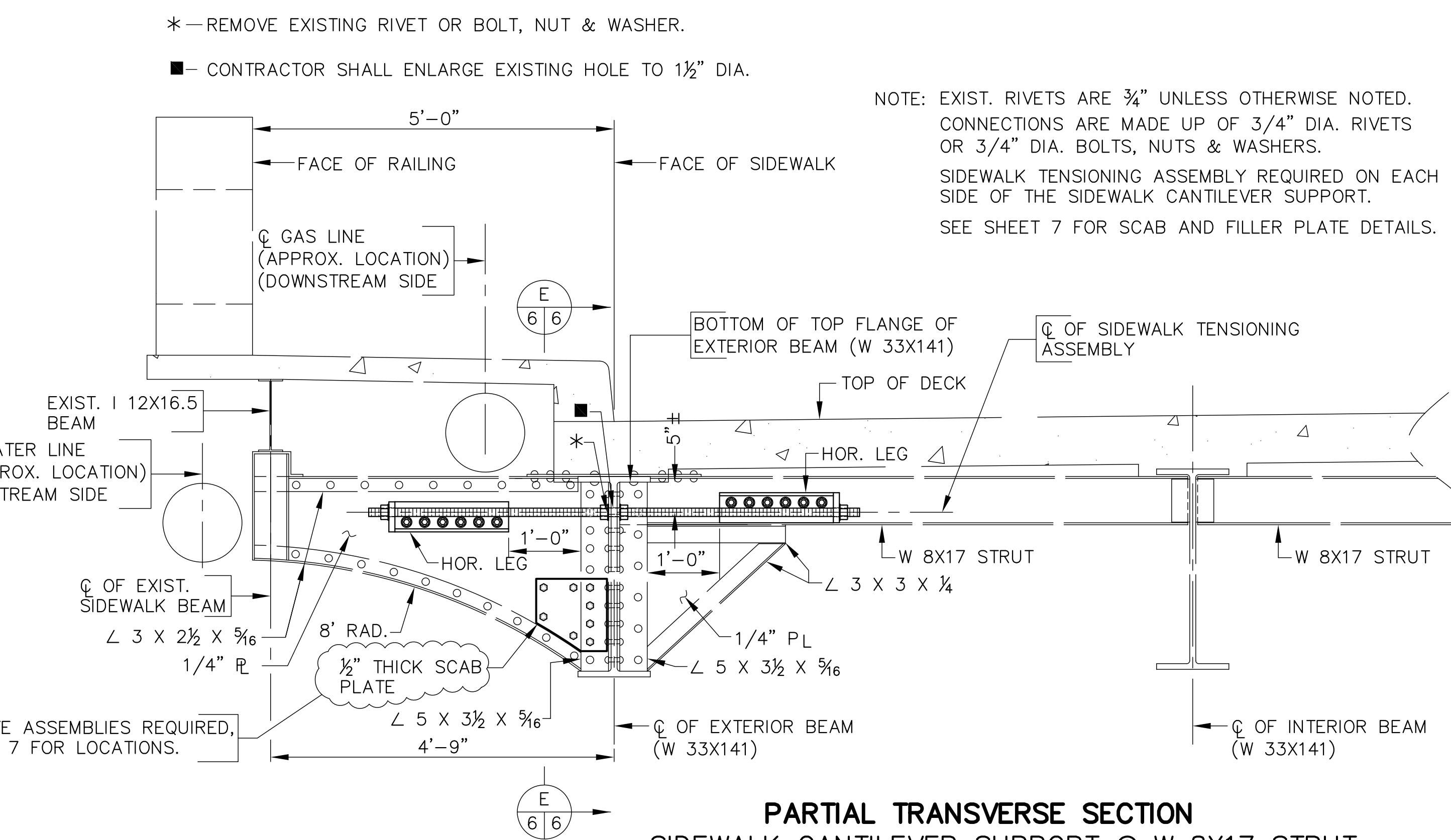
\*\*— IF EXISTING RIVET OR ¾" DIA. BOLT INTERFERES WITH THE NEW 1 ¾" DIA. ALL THREAD ROD, THE CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR BOLT AND REPLACE IT WITH A HS ¾" DIA. BOLT, WASHER AND LOW PROFILE NUT.



**SECTION D 515**

NOT TO SCALE

 <b>R.W. Schwartz</b> Lic. No. 4291 10-12-23 PROFESSIONAL ENGINEER	<b>Schwartz &amp; Associates, Inc.</b> CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA.		
	<b>APPERSON DRIVE OVER ROANOKE RIVER</b>	<b>CITY OF SALEM, VA</b>	<b>PARTIAL TRANSVERSE SECTION</b>
<b>(SPlices, SW-4 &amp; SW-11)</b>			
DESIGNED BY: RWS	DRAWN BY: RES	CHECKED BY: RWS	
SCALE: AS NOTED	PLAN NO.: NA		
COMM. NO. 2023010	DATE: OCTOBER 11, 2023	SHEET: 5	OF 15

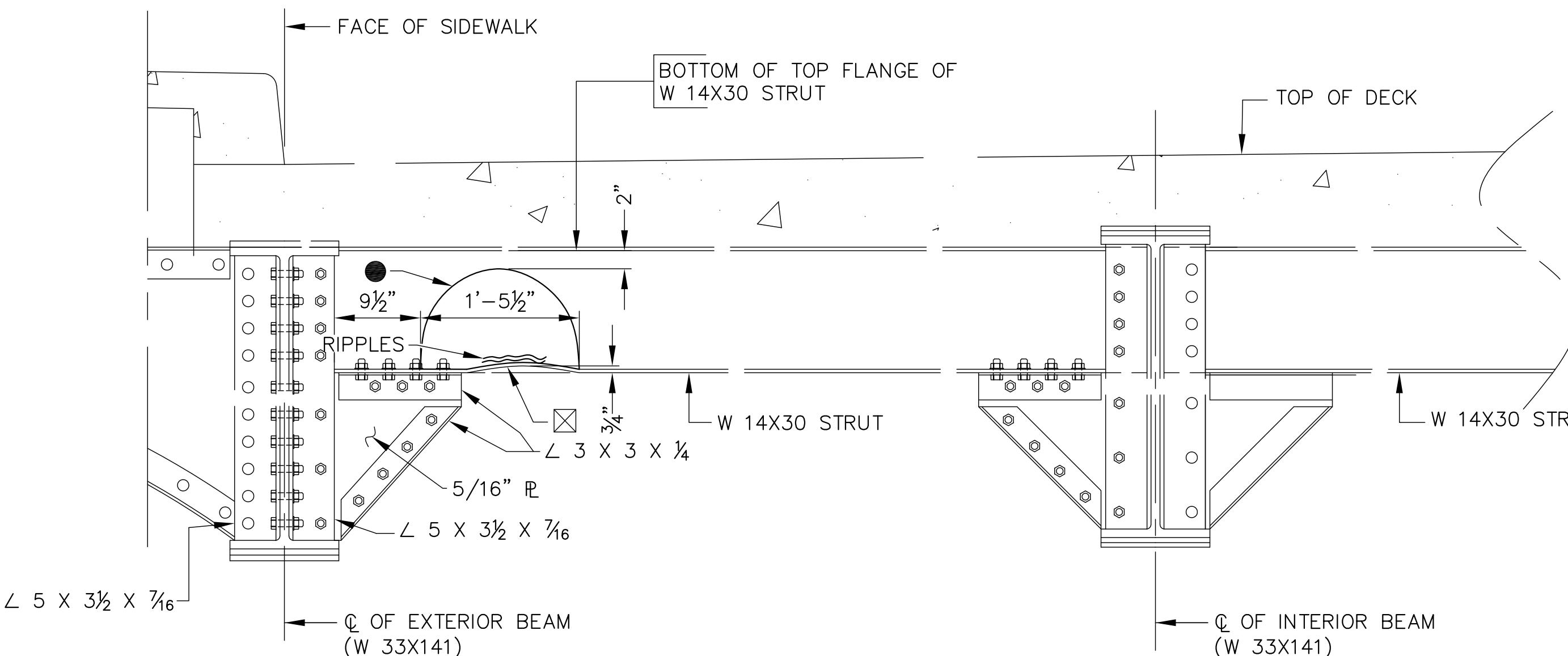


**PARTIAL TRANSVERSE SECTION**  
SIDEWALK CANTILEVER SUPPORT @ W 8X17 STRUT  
(SW-2, SW-3, SW-7, SW-8, SW-12 & SW-13)  
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE: 3/4" = 1'-0"

NOTE: CONTRACTOR HAS THE OPTION TO REPAIR THE EXISTING W 14X30 STRUT OR REPLACE IT WITH A NEW STRUT.  
NO OPEN FLAMES OR WELDING WILL BE ALLOWED DURING REPAIR OR REPLACEMENT DUE TO A GAS LINE THAT  
IS ATTACHED TO THE BRIDGE.

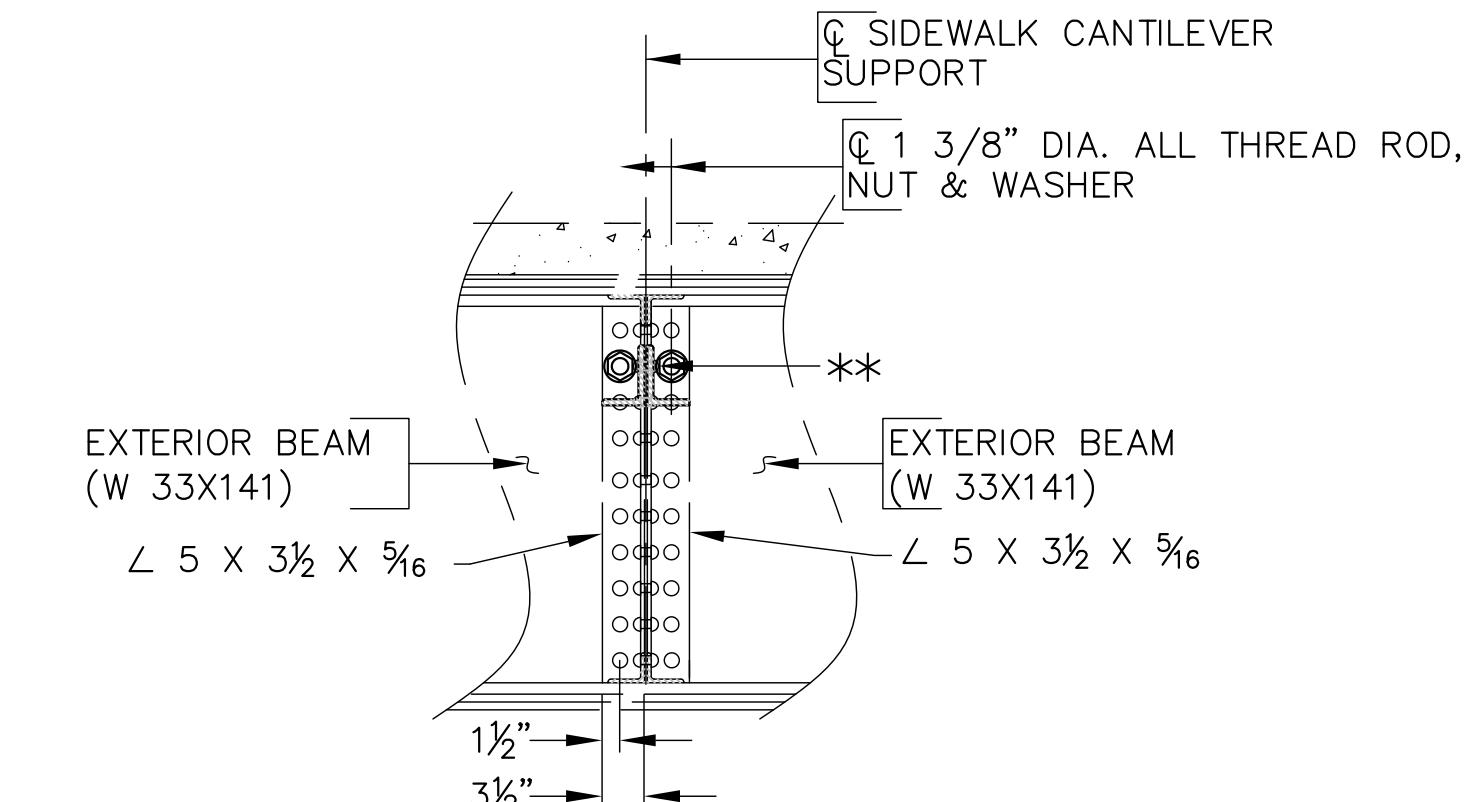
- - EXISTING W 14X30 STRUT WEB IS BOWED 1" TO 1 1/4" TOWARD ABUTMENT B BACK WALL (UPSTREAM SIDE).
- ☒ - BOTTOM FLANGE AN RIPPLES OF EXISTING W 14X30 STRUT IS BOWED 1/2" AWAY FROM ABUTMENT B BACK WALL (UPSTREAM SIDE) TOWARD RIVER.



**STRUT REPAIR**  
ABUTMENT B (SW-14), UPSTREAM SIDE, INTERIOR BAY

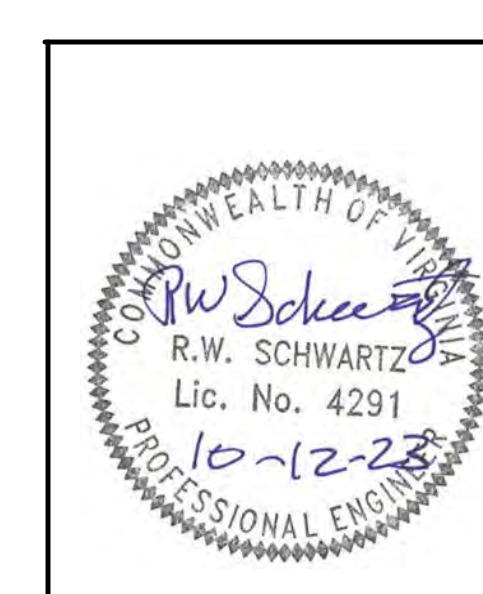
SCALE: 1" = 1'-0"

\*\* - IF EXISTING RIVET OR 3/4" DIA. BOLT INTERFERES WITH  
THE NEW 1 3/8" DIA. ALL THREAD ROD, THE  
CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR  
BOLT AND REPLACE IT WITH A HS 3/4" DIA. BOLT,  
WASHER AND LOW PROFILE NUT.



**SECTION E 6/6**

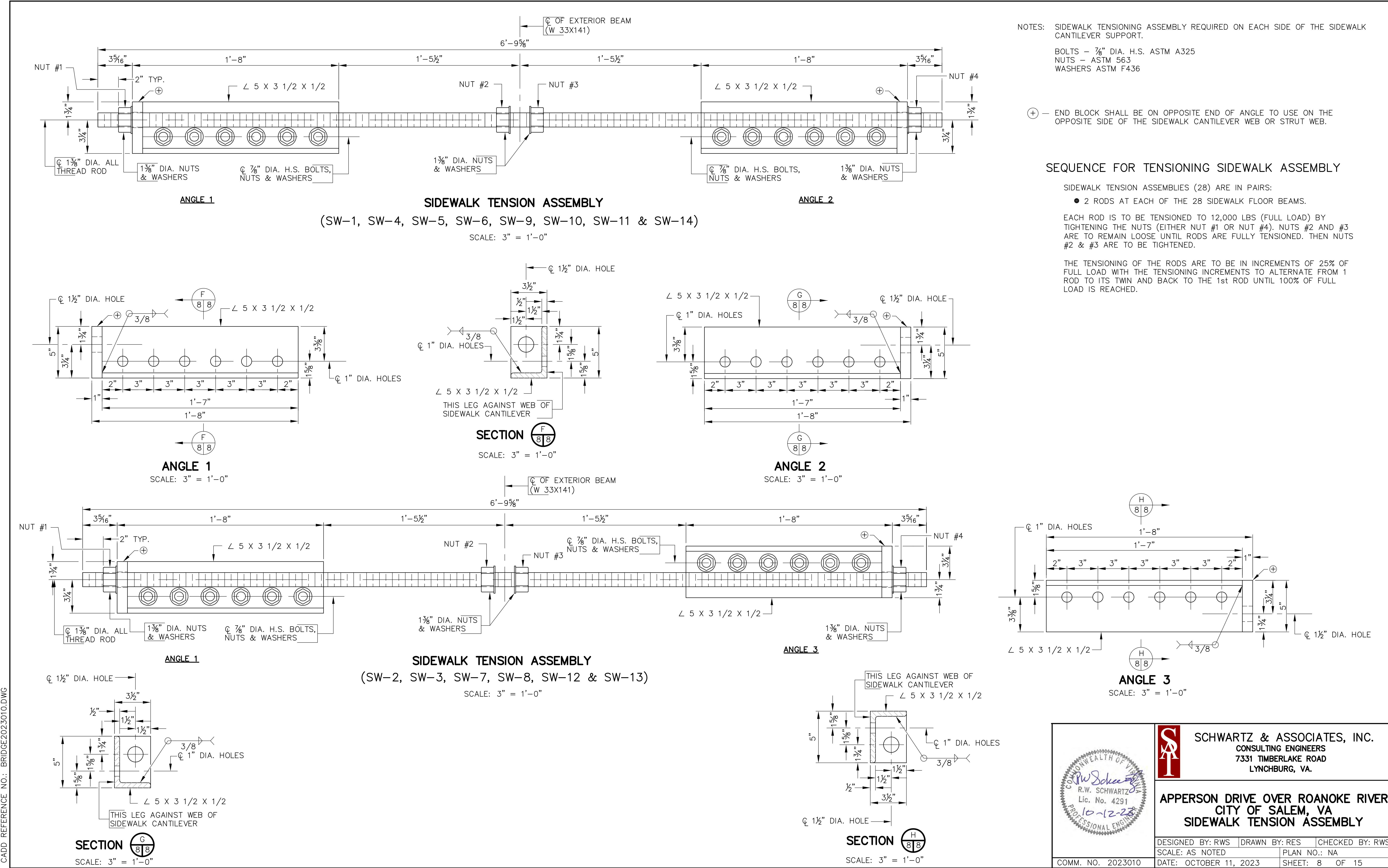
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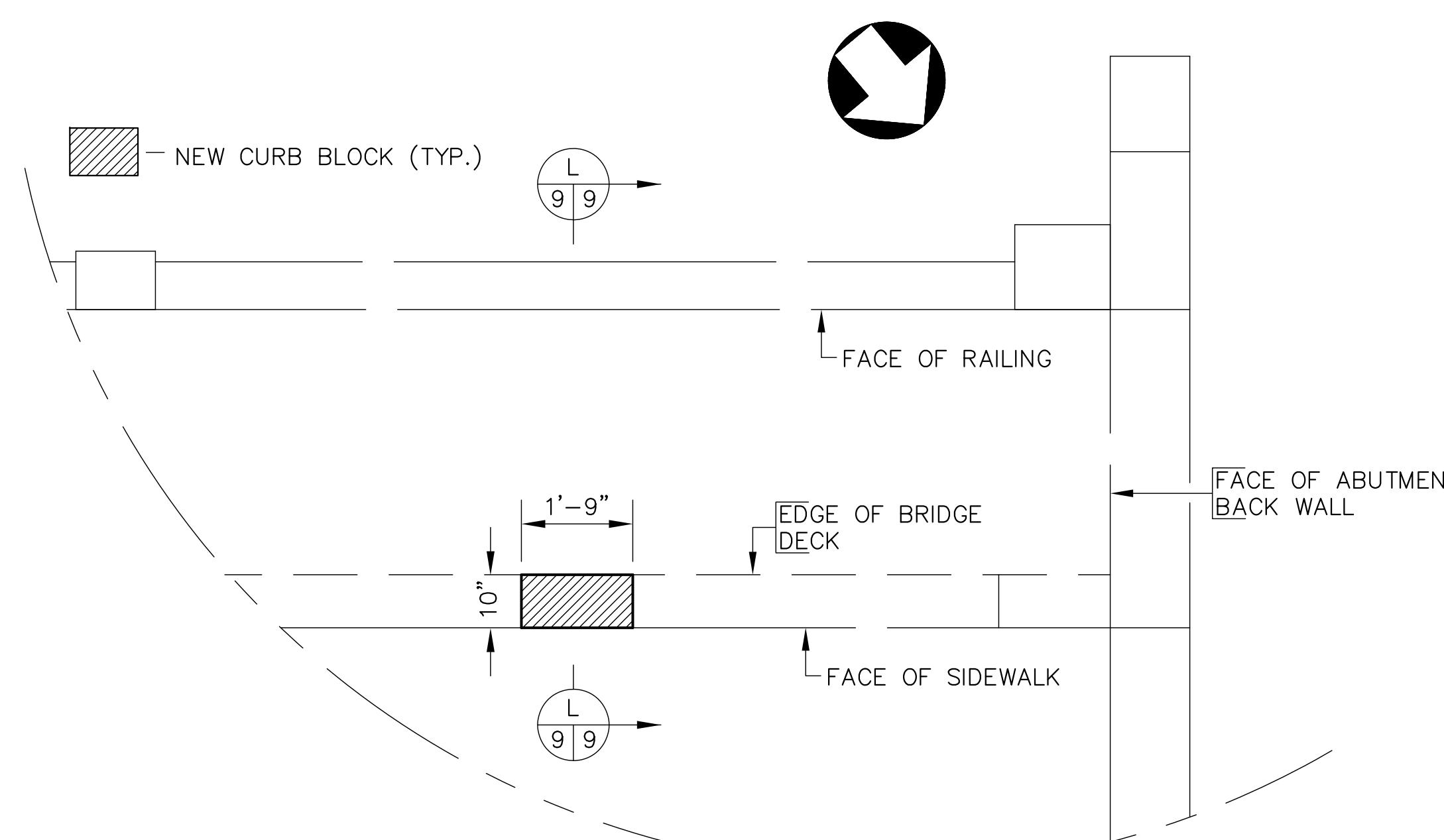
<b>Schwartz &amp; Associates, Inc.</b> CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA.		
<b>APPERSON DRIVE OVER ROANOKE RIVER</b> <b>CITY OF SALEM, VA</b> <b>PARTIAL TRANSVERSE SECTION</b> <b>(W 8X17 STRUT) &amp; STRUT REPAIR</b>		
DESIGNED BY: RWS	DRAWN BY: RES	CHECKED BY: RWS
SCALE: AS NOTED	PLAN NO.: NA	

COMM. NO. 2023010 DATE: OCTOBER 11, 2023 SHEET: 6 OF 15





CADD REFERENCE NO.: BRIDGE2023010.DWG

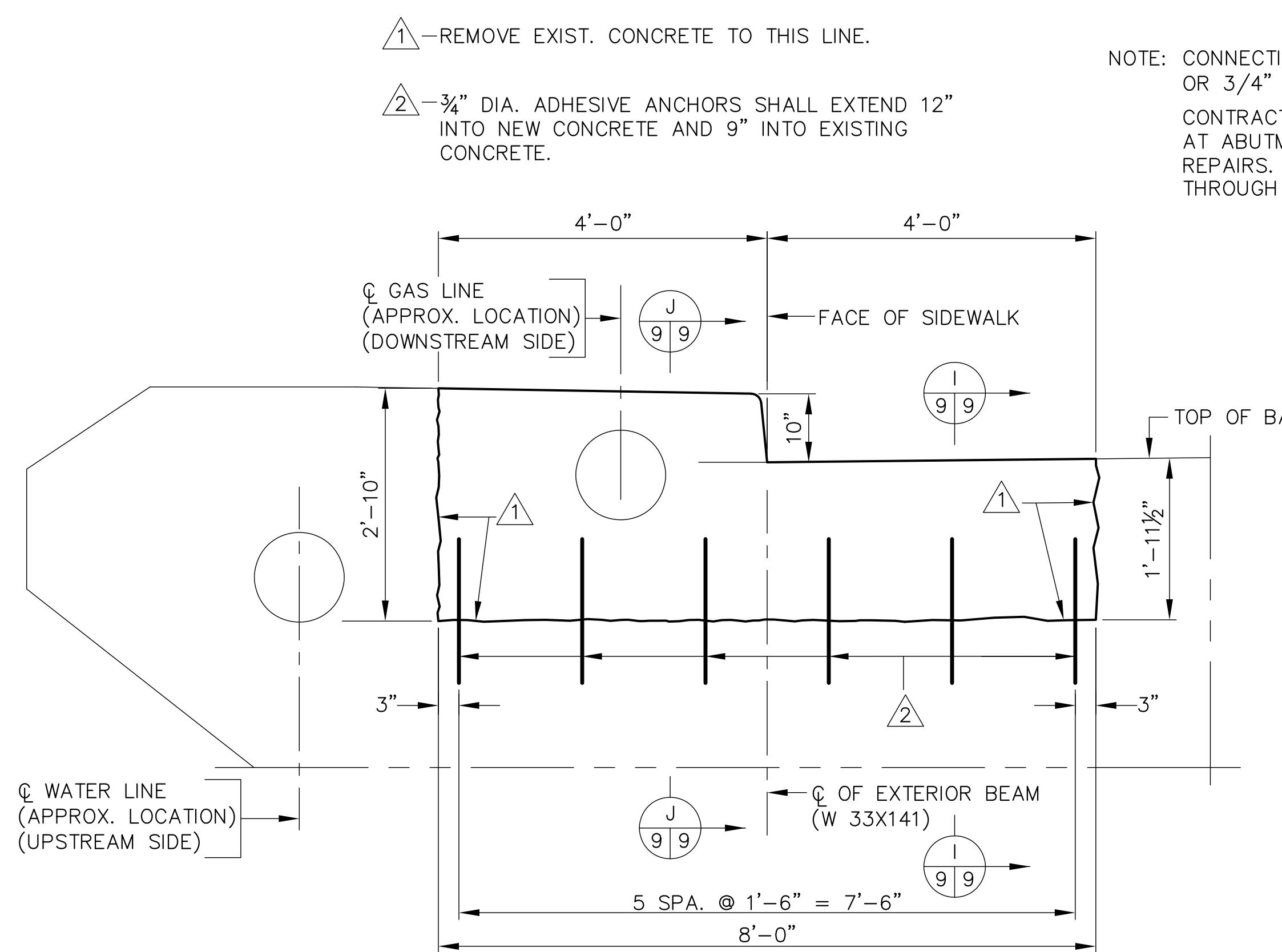


# **PARTIAL PLAN**

## **CURB BLOCK REPLACEMENT**

**(EXISTING REINFORCING NOT SHOWN)**

SCALE: 1/2" = 1'-0"

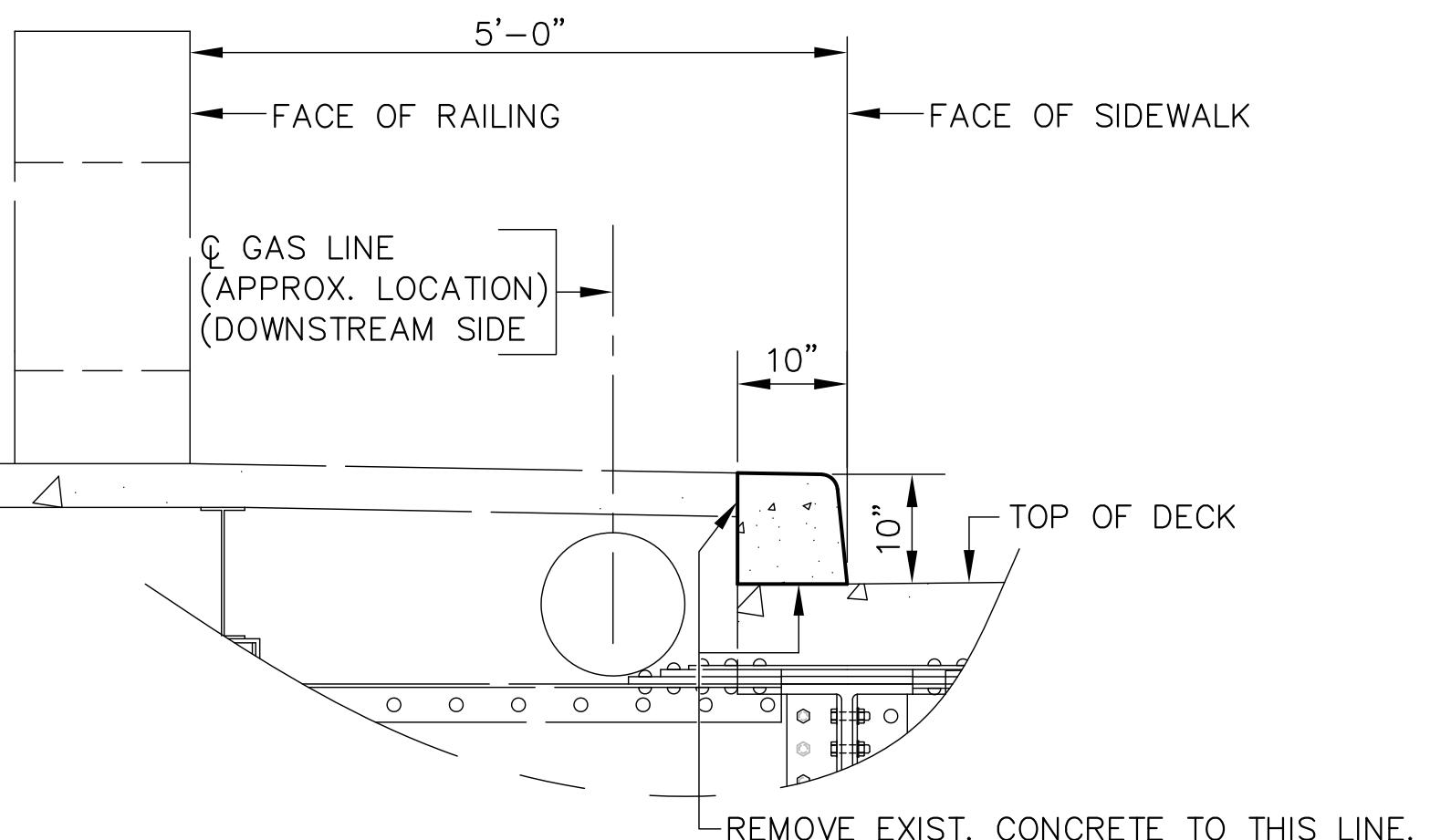


**BACK WALL REPAIR  
ABUTMENT A & B  
(SW-1 & SW-14, BOTH UPSTREAM AND DOWNSTREAM SIDES)**

(EXISTING REINFORCING NOT SHOWN)

SCALE: 3/4" = 1'-0"

NOTE: PRIOR TO REMOVING CURB BLOCK, CONTRACTOR SHALL INSTALL TEMPORARY OAK BLOCKS AND WEDGES ON EACH SIDE OF CURB BLOCK IN OPEN DRAIN SLOTS TO SUPPORT SIDEWALK. AFTER COMPLETION OF CURB BLOCK REPLACEMENT, CONTRACTOR SHALL REMOVE OAK BLOCKS AND WEDGES. CONCRETE SHALL HAVE A MINIMUM OF 85% OF THE CONCRETE DESIGN STRENGTH BEFORE REMOVING OAK BLOCKS



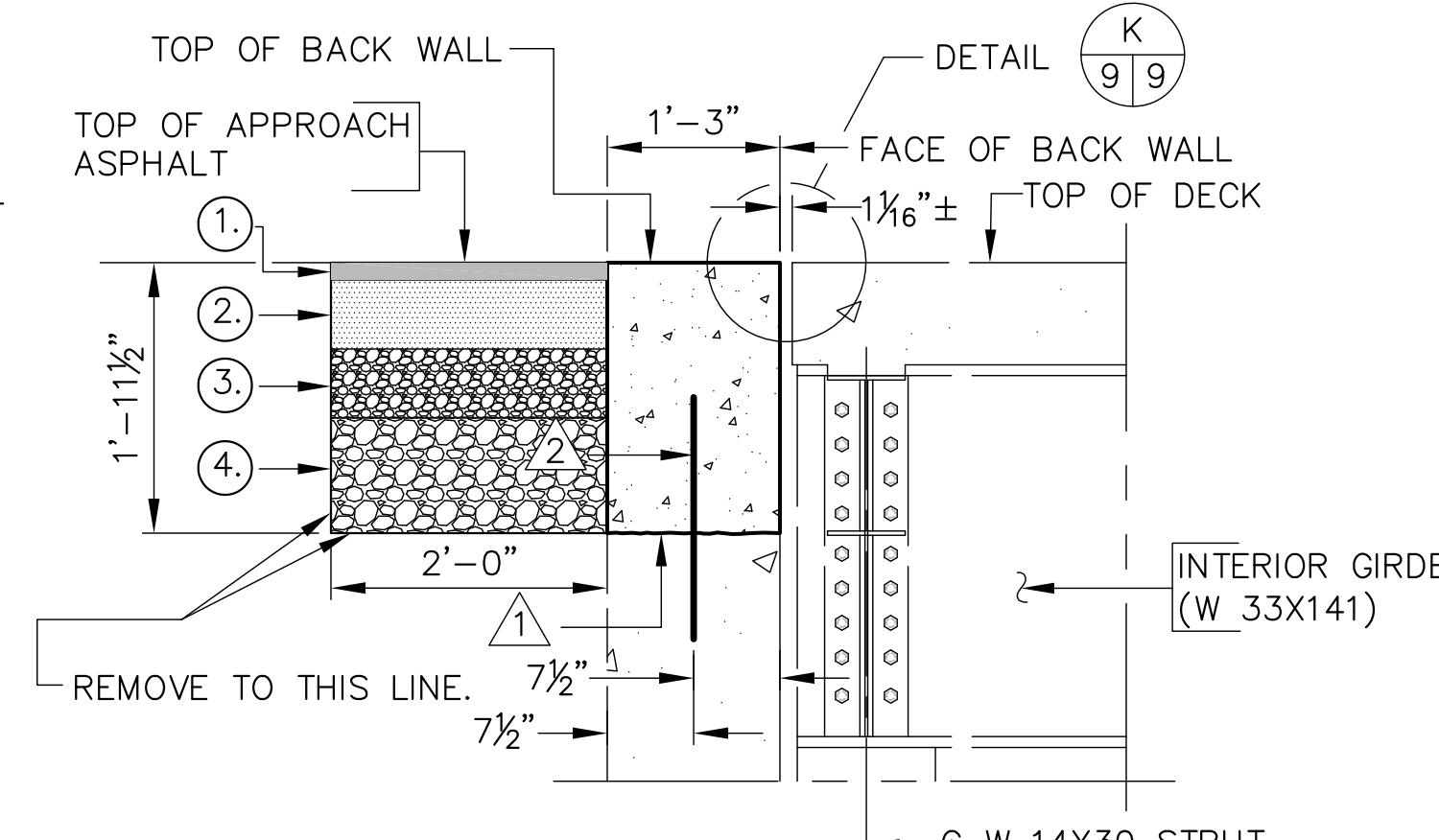
## DETAIL

(EXISTING REINFORCING NOT SHOWN)  
SCALE: 3/4" = 1'-0"

SCALE: 1/2" = 1'-0"

NOTE: CONNECTIONS ARE MADE UP OF 3/4" DIA. RIVETS OR 3/4" DIA. BOLTS, NUTS & WASHERS.

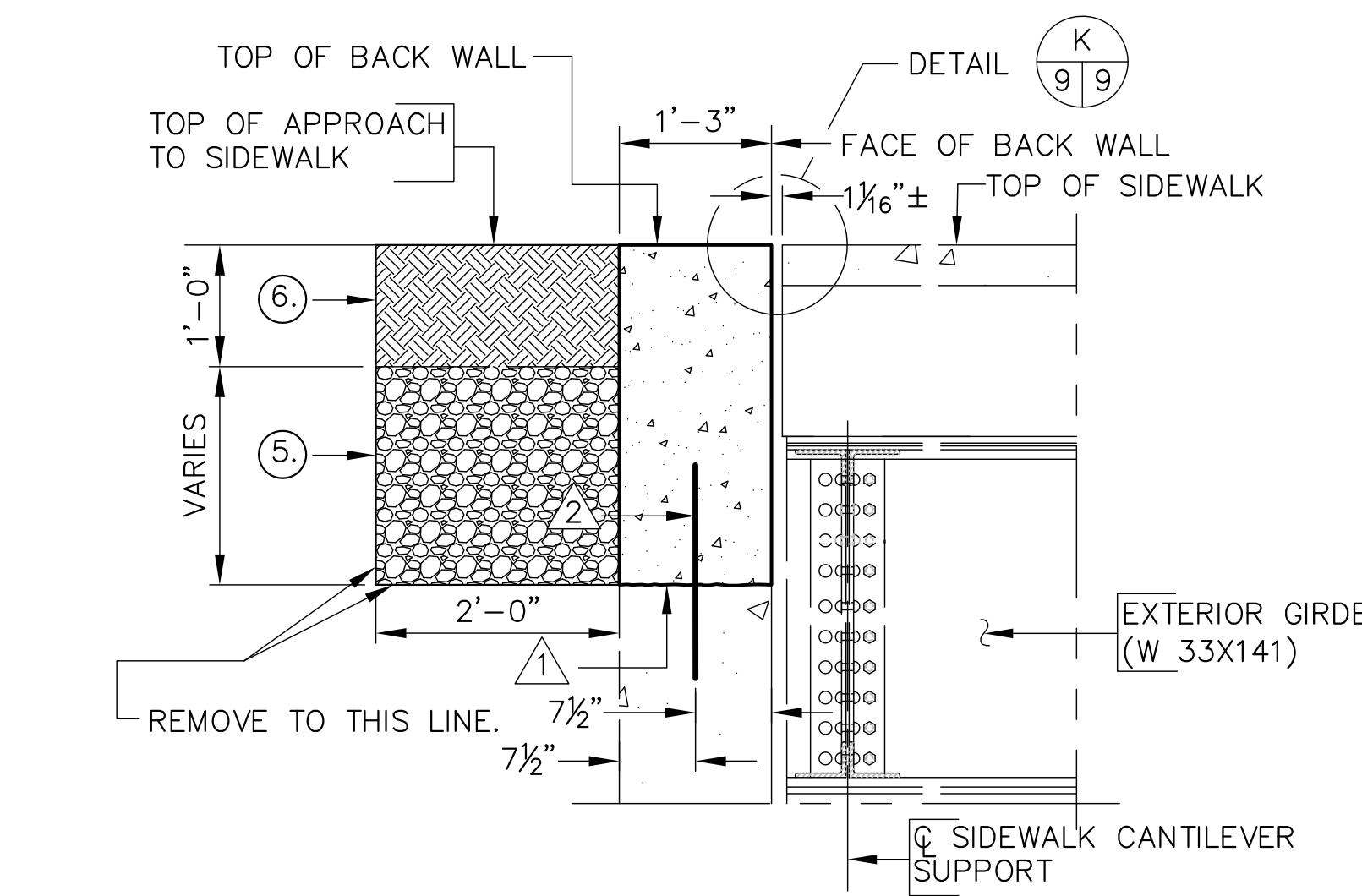
CONTRACTOR SHALL TEMPORARILY SUPPORT GAS LINE AT ABUTMENT A & B (DOWNSTREAM SIDE) DURING REPAIRS. CONTRACTOR SHALL RE-USE UTILITY SLEEVE THROUGH BACK WALL.



# SECTION 9

(EXISTING REINFORCING NOT SHOWN)

SCALE: 3/4" = 1'-0"



# SECTION J 9 9

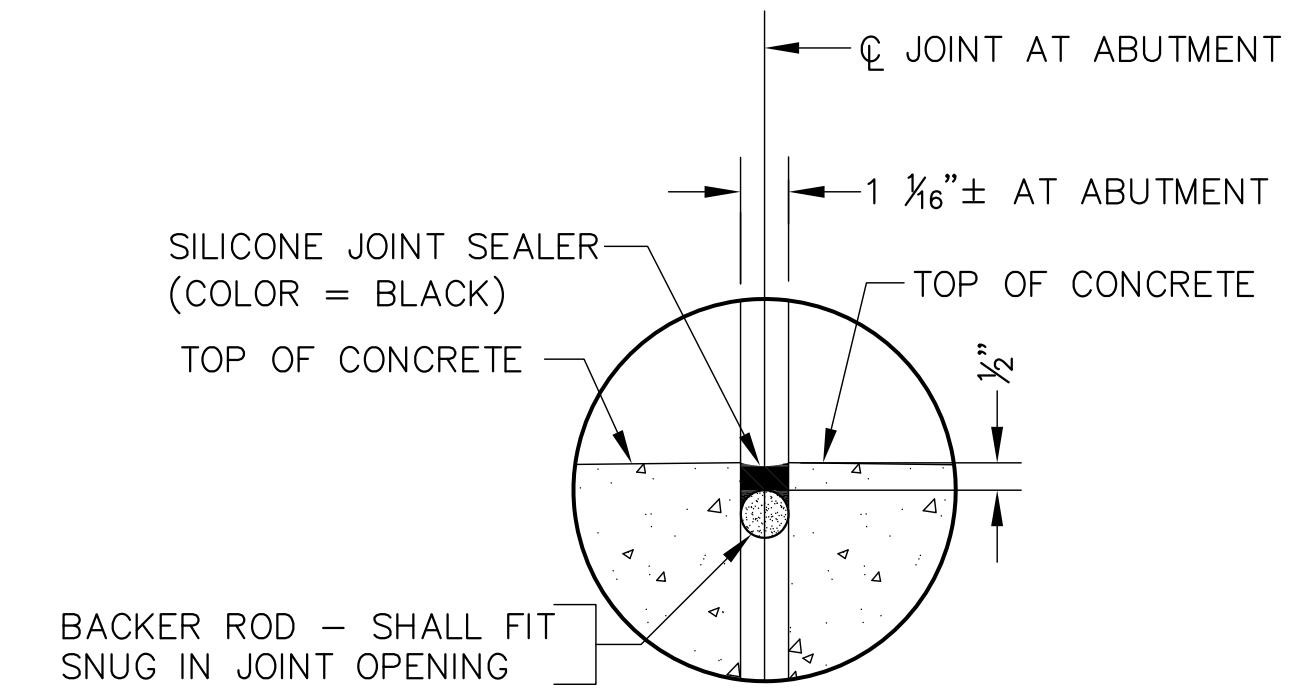
ING REINFORCING NOT SHOWN

SCALE: 3/4" = 1'-0"

SCALE. 5/ + - 1 0

## LEGEND

- ①. ASPHALT CONCRETE, TYPE SM-9.5D (1 1/2")  
(NON-POLISHING AGGREGATE)
- ②. ASPHALT CONCRETE BASE COURSE, TYPE BM-25.0A (6" DEPTH)
- ③. COMPACTED AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21-A (6" DEPTH)
- ④. AGGREGATE BASE COURSE, SIZE NO. 57 STONE (10" DEPTH)
- ⑤. AGGREGATE BASE COURSE, SIZE NO. 57 STONE (VAR. DEPTH)
- ⑥. BACKFILL MATERIAL – ON THE ABUTMENT B (UPSTREAM SIDE) SIDEWALK APPROACH, THE CONTRACTOR SHALL PLACE 2" OF ASPHALT CONCRETE, TYPE SM-9.5D.

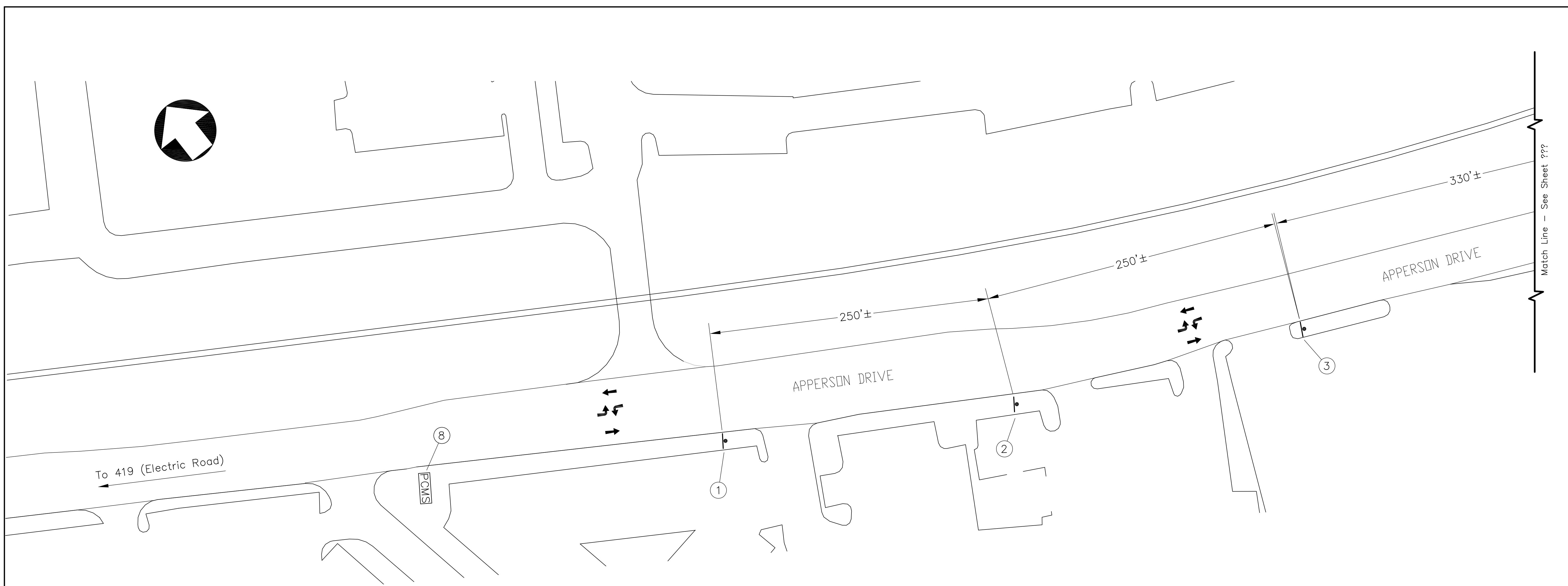


# DETAIL

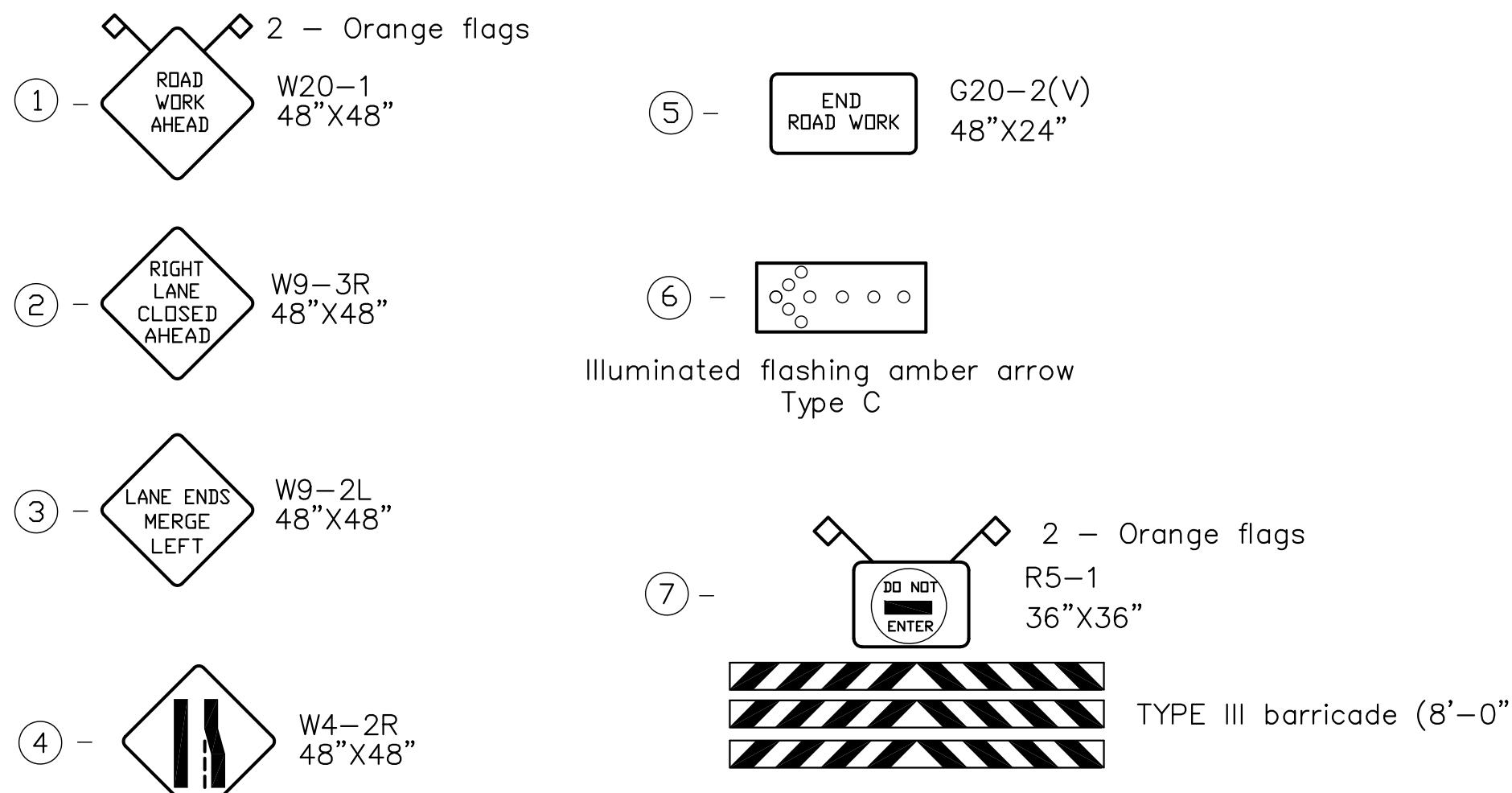
**SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VA**

**IRSON DRIVE OVER ROANOKE RIVER  
CITY OF SALEM, VA  
MENT BACK WALL RECONSTRUCTION,  
CONE JOINT SEALER (1 1/16"±)  
& CURB BLOCK REPAIR ACIMENT**

ID BY: RWS	DRAWN BY: RES	CHECKED BY: RWS
AS NOTED		PLAN NO.: NA



#### LEGEND – REQUIRED SIGNAGE FOR STAGE 1 TRAFFIC CONTROL



#### LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 1 TRAFFIC CONTROL

- (A) 4" Construction Pavement Marking (Type D, Class III – White)
- (B) 8" Construction Pavement Marking (Type D, Class III – White)
- (C) Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- (E) Eradication of pavement line markings

✗ – denotes temporary eradication of pavement message markings (to be done with Type E blackout tape)

● – denotes signs

● – denotes Group 2 channelizing devices

✗ – denotes temporary pavement line eradication

**Note:**  
A minimum 12' clear roadway shall be maintained at all times.

#### PCMS REQUIREMENTS

- \* \* (8) PCMS PORTABLE CHANGEABLE MESSAGE SIGN MESSAGES 10 DAYS PRIOR TO CONSTRUCTION:

1st MESSAGE: APPERSON DRIVE

2nd MESSAGE: BRIDGE WORK

3rd MESSAGE: PROJECT STARTS ??/??/?? Put Date

\* \* – The portable changeable message sign shall be used 10 days prior to construction starting, as directed by the Engineer. The City reserves the right to change the messages on the signs to inform the traveling public, as the City deems necessary.

No.	Description	Date
REVISIONS		
COMM. NO. 2023010		DATE: OCTOBER 11, 2023
		PLAN NO.:
		SCALE: AS NOTED
		DATE: OCTOBER 11, 2023
		SHEET: 10 OF 15

SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VA.

ROUTE 11 (APPERSON DRIVE)  
OVER ROANOKE RIVER  
CITY OF SALEM  
STAGE 1 TRAFFIC CONTROL

PROFESSIONAL ENGINEER  
R.W. SCHWARTZ  
LIC. NO. 4291  
10-12-23



#### LEGEND – REQUIRED SIGNAGE FOR STAGE 1 TRAFFIC CONTROL

(1) -

(2) -

(3) -

(4) -

(5) -

(6) -

(7) -   
TYPE III barricade (8'-0")

(8) -   
TYPE III barricade (4'-0")

#### LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 1 TRAFFIC CONTROL

(A) 4" Construction Pavement Marking (Type D, Class III – White)

(B) 8" Construction Pavement Marking (Type D, Class III – White)

(C) Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)

(E) Eradication of pavement line markings

- denotes temporary eradication of pavement message markings (to be done with Type E blackout tape)

● - denotes signs

● - denotes Group 2 channelizing devices

- denotes temporary pavement line eradication

Note:  
A minimum 12' clear roadway shall be maintained at all times.

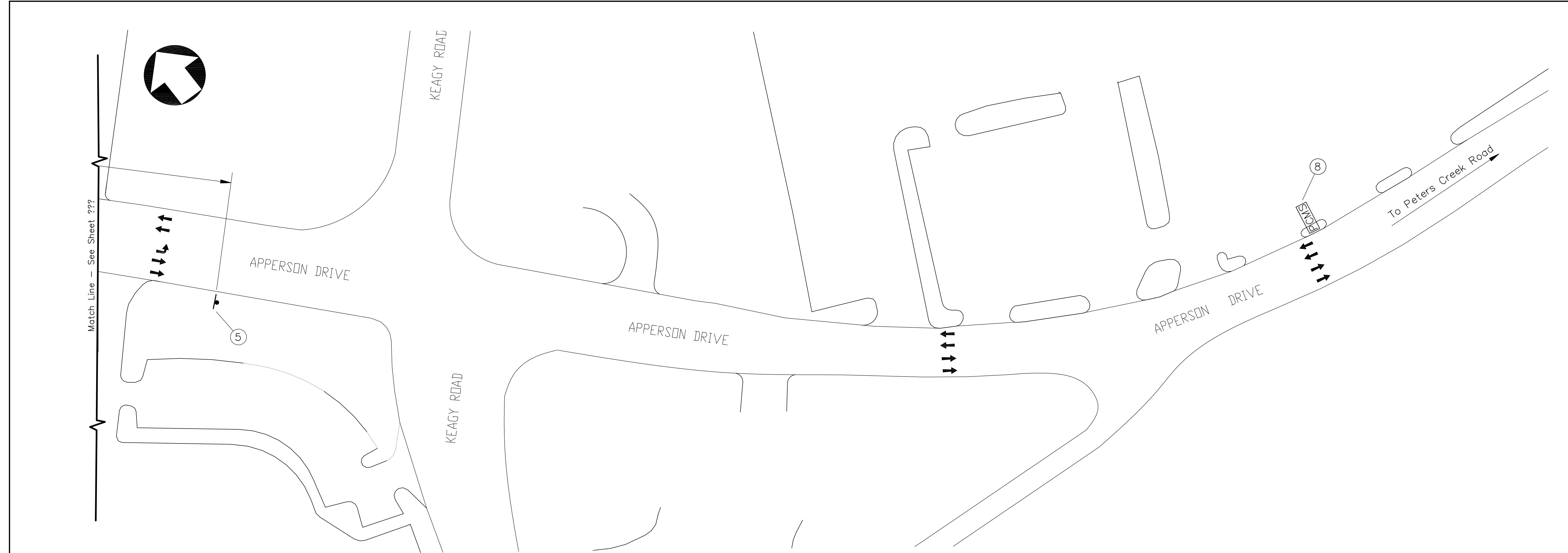
No.	Description	Date
REVISIONS		
COMM. NO. 2023010		DATE: OCTOBER 11, 2023
PLAN NO.:		SHEET: 11 OF 15



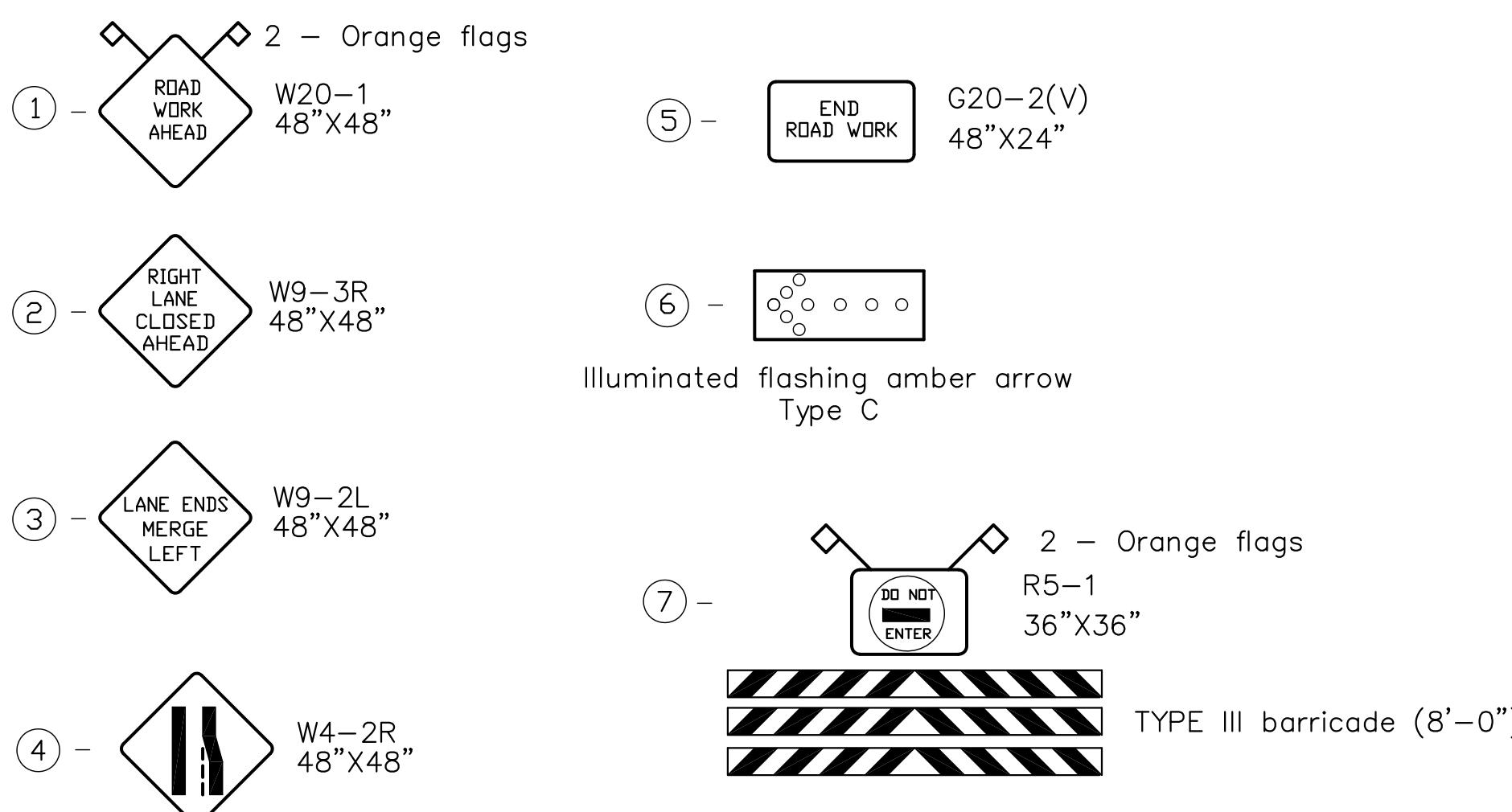
SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VA.

ROUTE 11 (APPERSON DRIVE)  
OVER ROANOKE RIVER  
CITY OF SALEM  
STAGE 1 TRAFFIC CONTROL

PROFESSIONAL ENGINEER  
R.W. SCHWARTZ  
Lic. No. 4291  
10-12-23



#### LEGEND – REQUIRED SIGNAGE FOR STAGE 1 TRAFFIC CONTROL



#### LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 1 TRAFFIC CONTROL

- (A) 4" Construction Pavement Marking (Type D, Class III – White)
- (B) 8" Construction Pavement Marking (Type D, Class III – White)
- (C) Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- (E) Eradication of pavement line markings

– denotes temporary eradication of pavement line markings (to be done with Type E blackout tape)

– denotes signs

– denotes Group 2 channelizing devices

– denotes temporary pavement line eradication

**Note:**  
A minimum 12' clear roadway shall be maintained at all times.

#### PCMS REQUIREMENTS

\* \* ⑧ - PCMS PORTABLE CHANGEABLE MESSAGE SIGN  
MESSAGES 10 DAYS PRIOR TO CONSTRUCTION:

1st MESSAGE: APPERSON DRIVE

2nd MESSAGE: BRIDGE WORK

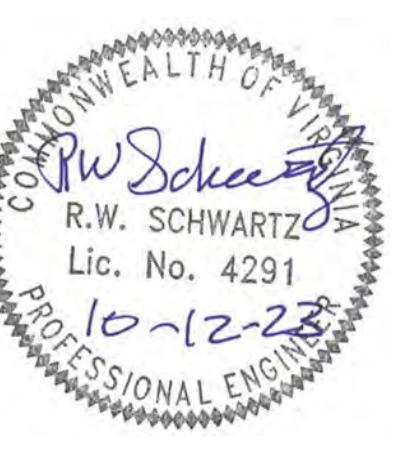
3rd MESSAGE: PROJECT STARTS  
??/??/?? ← Put Date

\* \* – The portable changeable message sign shall be used 10 days prior to construction starting, as directed by the Engineer. The City reserves the right to change the messages on the signs to inform the traveling public, as the City deems necessary.

No.	Description	Date
REVISIONS		
COMM. NO. 2023010		DATE: OCTOBER 11, 2023
SHEET: 12 OF 15		PLAN NO.:

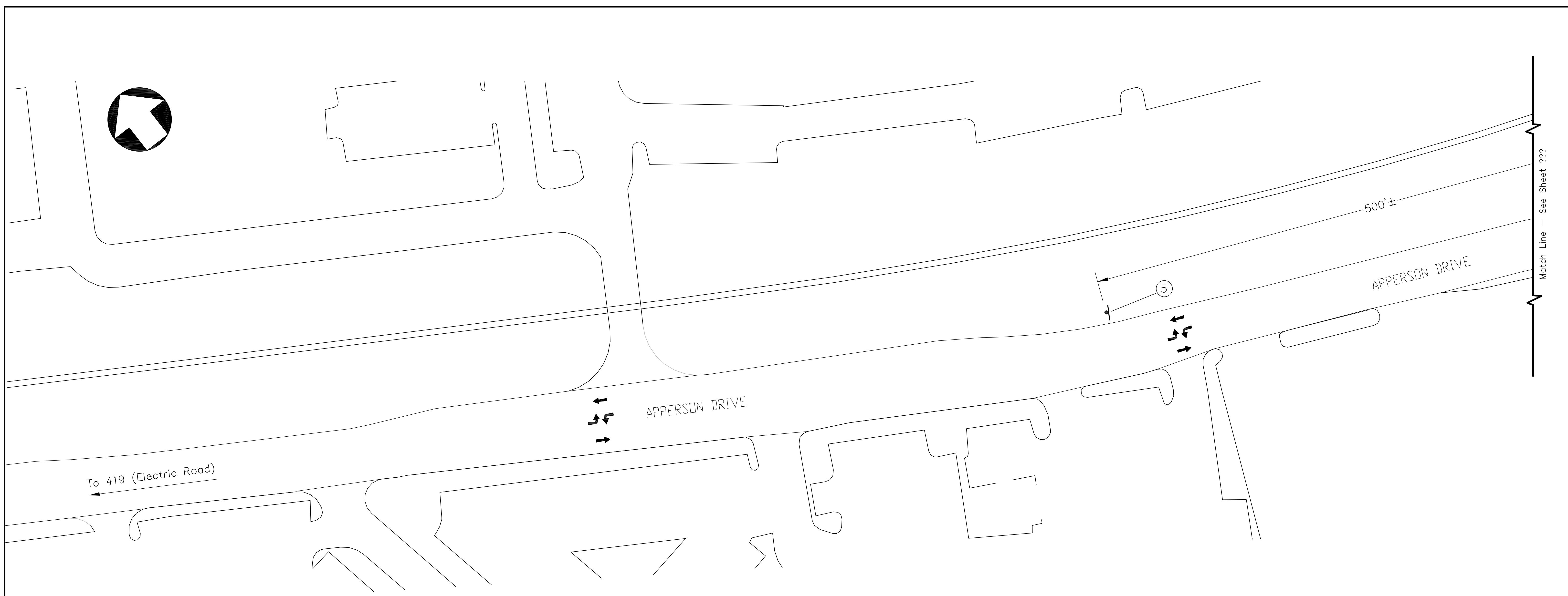


SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VA.

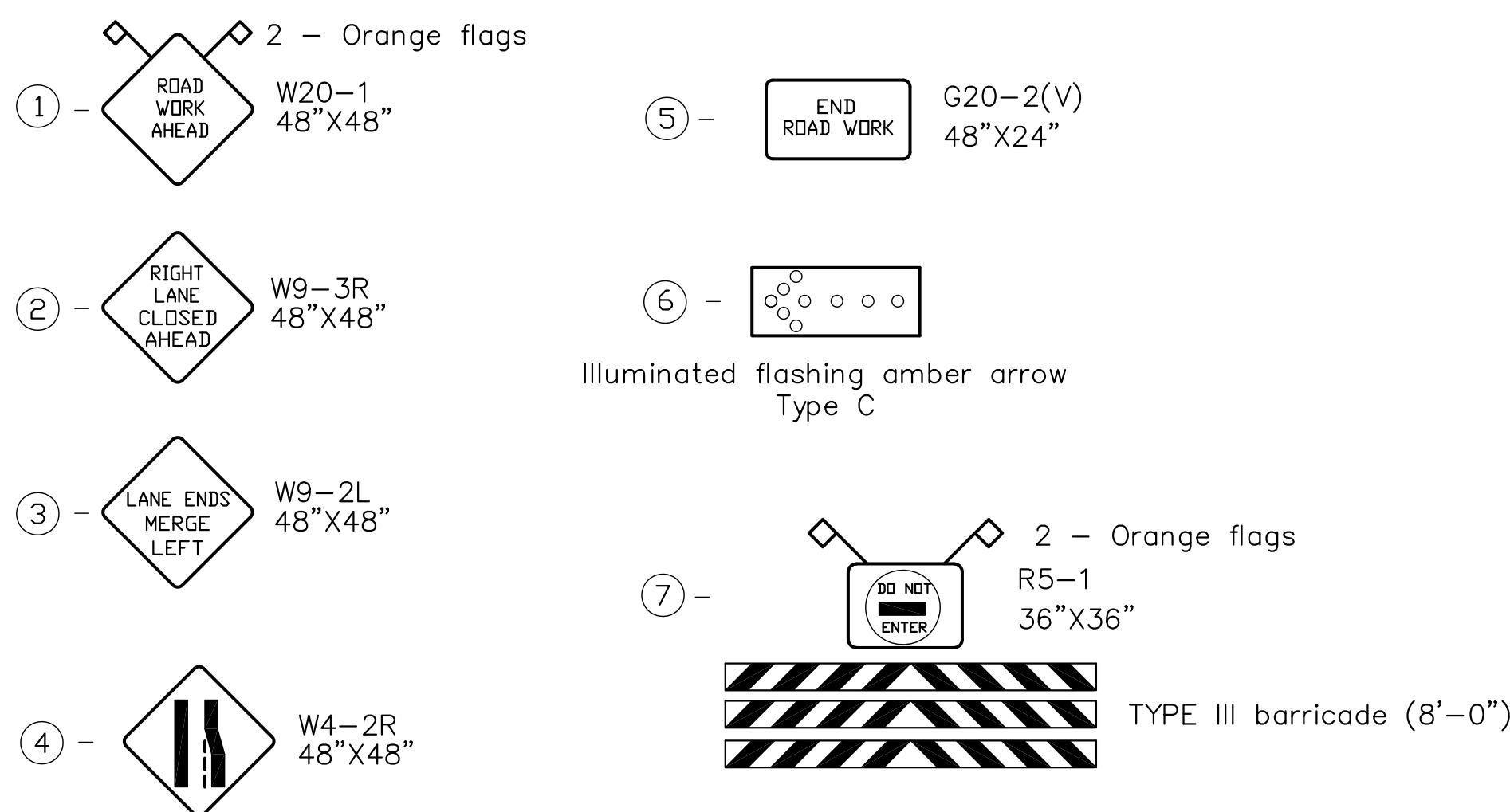


PROFESSIONAL ENGINEER  
R.W. SCHWARTZ  
Lic. No. 4291  
10-12-23

ROUTE 11 (APPERSON DRIVE)  
OVER ROANOKE RIVER  
CITY OF SALEM  
STAGE 1 TRAFFIC CONTROL



#### LEGEND - REQUIRED SIGNAGE FOR STAGE 2 TRAFFIC CONTROL



#### LEGEND - REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 2 TRAFFIC CONTROL

- (A) 4" Construction Pavement Marking (Type D, Class III - White)
- (B) 8" Construction Pavement Marking (Type D, Class III - White)
- (C) Double Yellow 4" Construction Pavement Marking (Type D, Class III - Yellow)
- (E) Eradication of pavement line markings

- denotes temporary eradication of pavement message markings (to be done with Type E blackout tape)

- denotes signs

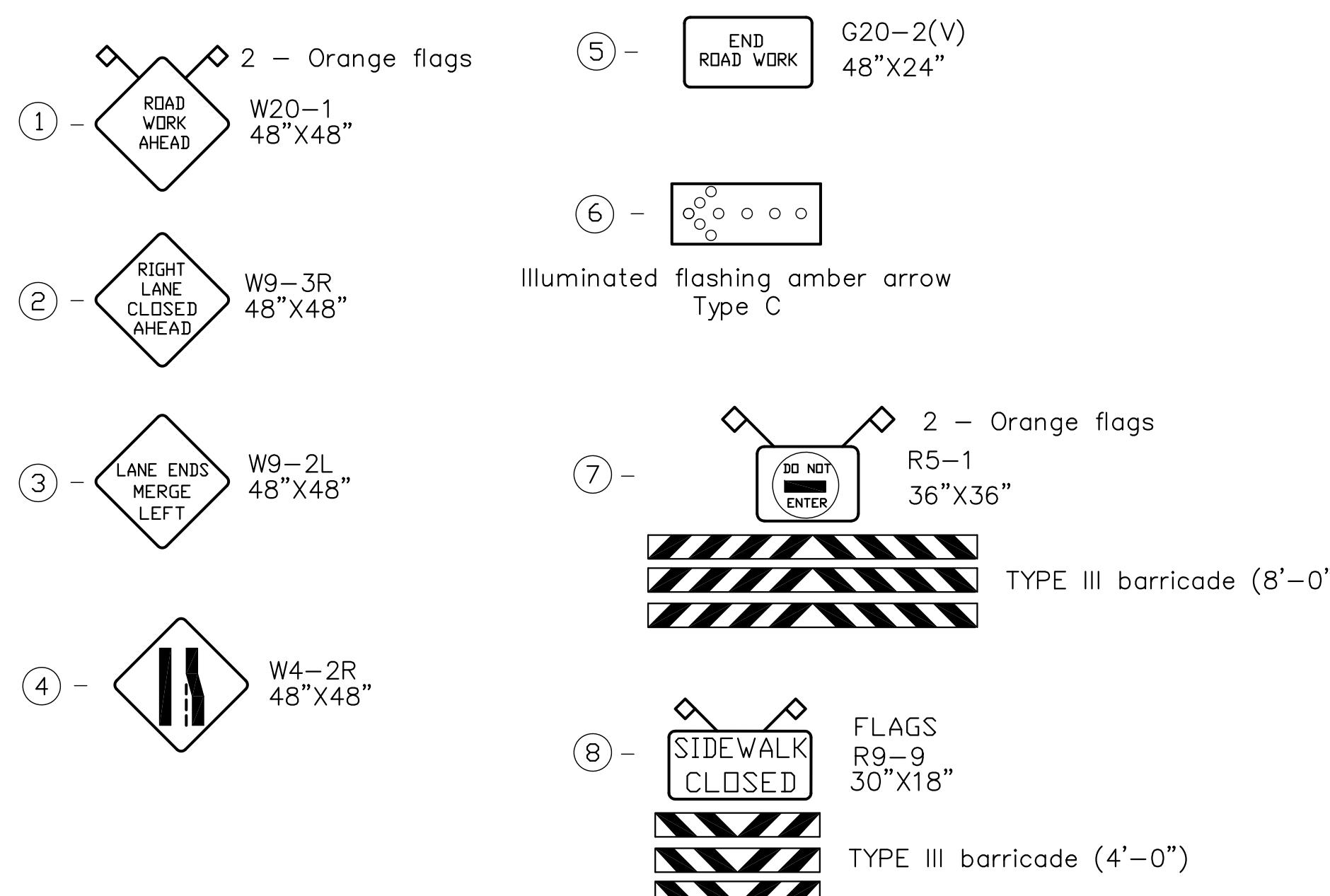
- denotes Group 2 channelizing devices

- denotes temporary pavement line eradication

Note:  
A minimum 12' clear roadway shall be maintained at all times.



#### LEGEND – REQUIRED SIGNAGE FOR STAGE 2 TRAFFIC CONTROL



#### LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 2 TRAFFIC CONTROL

- Ⓐ 4" Construction Pavement Marking (Type D, Class III – White)
- Ⓑ 8" Construction Pavement Marking (Type D, Class III – White)
- Ⓒ Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- Ⓔ Eradication of pavement line markings

– denotes temporary eradication of pavement message markings (to be done with Type E blackout tape)

● – denotes signs

● – denotes Group 2 channelizing devices

– denotes temporary pavement line eradication

**Note:**  
A minimum 12' clear roadway shall be maintained at all times.

No.	Description	Date
REVISIONS		
COMM. NO. 2023010		DATE: OCTOBER 11, 2023
PLAN NO.:		SHEET: 14 OF 15

SCHWARTZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS  
7331 TIMBERLAKE ROAD  
LYNCHBURG, VA.

ROUTE 11 (APPERSON DRIVE)  
OVER ROANOKE RIVER  
CITY OF SALEM  
STAGE 2 TRAFFIC CONTROL

R.W. SCHWARTZ  
Lic. No. 4291  
10-12-23  
PROFESSIONAL ENGINEER

