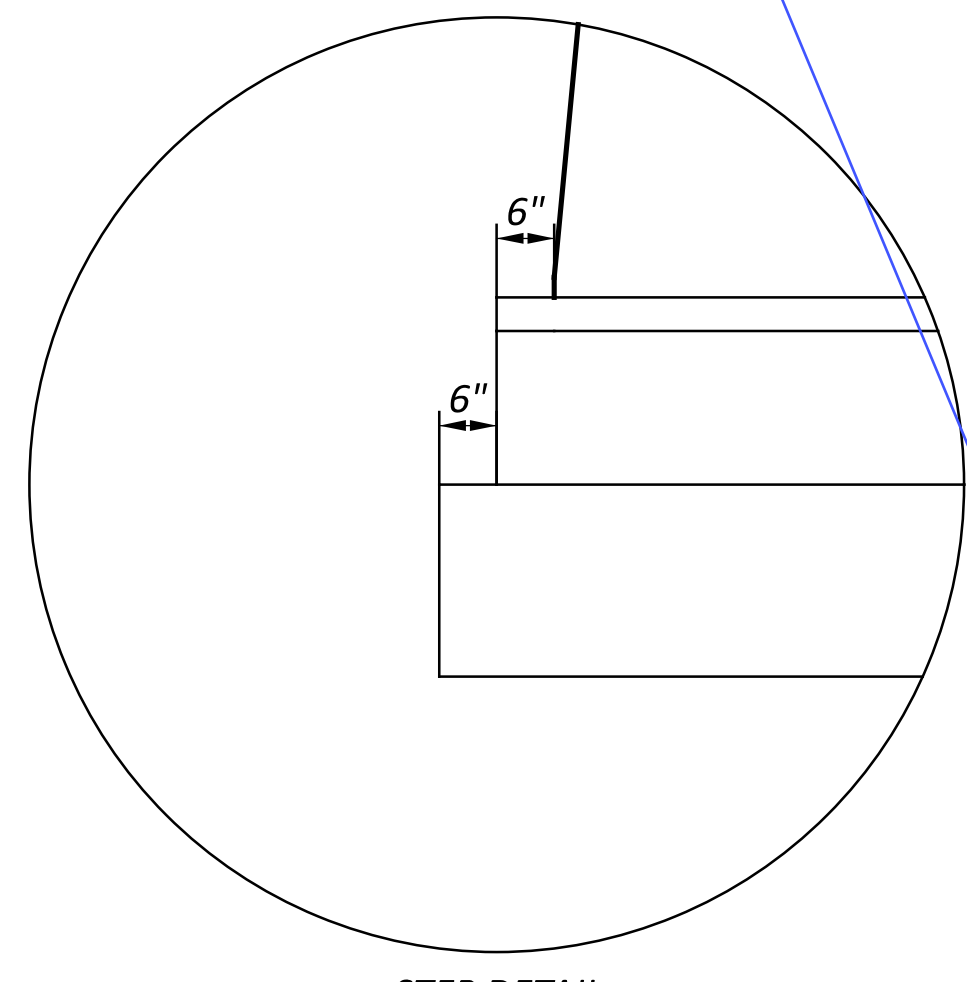


It should be noted that as part of the FRA-161-16.75/LIC-161-0.00 project from 1993, sections of SR161 were originally constructed with a 4" asphalt treated free-draining base layer that outlet through underdrains that daylight along the embankment. The City of Columbus, Department of Public Service, Street Maintenance performs bi-annually inspections and makes sure that they are clear of debris. It is critical that these outlets are considered during design of this project and are not disturbed during construction and remain clear. Additionally, future access to the outlets for maintenance purposes should remain. Mapping of their locations used by Street Maintenance will be provided.

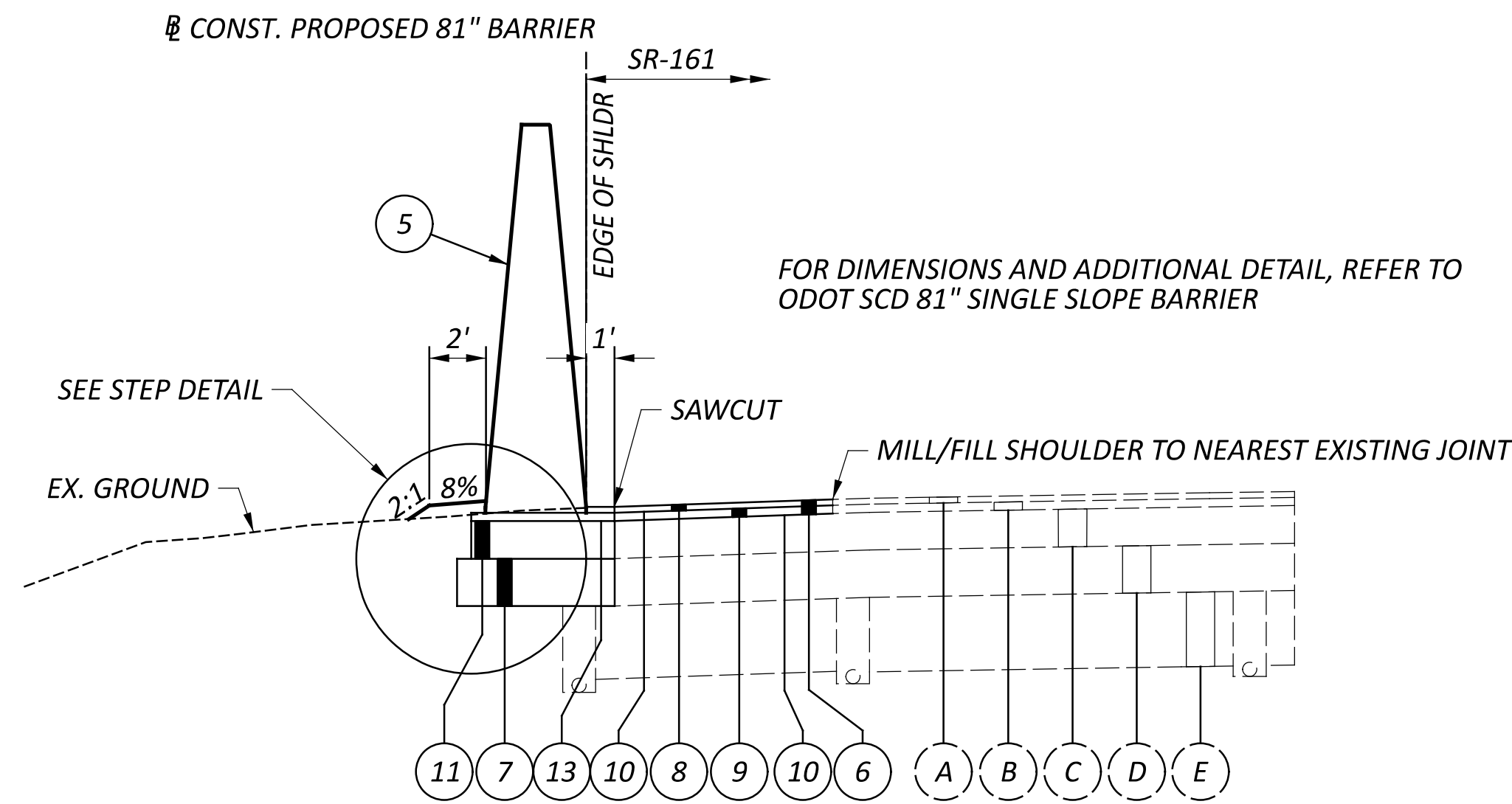


STEP DETAIL  
81" BARRIERS 8, 10, 12

ARCADIS RESPONSE - AFTER REVIEW OF THE UNDERDRAIN OUTLETS THROUGHOUT THE PROJECT CONSTRUCTION LIMITS, TWO LOCATIONS APPEAR TO BE IN CONFLICT: (BARRIER 6, STA. 5999+90 - OUTLET #101050) AND (BARRIER 12, STA. 1207+40 - OUTLET # UNKNOWN). AT BOTH LOCATIONS ARCADIS HAS PROVIDED PLAN NOTES AND/OR DETAILS TO REMEDY THE CONFLICT. PLEASE REFER TO PAGES 36 AND 76 REGARDING THE CONFLICT AT 5999+90 AND PAGE 56 REGARDING THE CONFLICT AT STA 1215+22.

ARCADIS RESPONSE - A NOTE HAS BEEN ADDED TO TYPICAL SECTION SHEET 6 INSTRUCTING THE CONTRACTOR TO CAUTIONING THE CONTRACTOR TO NOT DISTURB EXISTING UNDERDRAINS AND ENSURE OUTLETS ARE MAINTAINED.

NOISE BARRIER REFLECTIVE (LEFT SIDE)  
 NOISE WALL 3 - STA. 300+00.00 TO STA. 305+76.00  
 NOISE WALL 6 - STA. 600+00.00 TO STA. 605+28.00  
 NOISE WALL 9 - STA. 900+00.00 TO STA. 912+70.00



BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (LEFT SIDE)  
 81" BARRIER 3 - STA. 3000+00.00 TO STA. 3006+99.96  
 81" BARRIER 6 - STA. 5999+90.38 TO STA. 6008+25.00  
 81" BARRIER 10 - STA. 1000+00.00 TO STA. 1012+70.07

LEGEND

- |  |   |  |   |  |
|--|---|--|---|--|
| 1 ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE)  | 6 ITEM 254 - 3" PAVEMENT PLANING, ASPHALT CONCRETE                            | 11 ITEM 451 - 8" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P   | (A) 1.5"± EX. ASPHALT CONCRETE SURFACE COURSE       | (E) EX. SUBBASE (DEPTH VARIES)   |
| 2 ITEM 524 - DRILLED SHAFTS (TO BE PAID WITH ITEM 606 - SPECIAL - NOISE BARRIER)   | 7 ITEM 304 - 10" AGGREGATE BASE   | 12 ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P   | (B) 1.75"± EX. ASPHALT CONCRETE INTERMEDIATE COURSE | (F) 3" ASPHALT ON 9" CONCRETE BASE ON 10" STONE BASE   |
| 3 ITEM 659 - SEEDING AND MULCHING  | 8 ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)      | 13 ITEM 407 - TACK COAT (APPLIED AT A RATE 0.055 GAL PER SY) | (C) 7.5"± EX. ASPHALT CONCRETE BASE                 | (G) 3" ASPHALT ON 8" CONCRETE BASE ON 10" AGGREGATE BASE WITH 9" LIME SOIL STABILIZED SUBGRADE |
| 4 ITEM 605 - 6" UNCLASSIFIED UNDERDRAIN AND GRANULAR MATERIAL PER CMS 605.02 (GRANULAR MATERIAL INCLUDED WITH NOISE BARRIER FOR PAYMENT) | 9 ITEM 442 - 1.5" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446) |  | (D) 10"± EX. AGGREGATE BASE                         |  |
| 5 ITEM 622 - BARRIER, MISC.: 81" SINGLE SLOPE BARRIER  | 10 ITEM 407 - NON-TRACKING TACK COAT (APPLIED AT A RATE 0.085 GAL PER SY)     |  |   |  |

NOTE: FOOTER FOR 81" BARRIER WILL BE POURED SEPARATE FROM 81" BARRIER. PROVIDE DOWELLS PER RM-4.3.

**ITEM SPECIAL - NOISE BARRIERS**

**GENERAL NOTES:**

**DESCRIPTION:**

THIS WORK CONSISTS OF PREPARING ANY NECESSARY SHOP DRAWINGS, AND MANUFACTURING, TESTING, TRANSPORTING, STORING, AND INSTALLING NOISE BARRIERS; FURNISHING AND INSTALLING DRILLED SHAFTS; EXCAVATING AND BACKFILLING; AND RESTORING THE WORK AREA IN ACCORDANCE WITH THESE PROVISIONS AND IN CONFORMITY WITH THE DIMENSIONS, LINES AND GRADES SHOWN ON THE PROJECT PLANS. ALL APPLICABLE REQUIREMENTS OF THE STANDARD BRIDGE DRAWING NBS-1-09 SHALL BE MET UNLESS DIRECTED OTHERWISE BY THIS PLAN SET.

**STANDARD DRAWINGS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:  
NBS-1-09 REVISED 01-15-21

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020

**DESIGN LOADING:**

WIND LOAD: APPLIED WIND LOAD ON POSTS AND PANELS IS 35 PSF.  
ICE LOAD: APPLIED ICE LOAD IS 3 INCHES AT 57.3 PCF = 14.32 PSF

**MATERIAL SPECIFICATIONS:**

**REINFORCING STEEL:**  
REINFORCING STEEL SHALL BE EPOXY-COATED AS PER CMS 709.00 OR GALVANIZED AS PER CMS 709.16.  
THE REQUIREMENTS OF 509.09 SHALL APPLY TO BOTH EPOXY-COATED AND GALVANIZED REINFORCING STEEL.  
REINFORCING STEEL SHALL CONFORM TO CMS 709.01, GRADE 60.

**CONCRETE:**  
CONCRETE CLASS QC5 = 4,000 PSI (DRILLED SHAFTS)  
CONCRETE FOR DRILLED SHAFTS SHALL CONFORM TO CMS 524.

**STRUCTURAL STEEL:**  
ASTM A709, GRADE 50 AS PER CMS 711.01.

**PANELS, POST COVERS AND CAPS:**  
NOISE BARRIER PANEL, POST COVER AND CAP MATERIALS SHALL BE GLASS FIBER REINFORCED PULTRUSION BY CARSONITE COMPOSITES OR AN APPROVED EQUAL. REFER TO SHEET P.200 FOR EXAMPLE SCHEMATIC PANEL, POST COVER AND CAP DETAILS.

**FASTENERS:**  
ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105  
THREADED RODS SHALL BE DEFORMED, ONE-END THREADED, ASTM A615, GRADE 60  
NUTS SHALL BE ASTM A563, GRADE DH  
WASHERS SHALL BE ASTM F436

**GALVANIZING:**

GALVANIZE ALL STEEL POSTS, STRUCTURAL STEEL, BASE PLATES, ANCHOR BOLTS, THREADED RODS, NUTS, AND WASHERS AS PER CMS 711.02.  
ENSURE THAT THE ENTIRE LENGTH OF ANCHOR BOLTS AND THREADED RODS ARE GALVANIZED.

**BEARING PADS:**

ALL BOTTOM NOISE BARRIER PANELS REQUIRE A NEOPRENE PREFORMED BEARING PAD BETWEEN THE BOTTOM OF THE NOISE PANEL AND THE BEARING SURFACE. THE BEARING PADS SHALL BE A MINIMUM 1/8" THICK AND COVER A MINIMUM OF 25 SQUARE INCHES. THE BEARING PADS SHALL CONFORM TO ODOT CMS SECTION 711.21, PREFORMED BEARING PADS.

**DRILLED SHAFTS:**

THE NOISE BARRIER POSTS SHALL BE SUPPORTED BY 30" DIAMETER DRILLED SHAFT FOUNDATION.

**AVOIDANCE OF UNEXPECTED OBSTRUCTIONS:**

IF THE AVOIDANCE OF UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS REQUIRES THE USE OF CLOSER POST SPACINGS THAN WHAT WAS SHOWN ON THE PROJECT PLANS FURNISH AND INSTALL ADDITIONAL FOUNDATIONS, POSTS, AND PANELS AS DIRECTED BY THE ENGINEER. THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS SHALL CONFORM TO THESE STANDARD DRAWINGS AND PROVISIONS. THE TOP AND BOTTOM ELEVATIONS OF THE ADDITIONAL POSTS AND PANELS, AND PANEL JOINT LOCATION.

**SHOP DRAWINGS:**

PROVIDE SHOP DRAWINGS FOR ALL NOISE WALL COMPONENTS THAT REQUIRE SHOP FABRICATION. INCLUDE THE FABRICATION SCHEDULE FOR ALL NOISE BARRIER WALL COMPONENTS IN THE PROJECT PROGRESS SCHEDULE AS REQUIRED BY C&MS 108.02.

**NOISE BARRIER PANELS AND POSTS:**

THE NOISE BARRIER PANELS, POST COVER AND CAPS SHALL BE GLASS FIBER REINFORCED, AND FABRICATED AND INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. THE SURFACE TEXTURE AND FINISH COLOR SHALL BE AS SHOWN IN THE PLANS. THE MANUFACTURER SHALL DESIGN AND PROVIDE SUPPLEMENTARY REINFORCEMENT FOR THE BOTTOM PANELS INSTALLED BELOW FINISHED GRADE SEALED AND SIGNED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.

**CONSTRUCTION METHODS:**

CONSTRUCTION METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD BRIDGE DRAWING NBS-1-09.

**METHOD OF MEASUREMENT:**

THE DEPARTMENT WILL MEASURE THE NOISE BARRIER BY THE NUMBER OF SQUARE FEET.

THE DEPARTMENT WILL DETERMINE THE AREA OF INDIVIDUAL NOISE BARRIER SEGMENTS FROM PROJECT PLAN DIMENSIONS USING A HEIGHT FROM THE BOTTOM OF THE BOTTOM PANEL TO THE TOP OF THE CAP ON THE TOP PANEL, AND SPAN LENGTHS MEASURED FROM CENTER TO CENTER POSTS.

**BASIS OF PAYMENT:**

PAYMENT FOR NOISE BARRIERS IS FULL COMPENSATION FOR FURNISHING AND INSTALLING FOUNDATIONS, POSTS INCLUDING APPARATUS SUCH AS BACKUP BRACKETS, SUPPORT BRACKETS AND BENT PLATES, PANELS, POST COVERTS AND CAPS, STEEL BASE PLATES AND CONNECTIONS, ARCHITECTURAL SURFACE TREATMENTS, SAMPLE POST(S) AND PANEL(S), BEARING PADS, EXCAVATION, DRAINAGE AND BACKFILL, AND OTHER ITEMS THAT DO NOT HAVE SEPARATE PAY ITEMS BUT ARE NECESSARY TO COMPLETE THE NOISE BARRIER.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL LENGTH OF DRILLED SHAFTS CONSTRUCTED AT THE DIRECTION OF THE ENGINEER IN UNEXPECTED AREAS OF POOR SOIL AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS FURNISHED AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO AVOID UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

WHERE THE DRILLED SHAFT LENGTH WAS DECREASED FROM THE PROJECT PLAN DIMENSION DUE TO INTERFERENCE WITH UNEXPECTED BEDROCK, THE DEPARTMENT WILL NON-PERFORM THE SHAFT LENGTH BELOW THE BEDROCK ELEVATION AND PAY FOR THE ROCK SOCKET AND INCIDENTALS AS EXTRA WORK ACCORDING TO C&MS 109.05.

THE DEPARTMENT WILL NOT PAY FOR REPAIRED OR REPLACED COMPONENTS DAMAGED BY IMPROPER HANDLING, TRANSPORTING, STORING, OR ERECTING.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE)

Should the steel posts be painted white to go along with the "split rail fence" appearance?

ARCADIS RESPONSE - PLEASE REFER TO PAGE 217 OF THE PLAN SET FOR THE ARCHITECTURAL SURFACE TREATMENTS CHOSEN FOR THIS PROJECT.

DESIGN AGENCY



DESIGNER  
AIS

REVIEWER  
SS 01-12-24

PROJECT ID  
117607

SHEET TOTAL  
P.197 | P.276