

GENERAL NOTES

NOISE BARRIER

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ITEM 606 - ITEM SPECIAL - NOISE BARRIER

I. DESCRIPTION

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING NOISE BARRIERS INCLUDING ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED IN ACCORDANCE WITH THESE PROVISIONS AND APPLICABLE STANDARDS AND IN CONFORMITY WITH THE DIMENSIONS, LINES AND GRADES SHOWN ON THE PLANS.

NO MIXING OF BARRIER MATERIAL TYPES OR COLORS AT ANY ONE NOISE BARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS WILL BE ALLOWED, EXCEPT WHERE A RUN OF NOISE BARRIER INCLUDES PLACEMENT ON A BRIDGE.

NOISE BARRIERS PLACED ON BRIDGES SHALL NOT WEIGH MORE THAN 225 LBS./LINEAR FOOT.

BARRIER MATERIAL TYPE SUPPLIED SHALL BE LISTED ON SHEET 969 UNLESS OTHERWISE SPECIFIED.

INDIVIDUAL BARRIER FABRICATION AND ERECTION DETAILS, EXCEPT FOR POSTS AND FOUNDATIONS, SHALL BE AS PER APPROVED MANUFACTURER'S DRAWINGS LISTED ON SHEETS 969. POSTS AND FOUNDATIONS SHALL BE AS DETAILED IN THESE PLANS. POSTS AND FOUNDATIONS SHALL BE AS DETAILED IN THESE PLANS UNLESS ALTERNATIVE MANUFACTURER'S DETAILS ARE SUBMITTED AND APPROVED BY THE ENGINEER.

ANY INTERFERENCE WITH UTILITIES OR OTHER POST SPACING ADJUSTMENTS REQUIRED TO MEET DESIGN PLAN ALIGNMENT, CONNECTIONS TO STRUCTURES, OR OTHER CONDITIONS CREATED DUE TO CHANGING OF POST SPACINGS SHALL BE AT THE CONTRACTOR'S EXPENSE.

COPIES OF THE ODOT APPROVED, MANUFACTURER'S DRAWINGS LISTED ON SHEETS 969, SHALL BE FURNISHED THE ENGINEER BEFORE ANY WORK IS INITIATED. ALL PROJECT SPECIFIC DETAILS NOT COVERED BY THE PLANS OR THE MANUFACTURER'S DRAWINGS SHALL BE APPROVED BY THE ENGINEER BEFORE WORK IS INITIATED.

THE BARRIER AND THE ASSOCIATED WORK SHALL CONFORM TO SECTIONS 499 AND 501 OF THE CMS AS APPROPRIATE.

II. POSTS

A. CONCRETE NOISE BARRIER PANELS AND POSTS

EVERY PRODUCER OF PRECAST CONCRETE NOISE BARRIER COMPONENTS SUPPLIED TO THE PROJECT SHALL BE CERTIFIED IN ACCORDANCE WITH SUPPLEMENT 1073. THE DEPARTMENT WILL NOT ACCEPT PRECAST COMPONENTS FROM NON-CERTIFIED PLANTS.

THE CONCRETE SUPPLIED FOR CONCRETE POSTS AND PANELS SHALL BE AS SPECIFIED BY THE SUPPLIER ON THEIR ODOT APPROVED PLAN SHEETS. THE CONCRETE PANELS AND POSTS SHALL NOT EXHIBIT ANY EFFLORESCENCE FOR A PERIOD OF 3 YEARS AFTER THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE REPAIR OF EFFLORESCENCE ON THE SOUND WALL FOR THIS PERIOD OF TIME AT NO EXPENSE TO ODOT.

CONCRETE NOISE BARRIER PANELS AND POSTS REQUIRE A REINFORCED INTEGRAL OR NON-INTEGRAL CAP ON THE TOP OF THE POSTS AND THE TOP OF THE TOP NOISE BARRIER PANELS AS PER BDM SECTION 802.2. WHEN CALLED OUT ON THE PLANS, THE CONCRETE NOISE BARRIER PANELS AND POSTS SHOULD BE COATED WITH AN ODOT APPROVED COATING FROM A SUPPLIER ON THE NOISE BARRIER CONCRETE PANEL SEALER/COATING SPECIFICATION AVAILABLE FROM THE ODOT OFFICE OF MATERIALS MANAGEMENT. ALL CONCRETE NOISE BARRIER PANEL EDGES SHALL BE SEALED/COATED AT THE MANUFACTURING PLANT. THE SEALER/COATING SHALL BE IDENTICAL TO THE SEALER/COATING WHICH IS APPLIED TO THE FRONT AND BACK SURFACES OF THE PANELS. HORIZONTAL JOINT LINES BETWEEN PANELS SHALL MATCH FOR A MINIMUM DISTANCE OF 500 FEET FOR AESTHETIC PURPOSES.

B. CONCRETE POSTS AND PANELS (WITH AND WITHOUT INTEGRAL CAP), PEDESTALS, SPREAD FOOTINGS, AND DRILLED SHAFTS

REINFORCING STEEL SHALL BE CMS 709.00, GRADE 60, WELDED WIRE FABRIC SHALL BE 709.14. PRESTRESSED CONCRETE SHALL HAVE AN ODOT APPROVED CORROSION INHIBITOR ADDED TO THE CONCRETE MIX.

CONCRETE SHALL MEET CMS 499, EXCEPT FOR DRILL SHAFT CONCRETE WHICH SHALL CONFORM TO SECTION D. CONCRETE FOR DRILLED SHAFTS.

THE CONCRETE MIX DESIGN FOR PANELS SHALL CONTAIN A WATER REPELLANT ADMIXTURE AND 15% BY WEIGHT FLY ASH OR 15-30% GROUND GRANULATED BLAST FURNACE SLAG (GGBF).

POST CONCRETE SHALL BE COLORED AS DESCRIBED ON SHEET 967 WALL MATERIAL AND COLOR.

THE NON-INTEGRAL CAP SHALL BE ATTACHED TO THE TOP OF THE POST AND PANEL BY MEANS OF A STRUCTURAL DESIGNED MECHANICAL ATTACHMENT WHICH HAS BEEN APPROVED BY THE ODOT OFFICE OF STRUCTURAL ENGINEERING.

C. PRESTRESSED CONCRETE POSTS (WITH AND WITHOUT INTEGRAL CAP)

ITEM 515 OF THE CMS SHALL APPLY EXCEPT AS MODIFIED BELOW.
PRESTRESSED CONCRETE;
COMPRESSIVE STRENGTH - 5,000 PSI,
COMPRESSIVE STRENGTH AT TRANSFER OF PRESTRESS - 4,000 PSI
INITIAL STRESS = 0.70 F'S.

PRESTRESSING STRANDS SHALL BE 1/2" DIAMETER WITH AN AREA OF 0.153 SQ. IN. AN INITIAL TENSILE FORCE OF 28900 LBS. SHALL BE APPLIED TO EACH STRAND. EXPOSED STRAND ENDS SHALL BE PAINTED WITH COAL TAR EPOXY PAINT. THE PAINT SHALL CONFORM TO SSPC PAINT SPECIFICATION 16, BE APPLIED PER THE PAINT MANUFACTURER'S RECOMMENDATIONS, AND HAVE A MINIMUM DRY FILM THICKNESS OF 16 MILS. PRIOR TO PAINTING, STRAND ENDS SHALL BE BLAST CLEANED TO CONFORM TO SSPC - SP10, NEAR WHITE METAL.

D. DRILLED SHAFTS

DRILLED SHAFTS SHALL BE CONSTRUCTED AS PER CMS ITEM 524. THE DRILLED SHAFT LENGTHS GIVEN IN THESE PLANS ARE MEASURED FROM FINAL GROUND ELEVATION.

E. BEARING PADS

ALL BOTTOM NOISE WALL 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 1/4" THICK AND COVER A MINIMUM OF 25 SQUARE INCHES. THE BEARING PADS SHALL CONFORM TO ODOT CMS SECTION 711.21 PREFORMED BEARING PADS.

III. BARRIER MATERIALS

ACCEPTABLE NOISE PANEL DESIGNS ARE LISTED ON SHEET 969 MATERIALS SHALL EITHER MEET THE MANUFACTURER'S REQUIREMENTS LISTED ON THEIR APPROVED DRAWINGS OR CMS REQUIREMENTS IF NOT LISTED ON MANUFACTURER'S APPROVED DRAWINGS.

IV. CONSTRUCTION METHODS

A. NOISE BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS. JOINTS AND CONNECTIONS SHALL BE SECURED IN SUCH A MANNER AS TO BE STRUCTURALLY SOUND WITH NO VISIBLE OPENINGS FOR SOUND TRANSMISSION. NOISE PANEL ATTACHMENTS TO POSTS AND INSTALLATION METHODS SHALL BE STRUCTURALLY SOUND, GIVE ADEQUATE SUPPORT TO THE NOISE PANELS, AND BE SECURED TO THE POST OR ADEQUATELY BLOCKED BETWEEN THE POST'S FLANGES TO ELIMINATE MOVEMENT AT THE SUPPORT AND ELIMINATE ANY POSSIBLE VIBRATION.

EXCLUSIVE OF THE CONTRACTOR'S CHOICE OF NOISE BARRIER PANEL, THE TOP OF INSTALLED NOISE BARRIERS SHALL MATCH THE TOP OF WALL DESIGN ELEVATIONS, WITH NO VARIATION BETWEEN POSTS, UNLESS THE DESIGN PLANS REQUIRE AN ELEVATION CHANGE.

CONCRETE PEDESTALS SHALL BE USED TO SUPPORT THE BOTTOM WALL PANELS AND MAINTAIN A LEVEL WALL. CALCULATIONS SHOWING THAT THE PEDESTAL WIDTH IS SUFFICIENT TO PREVENT NOISE BARRIER PANEL FAILURE SHALL BE PROVIDED TO THE ENGINEER. IF ADDITIONAL BEARING AREA IS REQUIRED THE TOP OF THE DRILLED SHAFTS SHALL BE WIDENED. DRILLED SHAFTS SHALL NOT BE CONSTRUCTED UNTIL THE PROPOSED PEDESTALS HAVE BEEN APPROVED. THE THICKNESS OF THE NEOPRENE BEARING PAD MAY BE VARIED TO MAINTAIN A LEVEL WALL.

B. DURING INSTALLATION CARE SHALL BE TAKEN NOT TO CAUSE SPALLING OF THE PANELS DUE TO MISHANDLING OR OVERLOADING OF ONE AREA OF THE PANEL. LIFTING DEVICES THAT CHIP OR SPALL THE CONCRETE FACES WILL NOT BE ALLOWED.

MARRED, CHIPPED, SCRATCHED, SPALLED, OR ANY OTHER DAMAGE DEEMED DETRIMENTAL TO THE NOISE BARRIERS BY THE ENGINEER SHALL BE REPLACED, AS APPROVED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

C. TRENCH BACKFILL SHALL BE WITH CLASS S CONCRETE MODIFIED AS PER 11.D. ABOVE. THE METHOD OF PLACEMENT SHALL NOT ALLOW VOIDS OR EXCESSIVE SEGREGATION AND SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER.

D. ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A MANNER SATISFACTORY TO THE ENGINEER.

E. AFTER ERECTION OF THE NOISE BARRIER, THE DISTURBED AREA SHALL BE LEFT IN A FINISHED CONDITION AT THE DIRECTION OF THE ENGINEER AND A GROWTH OF GRASS ESTABLISHED, AT THE CONTRACTOR'S EXPENSE, IN ACCORDANCE WITH CMS ITEM 659.

F. TOLERANCES

1. POSTS (MEASURED AT TOP)
 - A. VERTICAL ALIGNMENT SHALL BE WITHIN 0.05 INCH/FT. OF HEIGHT.
 - B. POSTS SHALL BE SET WITHIN +/- 1/2 INCH OF THEIR SPECIFIED LOCATION.

2. NOISE BARRIERS
 - A. VERTICAL ALIGNMENT SHALL BE WITHIN 0.05 INCH/FT. OF HEIGHT.

G. FOR NOISE BARRIERS THAT ARE BUILT ON TOP OF EARTH BERMS, THE BERMS SHALL BE CONSTRUCTED OF EARTHWORK FILL MATERIAL IN ACCORDANCE WITH ITEM 203 OF THE CMS.

H. INLET NO. 3E SHALL BE CONSTRUCTED AS PER THE DETAILS AND NOTES ON STANDARD CONSTRUCTION DRAWINGS 1-2.3, "CONCRETE BARRIER (TYPE D) INLET"